2019 NATIONAL FFA FARM AND AGRIBUSINESS MANAGEMENT CDE

CAREER DEVELOPMENT EVENT

RESOURCE INFORMATION FOR VOLKSTAD PECAN COMPANY

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Volkstad Pecan Company

Bryan and Brianna Volkstad, owners

Bryan and Brianna were married in 1985. Both had been students at the local state college with majors in agriculture. Bryan majored in Ag Finance and worked for two years in the county Farm Service Agency (FSA) before starting farming in 1987 and continued in that job until 2000. Brianna majored in Crop Science and worked with an area crop consultant for eight years, until beginning a family. The Volkstads have three children: Benjamin (26), Bethany (23) and Brittany (19). Benjamin and Bethany are working in the area, but Brittany still lives at home.

In 1987, the Volkstads were approached by a neighbor and long-time friend of Bryan's father. The neighbor had known Bryan since he was a small child and had a very positive opinion of Bryan and his work ethic. That neighbor presented the Volkstads with the first option to purchase a 210-acre parcel, which had been part of a cattle and hay ranch for many years. The neighbor's children did not have an interest in the ranch parcel and supported their parent's plan to sell it.

After thinking about this tremendous opportunity for several weeks, the Volkstads decided to purchase the acreage but not to continue with cattle and hay production. The Volkstads purchased the farm in August of 1987 and immediately began planting 180 acres of the land to pecans. The remaining 30 acres was an established grove of native pecans. By 1992, they had completed planting pecans on all productive acres. They harvested the native pecans each year, but the initial production on the first acres they planted began on a limited basis in 1994, with full production beginning in 2002. The orchard now consists of 180 acres of irrigated Pawnee pecans and 30 acres of native pecans. They have been in full production of pecans at this farm for over 15 years.

The equipment for the pecan operation was small during the first 10 years and was purchased used, rather than new, to limit costs in the start-up phase of the orchard. As returns increased, they purchased larger equipment to keep up with production. By the early 2000s, the Volkstads started upgrading equipment to manage the operation under full production for the long term. Their equipment line is not large, but they are very strategic in their planning of the practices needed to effectively manage a pecan orchard. In 2018, they purchased a new John Deere tractor to replace the older model that had been in the operation for 15 years. In addition to 1 full-time hired worker, they also hire seasonal help (custom hire) in the form of 2 local individuals who operate their own tractors to pull equipment during harvest.

Irrigation is a critical management tool for pecan production in the area. The Volkstads began with sprinkler irrigation and found it to be effective. Over the past 10 years, they have been gradually moving to drip irrigation for all their acres. This has been an efficient and cost-effective method for watering their trees once the initial investment has been covered. They use four 6" wells to provide the water supply.

Benjamin became a member of the FFA beginning in 9th grade in 2007. For his SAE, he was interested in raising beef cattle. Bryan had focused on pecan production up to that time and had little interest in beef production. Father and son discussions had an influence on Bryan, resulting in his decision to support his son in this interest. He purchased a neighboring 160-acre pasture to begin Benjamin's SAE. Benjamin started by purchasing 15 beef cows with help from dad and an FSA loan. He sold half the calves, saved half the calves to build the herd, purchased a few heifers along the way, increasing the herd to 50 cows by the time he graduated from college. After college, Bryan purchased the herd and added another 50 cows for a total of 100 beef cows. By that time, he had also purchased the remaining 240 acres of pasture. This is "improved" pasture, with an ongoing fertility program, so that the 400 acres could handle 100 beef cows with calves.

The year 2016 was good for pecan producers in the area and the Volkstads had planned for an expansion in the fall of 2017, but due to a combination of setbacks, the addition was delayed. In 2018, the family was rewarded for years of hard work when Bryan and Brianna followed through on their plan for an addition to their home.

Within the pecan industry, like other industries, there are always discussions that occur targeting options to improve income potential. Two areas that have been discussed include the grazing of beef cattle on the orchard land during the normal growing season and the option to convert the operation to organic. The organic option may include purchasing additional land. The Volkstads are willing to consider both options. They have beef cattle and could easily expand the herd slightly to pasture the orchard grounds. Bethany has talked about organic production because of her college classes and her parents have been attentive in those discussions.

Pecan production is a business that requires planning for the long-term. Management strategies differ from traditional annual crops because the health of the pecan tree is critical for it to survive. Natural events with significant negative impacts are a serious concern because they can occur multiple times over the life of an orchard. Weather events and wildlife, insect and disease issues can have a major impact on pecan production.

Bryan and Brianna would like to retire within the next 10-12 years. Before they retire, some management decisions will need to be made as the pecan trees continue to mature. Research studies have shown that thinning the trees has long-term benefits. They will also need to evaluate the potential for, and the cost of, replacing the 30 acres of native pecans and planting new, more productive trees on those acres of the orchard. Currently, the children are unsure of their long-term interest in taking over the operation.

Good managers will plan for the future by establishing short and long-term goals for the business and the family. The Volkstads have written goals for the operation that include:

1. By 2020, evaluate the addition of processing and cold storage to their operation.
2. Thin the orchard by 2022 to increase production over the long-term.
3. Prior to 2025, develop an estate plan to transfer the operation to members of the family.

Volkstad Pecan Company
1/1/2018 Beginning Balance Sheet

Current Assets			Value
Cash and checking			18,755
Prepaid expenses and supplies			60,143
Growing crops			-
Accounts receivable			31,564
Hedging accounts			-
Other current assets			-
Crop inventory	Quantity	Value/Unit	
Pecans	1,000	2.75/lb.	2,750
Mixed Hay	100	95.00/ton	9,500
Livestock held for sale			-
Total Current Assets			**122,712**

Current Liabilities			Balance
Accrued interest			2,549
Accounts payable and other accrued expenses			28,335
	Int	P & I	Principal
Current loans	Rate	Due	Balance
Principal due within 12 months on term liabilities			45,466
Total Current Liabilities			**76,350**

Intermediate Assets			
		Cost	Market
Breeding livestock	No.	Value	Value
Beef Cows	100	85,000	85,000
Machinery and equipment		522,850	525,450
Titled vehicles		34,830	44,000
Other intermediate assets		-	-
Total Intermediate Assets		**642,680**	**654,450**

Intermediate Liabilities (Schd V)					
	Int	Principal	P & I	Principal	Intermed
Loan	Rate	Balance	Due	Due	Balance
John Deere Credit-6130R	7.50	32,000	8,500	5,921	26,079
JDCC-6130R new	6.25	85,000	15,000	9,555	75,445
FCS-Equipline	7.25	212,500	35,000	18,992	193,508
Total Intermediate Liabilities					**295,032**

Long Term Assets			
		Cost	Market
Land	Acres	Value	Value
Home Orchard	210	210,000	735,000
Farmstead	10	10,000	35,000
Pasture land	160	140,000	168,000
Pasture land	240	200,000	245,000
Buildings and improvements		27,500	40,000
Other long term assets		-	-
Total Long Term Assets		**587,500**	**1,223,000**

Long Term Liabilities (Schd W)					
	Int	Principal	P & I	Principal	Lg Term
Loan	Rate	Balance	Due	Due	Balance
FCS-Orchard	4.25	6,500	7,000	6,500	-
FCS-Pastrure Fm	3.75	52,500	6,500	4,498	48,002
Total Long Term Liabilities					**48,002**

Total Farm Assets	**1,352,892**	**2,000,162**
Personal Assets (Schd P)	571,160	617,860
Total Assets (a)(b)	**1,924,052**	**2,618,022**

Total Farm Liabilities			**419,384**
Personal Liabilities			-
		Cost	Market
Deferred Liabilities (c)			281,163
Total Liabilities (d)(e)		419,384	700,547
Retained Earnings/Contributed Capital	[a-d]	1,504,668	
Market valuation equity	[b-a-c]		412,807
Net Worth	[b-e]		**1,917,475**

Volkstad Pecan Company
1/1/2019 Ending Balance Sheet

Current Assets			Value	***Current Liabilities***				Balance
Cash and checking			13,939	Accrued interest				21,499
Prepaid expenses and supplies			65,580	Accounts payable and other accrued expenses				24,335
Growing crops			-					
Accounts receivable			38,765		Int	P & I		Principal
Hedging accounts			-	Current loans	Rate	Due		Balance
Other current assets			-					
				Principal due within 12 months on term liabilities				20,358
Crop inventory	Quantity	Value/Unit						
Mixed Hay	100	95.00/ton	9,500					
Pecans	1,000	2.80/lb.	2,800					
Livestock held for sale			-					
Total Current Assets			**130,584**	**Total Current Liabilities**				**66,192**

Intermediate Assets				***Intermediate Liabilities (Schd V)***					
		Cost	Market		Int	Principal	P & I	Principal	Intermed
Breeding livestock	No.	Value	Value	Loan	Rate	Balance	Due	Due	Balance
Beef Cows	100	85,000	85,000	John Deere Credit-6130R	7.50	28,479	8,500	4,069	24,410
				JDCC-6130R new	6.25	80,757	15,000	9,827	70,930
Machinery and equipment		580,015	587,905	FCS-Equipline	7.25	209,244	35,000	3,742	205,502
Titled vehicles		29,606	44,000						
Other intermediate assets		-	-						
Total Intermediate Assets		**694,621**	**716,905**	**Total Intermediate Liabilities**					**300,842**

Long Term Assets				***Long Term Liabilities (Schd W)***					
		Cost	Market		Int	Principal	P & I	Principal	Lg Term
Land	Acres	Value	Value	Loan	Rate	Balance	Due	Due	Balance
Home Orchard	210	210,000	735,000	FCS-Orchard	4.25	2	7,000	-	2
Farmstead	10	10,000	35,000	FCS-Pastrure Fm	3.75	49,971	6,500	2,720	47,251
Pasture land	160	140,000	170,000						
Pasture land	240	200,000	255,000						
Buildings and improvements		26,125	40,000						
Other long term assets		-	-						
Total Long Term Assets		**586,125**	**1,235,000**	**Total Long Term Liabilities**					**47,253**

Total Farm Assets	**1,411,330**	**2,082,489**	**Total Farm Liabilities**				**414,287**
Personal Assets (Schd P)	688,875	735,575	Personal Liabilities				-
						Cost	Market
			Deferred Liabilities (c)				288,300
			Total Liabilities (d)(e)			414,287	702,587
			Retained Earnings/Contributed Capital		[a-d]	1,685,917	
			Market valuation equity		[b-a-c]		429,560
Total Assets (a)(b)	**2,100,205**	**2,818,064**	**Net Worth**		[b-e]		**2,115,477**

Monthly Cash Flow Plan Executive Summary

Projected Cash Flow Summary

Total operating inflow		817,325
Total operating outflow	(-)	650,375
Capital purchases	(-)	-
Capital sales	(+)	-
New credit	(+)	-
Loan payments	(-)	78,851
Net cash flow	**(=)**	**88,099**
Beginning cash balance	(+)	13,939
Operating loan borrowings	(+)	547,531
Operating loan principal payments	(-)	547,531
Ending cash balance	(=)	102,038
Beginning operating loan balance		-
Peak operating loan balance (Sep)		547,531
Ending operating loan balance		-

Projected Change in Working Capital

Change in cash		88,099
Change in current inventories	(+)	8,824
Change in princ due on term loans	(-)	22,093
Estimated change in working capital	(=)	74,830

Projected Income Statement

Gross cash farm income		817,325
Inventory change - income items	(+)	-13,215
Gross revenue	(=)	804,110
Cash farm operating expense		489,875
Interest expense	(+)	58,173
Depreciation	(+)	67,391
Inventory change - expense items	(+)	-22,039
Total farm expense	(=)	593,399
Net farm income		210,711

Projected Earned Net Worth Change

Net farm income		210,711
Family living expense	(-)	92,500
Income taxes accrued	(-)	48,000
Personal asset depreciation	(-)	5,843
Earned net worth change	(=)	64,368

Term Debt Coverage

Net farm income from operations		210,711
Depreciation	(+)	67,391
Personal income	(+)	-
Family living expense	(-)	92,500
Income taxes accrued	(-)	48,000
Interest on term debt	(+)	24,040
Capital debt repayment capacity	(=)	161,641
Term debt payments		65,002
Capital debt repayment margin		96,639
Term debt coverage ratio		2.49

Financial Standards Measures

Liquidity	**Beginning**	**Ending**
Current ratio	2.0	3.1
Working capital	64,392	139,222
Working capital to gross revenue	8.0 %	17.3 %
Solvency (market)		
Debt to asset ratio	33.0 %	30.8 %
Debt to equity ratio	0.5	0.4
Profitability (market)		
Net farm income		210,711
Rate of return on assets		9.5 %
Rate of return on equity		11.3 %
Operating profit margin		25.9 %
EBITDA		315,990
Repayment Capacity		
Term debt coverage ratio (farm)		2.49
Replacement margin coverage ratio		1.44
Efficiency		
Asset turnover rate (market)		36.8
Operating expense ratio		60.7 %
Depreciation ratio		8.4 %
Interest expense ratio		4.7 %
Net farm income ratio		26.2 %
Other		
Term debt coverage (farm+personal)		2.49
Term debt to EBITDA		1.10

Shocks to Farm Term Debt Coverage Ratio

10% decrease in gross income	1.25
10% increase in operating expenses	1.74
3% increase in interest rates	2.04

	Jan	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*	*Total*
CASH INFLOWS													
Beg cash bal	13939	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000	156428	13939
Pecans	-	-	-	-	-	-	-	-	-	306000	416925	-	722925
Beef Calves	-	-	-	-	-	-	-	-	-	-	94400	-	94400
Total inflow	13939	25000	25000	25000	25000	25000	25000	25000	25000	331000	536325	156428	831264
CASH OUTFLOWS													
Fertilizer	-	-	-	-	38280	-	-	-	-	-	-	-	38280
Chemicals	-	-	-	-	40950	-	-	-	-	-	-	-	40950
Drying fuel	-	-	-	-	-	-	13650	13650	-	-	-	-	27300
Irrig energy	-	-	-	-	-	4620	9240	9240	-	-	-	-	23100
C. Cust hire	-	-	-	-	-	-	13650	13650	-	-	-	-	27300
C. Labor	-	-	-	-	-	-	31500	31500	-	-	-	-	63000
C. Consultan	-	-	-	-	8741	-	8741	8741	-	-	-	-	26224
Purch. feed	9371	9371	4686	-	-	-	-	-	-	-	4686	9371	37485
Veterinary	94	94	431	516	516	516	516	516	516	516	178	94	4500
Supplies	167	167	367	417	417	417	417	417	417	417	217	167	3999
L. Marketing	-	-	-	-	-	-	-	-	-	-	713	-	713
Fuel & oil	-	-	1686	5058	5058	1686	1686	1686	3372	5058	5058	-	30350
Repairs	-	1821	-	3642	-	-	1821	-	-	-	3642	-	10925
Cust hire	-	-	-	5500	7000	-	-	-	-	7000	8000	-	27500
Labor	-	-	-	-	-	-	-	-	16000	16000	32000	-	64000
RE taxes	458	458	458	458	458	458	458	458	458	458	458	458	5500
Farm insur.	1229	1229	1229	1229	1229	1229	1229	1229	1229	1229	1229	1229	14750
Utilities	279	279	279	279	279	279	279	279	279	279	279	279	3350
Marketing	-	-	-	-	-	-	-	-	-	-	9650	-	9650
Dues & fees	108	108	108	108	108	108	108	108	108	108	108	108	1300
Misc.	375	375	375	375	375	375	375	375	375	375	375	375	4500
Consultants	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	25200
Living/Draw	7708	7708	7708	7708	7708	7708	7708	7708	7708	7708	7708	7708	92500
Income taxes	-	-	48000	-	-	-	-	-	-	-	-	-	48000
Gifts	-	-	10000	-	-	-	-	-	-	10000	-	-	20000
Min end bal	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000
Tot. outflow	46890	48710	102428	52391	138220	44497	118479	116658	57563	76249	101402	46890	675375
Opr. surplus	-32951	-23710	-77428	-27391	-113220	-19497	-93479	-91658	-32563	254751	434923	109538	155889

	Jan	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*	*Total*
LOAN PAYMENTS													
JDCC-6130R	-	-	-	-	8500	-	-	-	-	-	-	-	8500
JDCC-6130R..	-	-	-	-	-	-	-	-	-	-	-	15000	15000
FCS-Equip..	-	-	-	-	-	17500	-	-	-	-	-	17500	35000
FCS-Orchard	-	-	-	-	2	-	-	-	-	-	-	-	2
FCS-Pastru..	-	-	-	-	-	-	-	-	-	-	6500	-	6500
Tot loan pay	-	-	-	-	8502	17500	-	-	-	-	6500	32500	65002
Surp. or def	**-32951**	**-23710**	**-77428**	**-27391**	**-121722**	**-36997**	**-93479**	**-91658**	**-32563**	**254751**	**428423**	**77038**	**90887**
ANNUAL OPERATING LOAN TRANSACTIONS & BALANCES													
Beg AO bal	-	32951	56826	134538	162601	285137	323559	418656	512407	547531	295518	-	-
AO borrowing	32951	23875	77712	28063	122535	38422	95097	93751	35125	-	-	-	547531
AO int. pay	-	165	284	673	813	1426	1618	2093	2562	2738	1478	-	13849
AO prin. pay	-	-	-	-	-	-	-	-	-	252013	295518	-	547531
End AO bal.	**32951**	**56826**	**134538**	**162601**	**285137**	**323559**	**418656**	**512407**	**547531**	**295518**	**-**	**-**	**-**
Accrued int.	-	-	-	-	-	-	-	-	-	-	-	-	-
End cash bal	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000	156428	102038	102038

COST OF PRODUCTION SUMMARY

Crop	Total Expenses	Less Govt & Other Income	With Labor & Mgt	Machinery Cost / Acre
Pecans, Irr.	1.71 /lb.	1.71 /lb.	1.86 /lb.	714.14
Pasture, Intensive	35.56 /aum	35.56 /aum	37.44 /aum	78.55

Enterprise	Product	Total Expenses	Less Govt & Other Income	With Labor & Mgt	Feed Cost	Feed Cost / Budget Unit
Beef Cow-Calf	Beef Calves	136.15 /cwt.	136.15 /cwt.	145.90 /cwt.	63.56 /cwt.	375.00 /Cow

2018 Financial Analysis Executive Summary

Income Statement

Crop sales	705,275	
Crop inventory change	50	
Gross crop income		705,325
Livestock sales	85,925	
Livestock inventory change	-	
Gross livestock income		85,925
Government payments		-
Other cash farm income		-
Change in accounts receivable		7,201
Gain or loss on hedging accts		-
Change in other assets		-
Gain or loss on breeding lvst		-
Gross farm income		**798,451**
Cash operating expense	376,854	
Change in prepaid exp and supplies	-5,437	
Change in growing crops	-	
Change in accounts payable	-4,000	
Depreciation	71,935	
Total operating expense		439,352
Interest paid	-	
Change in accrued interest	18,950	
Total interest expense		18,950
Total expenses		**458,302**
Net farm income		**340,149**

Other Measures

Total crop acres		210
Cow-Calf Cows		100
Change in earned net worth	199,749	12 %
Change in market value net worth	198,002	10 %

Financial Standards Measures

Liquidity	**Beg**	**End**
Current ratio	1.61	1.97
Working capital	46,362	64,392
Working capital to gross revenues	5.8 %	8.1 %
Solvency (market)	**Beg**	**End**
Debt to asset ratio	34 %	33 %
Debt to equity ratio	0.52	0.49
Profitability	**Cost**	**Market**
Net farm income	340,149	356,902
Rate of return on assets	22.4 %	16.0 %
Rate of return on equity	30.1 %	22.6 %
Operating profit margin	41.5 %	43.7 %
Repayment Capacity		
Term debt coverage ratio (farm only)		4.17
Replacement margin coverage ratio		3.11
Efficiency	**Cost**	**Market**
Asset turnover rate	54.0 %	36.5 %
Operating expense ratio		46.0 %
Depreciation expense ratio		9.0 %
Interest expense ratio		2.4 %
Net farm income ratio		42.6 %
Other		
Term debt coverage (farm+personal)		4.17
Term debt to EBITDA		0.80

Information Accuracy

Cash discrepancy	0
Liability discrepancy	0
Cash discrepancy to gross revenue	0 %

Income Statement

Income	Quantity	Price	Amount	***Expense***	Amount
Pecans, Papershell	275,500 lb.	2.56/lb.	705,275	Fertilizer	37,438
Beef Calves, Ben's Beef	96 head	153.00/cwt.	85,925	Crop chemicals	39,270
				Drying expense	26,250
				Irrigation energy	22,556
				Crop Consultants	25,200
				Crop Marketing	8,400
				Purchased feed	52,750
				Veterinary	3,250
				Supplies	3,850
				Livestock Marketing	935
				Fuel & oil	29,850
				Repairs	10,190
				Custom hire	26,320
				Hired labor	63,150
				Real estate taxes	5,250
				Farm insurance	14,550
				Utilities	3,250
				Dues & professional fees	1,250
				Miscellaneous	3,145
Gross cash income			791,200	Total cash expense	376,854
				Net cash income	414,346

Inventory Changes	Beginning Inventory	Purchases	Sales	Ending Inventory	Inventory Change	
Prepaids and supplies	60,143			65,580	5,437	
Accounts receivable	31,564			38,765	7,201	
Crops and feed	12,250			12,300	50	
Breeding livestock	85,000	-	-	85,000	-	
Accounts payable	28,335			24,335	4,000	
Accrued interest	2,549			21,499	-18,950	
Total inventory change						-2,262
Net operating profit						412,084

Depreciation	Beginning Inventory	Purchases	Sales	Ending Inventory	Depreciation	
Machinery and equipment	522,850	122,500	-	580,015	-65,335	
Titled vehicles	34,830	-	-	29,606	-5,225	
Buildings and improvement	27,500	-	-	26,125	-1,375	
Total depreciation						-71,935

Net farm income **340,149**

	Profitability Measures		***Cost***	***Market***
(A)	Net farm income from operations		340,149	356,902
	Rate of return on assets	(E/F)	22.4 %	16.0 %
	Rate of return on equity	(G/H)	30.1 %	22.6 %
	Operating profit margin	(E/I)	41.5 %	43.7 %
	Asset turnover rate	(I/F)	54.0 %	36.5 %
	EBITDA		431,034	447,786
(B)	Change in market valuation		-	16,752
(C)	Interest expense		18,950	18,950
(D)	Value of unpaid oper labor & mgmt		50,000	50,000
(E)	Return on farm assets	(A+C-D)	309,100	325,852
(F)	Average farm assets		1,382,111	2,041,326
(G)	Return on farm equity	(A-D)	290,149	306,902
(H)	Average farm net worth		965,275	1,355,169
(I)	Value of farm production		745,701	745,701

	Liquidity Measures		***Begin***	***End***
(J)	Current assets		122,712	130,584
(K)	Current liabilities		76,350	66,192
	Current ratio	(J/K)	1.61	1.97
	Working capital	(J-K)	46,362	64,392
	Change in working capital		18,030	
	Working capital to gross revenues		5.8 %	8.1 %

	Solvency Measures (Market)		***Begin***	***End***
(L)	Total assets		2,618,022	2,818,064
(M)	Total liabilities		700,547	702,587
	Net worth	(L-M)	1,917,475	2,115,477
	Net worth change		198,002	
	Current debt to assets	(K/J)	62 %	51 %
	Intermediate debt to assets		45 %	42 %
	Long term debt to assets		4 %	4 %
	Total debt to assets ratio	(M/L)	27 %	25 %

	Repayment Capacity		
	Net farm income from operations		340,149
	Depreciation	(+)	71,935
	Personal income	(+)	-
	Family living expense	(-)	92,300
	Income taxes accrued	(-)	45,750
	Interest on term debt	(+)	26,534
(N)	Capital debt repayment capacity	(=)	300,568
(O)	Scheduled term debt payments		72,000
(P)	Capital debt repayment margin	(N-O)	228,568
(Q)	Cash replacement allowance		24,677
	Replacement margin	(P-Q)	203,891
	Term debt coverage ratio	(N/O)	4.17
	Replacement coverage ratio	(N/O+Q)	3.11

	Statement of Owner's Equity		
(a)	Beginning net worth		1,917,475
	Net farm income		340,149
	Personal income	(+)	-
	Family living expense	(-)	92,300
	Income taxes accrued	(-)	45,750
	Change in personal assets	(+)	-2,350
	Change in nonfarm accounts payable	(+)	-
(b)	Total change in retained earnings	(=)	199,749
	Capital contributions		-
	Gifts given	(-)	18,500
(c)	Total change in contributed capital	(=)	-18,500
	Change in market value of capital assets		23,890
	Change in deferred liabilities	-	7,137
(d)	Total change in market valuation	=	16,752
(e)	Total change in net worth	(b+c+d)	198,002
	Ending net worth		2,115,477

	Statement of Cash Flows		
(f)	Beginning cash balance (farm & personal)		88,315
	Gross cash farm income		791,200
	Cash farm expenses	(-)	376,854
(g)	Cash provided by operating activities	(=)	414,346
	Sale of capital assets		-
	Purchase of machinery and equipment	(-)	122,500
	Purchase of personal assets	(-)	138,550
(h)	Cash provided by investing activities	(=)	-261,050
	Money borrowed		-
	Principal payments	(-)	20,047
	Personal income	(+)	-
	Family living expense	(-)	92,300
	Income taxes paid	(-)	45,750
	Gifts given	(-)	18,500
(i)	Cash provided by financing activities	(=)	-176,597
	Net change in cash	(g+h+i)	-23,301
	Ending cash balance (farm and personal)		65,014

Crop Enterprise Analysis

	Pecans Irrigated Owned	*Int. Pasture Dryland Owned*
Returns		
Acres	210.00	400.00
Unit	lb.	aum
Yield per acre	1309.52	5.00
Share of production (%)	100.00	100.00
Value per unit	2.56	18.00
Total product value	3352.38	90.00
Other crop income	-	-
Gross return per acre	3352.38	90.00
Direct Expenses		
Fertilizer	125.36	27.78
Crop chemicals	187.00	-
Drying expense	125.00	-
Custom hire	125.33	-
Hired labor	300.71	-
Utilities	15.48	-
Consultants	120.00	-
Marketing	40.00	-
Irrigation energy	107.41	-
Fuel & oil	126.67	4.39
Repairs	37.15	1.13
Operating interest	81.21	-
Total direct expenses	1391.33	33.30
Return over direct expenses	1961.05	56.70
Overhead Expenses		
Real estate taxes	15.03	4.58
Farm insurance	69.29	-
Dues & professional fees	5.95	-
Machinery depreciation	324.63	2.44
Building depreciation	5.89	-
Miscellaneous	13.48	-
Total overhead expenses	434.27	7.02
Total dir & ovhd expenses	1825.60	40.32
Net return per acre	1526.78	49.68
Government payments	-	-
Net return with govt pmts	1526.78	49.68
Labor & management charge	224.43	4.68
Net return over lbr & mgt	1302.35	45.00
Cost of Production Per Unit		
Total direct expenses	1.06	6.66
Total dir & ovhd expenses	1.39	8.06
Less govt & other income	1.39	8.06
With labor & management	1.57	9.00
Net value per unit	2.56	18.00
Machinery cost per acre	613.79	7.96
Est. labor hours per acre	30.31	-

LIVESTOCK ENTERPRISE ANALYSIS -- Beef Cow-Calf

	Per Cwt. Produced		Per Cow		Enterprise Total	
	Quantity	Value	Quantity	Value	Quantity	Value
Returns						
Beef CalvesBen's Beef	102.09 lb.	156.20	561.60 lb.	859.25	56160.0 lb.	85925
Other income		-		-		-
Gross return	102.09 lb.	156.20	561.60 lb.	859.25	56160.0 lb.	85925
Purchased	-2.09 lb.	-1.77	-11.50 lb.	-9.75	-1150.0 lb.	-975
Gross margin	100.00 lb.	154.43	550.10 lb.	849.50	55010.0 lb.	84950
Direct Expenses						
Pasture, Intensive	2.18 aum	39.27	12.00 aum	216.00	1200.0 aum	21600
Hay, Mixed	319.94 lb.	16.00	1760.00 lb.	88.00	88.0 ton	8800
Protein Vit Minerals	109.07 lb.	20.91	600.00 lb.	115.00	30.0 ton	11500
Veterinary		5.91		32.50		3250
Supplies		7.00		38.50		3850
Marketing		1.70		9.35		935
Fuel & oil		2.71		14.93		1493
Repairs		3.52		19.36		1936
Operating interest		3.44		18.95		1895
Total direct expenses		100.45		552.59		55259
Return over direct expenses		53.97		296.91		29691
Overhead Expenses						
Real estate taxes		0.48		2.63		263
Machinery depreciation		2.57		14.11		1411
Building depreciation		0.25		1.38		138
Miscellaneous		0.57		3.15		315
Total overhead expenses		3.86		21.26		2126
Total dir & ovhd expense		104.32		573.84		57384
Net return		50.11		275.66		27566
Labor & management charge		1.82		10.00		1000
Net return over lbr & mgt		48.29		265.66		26566
Est. labor hours per unit		0.61		3.35		335

Cost of Prod Per Cwt. Produced	
Total direct expenses	100.45
Total dir & ovhd expenses	104.32
With other revenue adjustments	106.09
With labor & management	107.91

Other Information	
Number of cows	100.0
Pregnancy percentage	97.0
Calving percentage	97.0
Weaning percentage	96.0
Calves sold per cow	0.96
Calf death loss percent	1.0
Cow death loss percent	1.0

Cows per FTE	835.8
Average weaning weight	585
Lb. weaned/exposed female	562
Feed cost per cow	419.00
Avg wgt/ Beef Calves sold	585
Avg price / cwt.	153.00

Contributions to Overhead Expenses

Enterprise	Units	Contribution Per Unit	Total Contribution
Pecans, Irrigated	210. Acres	1,961.05	411,821
Pasture, Intensive, Dryland	400. Acres	56.70	22,679
Cow-Calf	100. Cow	296.91	29,691
Total contributions			464,191
Overhead expenses			
Real estate taxes			5,250
Farm insurance			14,550
Dues & professional fees			1,250
Machinery depreciation			70,560
Building depreciation			1,375
Miscellaneous			3,145
Total overhead expense			96,130
Total return over overhead expe			368,061

Nonfarm Summary

Personal Income	Amount
Personal wages & salary	-
Personal business income	-
Personal rental income	-
Personal interest income	-
Personal cash dividends	-
Tax refunds	-
Other personal income	-
Total personal income	-
Family Living Expenses	
Number of family members	3
Food and meals expense	9,423
Medical care	4,851
Health insurance	17,655
Cash donations	2,955
Household supplies	3,189
Clothing	4,432
Personal care	4,258
Gifts	3,178
Education	12,550
Recreation	7,158
Utilities (household share)	1,356
Personal vehicle operating expenses	2,896
Household real estate taxes	785
Household repairs	4,650
Personal interest	2,578
Disability / Long term care insurance	3,456
Life insurance payments	2,782
Miscellaneous	4,148
Total cash family living expense	92,300
Family living from the farm	-
Total family living	92,300
Furnishings and appliances	-
Personal vehicles	32,450
Personal business investment	-
Other intermediate assets	-
Personal real estate	106,100
Other long term assets	-
Personal savings and investments	-18,485
Income and social security tax	45,750
Total personal expenditures	258,115

Comparative Balance Sheets (cost)

	2017	***2018***
	1/1/2018	***1/1/2019***
Current Assets		
Cash and checking	18,755	13,939
Prepaid exp. & supplies	60,143	65,580
Accounts receivable	31,564	38,765
Crop inventory	12,250	12,300
Total Current Assets	**122,712**	**130,584**
Intermediate Assets		
Breeding livestock	85,000	85,000
Machinery and equipment	522,850	580,015
Titled vehicles	34,830	29,606
Total Intermediate Assets	**642,680**	**694,621**
Long Term Assets		
Land	560,000	560,000
Buildings and improvements	27,500	26,125
Total Long Term Assets	**587,500**	**586,125**
Total Farm Assets	**1,352,892**	**1,411,330**
Total Personal Assets	571,160	688,875
Total All Assets	**1,924,052**	**2,100,205**
Current Liabillities		
Accrued interest	2,549	21,499
Accts pay & accr exp	28,335	24,335
Principal due on term loans	45,466	20,358
Total Current Liabilities	**76,350**	**66,192**
Total Intermediate Loans	**295,032**	**300,842**
Total Long Term Loans	**48,002**	**47,253**
Total Farm Liabilities	**419,384**	**414,287**
Total Personal Liabilities	0	0
Total All Liabilities	**419,384**	**414,287**
Equity		
Retained earnings	1,504,668	1,685,917
Retained earnings chg	**0**	**181,249**

Comparative Balance Sheets (market)

	2017	***2018***
	1/1/2018	***1/1/2019***
Current Assets		
Cash and checking	18,755	13,939
Prepaid exp. & supplies	60,143	65,580
Accounts receivable	31,564	38,765
Crop inventory	12,250	12,300
Total Current Assets	**122,712**	**130,584**
Intermediate Assets		
Breeding livestock	85,000	85,000
Machinery and equipment	525,450	587,905
Titled vehicles	44,000	44,000
Total Intermediate Assets	**654,450**	**716,905**
Long Term Assets		
Land	1,183,000	1,195,000
Buildings and improvements	40,000	40,000
Total Long Term Assets	**1,223,000**	**1,235,000**
Total Farm Assets	**2,000,162**	**2,082,489**
Total Personal Assets	617,860	735,575
Total All Assets	**2,618,022**	**2,818,064**
Current Liabillities		
Accrued interest	2,549	21,499
Accts pay & accr exp	28,335	24,335
Principal due on term loans	45,466	20,358
Total Current Liabilities	**76,350**	**66,192**
Total Intermediate Loans	**295,032**	**300,842**
Total Long Term Loans	**48,002**	**47,253**
Total Farm Liabilities	**419,384**	**414,287**
Total Personal Liabilities	0	0
Deferred liabilities	281,163	288,300
Total All Liabilities	**700,547**	**702,587**
Equity		
Retained earnings	1,504,668	1,685,917
Market valuation equity	412,807	429,560
Net worth	1,917,475	2,115,477
Net worth change	**0**	**198,002**

2018 Financial Analysis Executive Summary

Income Statement

Crop sales	450,240	
Crop inventory change	75	
Gross crop income		450,315
Livestock sales	-	
Livestock inventory change	-	
Gross livestock income		-
Government payments		-
Other cash farm income		13,859
Change in accounts receivable		7,112
Gain or loss on hedging accts		-
Change in other assets		-
Gain or loss on breeding lvst		-
Gross farm income		**471,286**
Cash operating expense	222,741	
Change in prepaid exp and supplies	-8,728	
Change in growing crops	-	
Change in accounts payable	3,992	
Depreciation	98,475	
Total operating expense		316,480
Interest paid	23,757	
Change in accrued interest	15,083	
Total interest expense		38,840
Total expenses		**355,320**
Net farm income		**115,966**

Other Measures

Total crop acres		160
Change in earned net worth	35,543	4 %
Change in market value net worth	65,515	6 %

Financial Standards Measures

Liquidity	**Beg**	**End**
Current ratio	5.05	6.77
Working capital	82,911	146,889
Working capital to gross revenues	17.6 %	31.2 %
Solvency (market)	**Beg**	**End**
Debt to asset ratio	33 %	33 %
Debt to equity ratio	0.50	0.49
Profitability	**Cost**	**Market**
Net farm income	115,966	150,157
Rate of return on assets	18.1 %	15.5 %
Rate of return on equity	19.6 %	18.5 %
Operating profit margin	32.8 %	40.1 %
Repayment Capacity		
Term debt coverage ratio (farm only)		4.47
Replacement margin coverage ratio		2.08
Efficiency	**Cost**	**Market**
Asset turnover rate	55.1 %	38.7 %
Operating expense ratio		46.3 %
Depreciation expense ratio		20.9 %
Interest expense ratio		8.2 %
Net farm income ratio		24.6 %
Other		
Term debt coverage (farm+personal)		4.47
Term debt to EBITDA		0.95

Information Accuracy

Cash discrepancy	0
Liability discrepancy	0
Cash discrepancy to gross revenue	0 %

Income Statement

Income	Quantity	Price	Amount	***Expense***	Amount
Pecans	168,000 lb.	2.68/lb.	450,240	Fertilizer	12,320
Other farm income			13,859	Crop chemicals	51,440
				Irrigation energy	15,600
				Crop Marketing	24,016
				Crop Miscellaneous	5,600
				Interest	23,757
				Fuel & oil	20,015
				Repairs	6,579
				Hired labor	73,432
				Real estate taxes	4,157
				Farm insurance	3,464
				Utilities	3,480
				Dues & professional fees	485
				Miscellaneous	2,153
Gross cash income			464,099	Total cash expense	246,498
				Net cash income	217,601

Inventory Changes	Beginning Inventory	Purchases	Sales	Ending Inventory	Inventory Change	
Prepaids and supplies	45,852			54,580	8,728	
Accounts receivable	22,546			29,658	7,112	
Crops and feed	4,050			4,125	75	
Accounts payable	1,650			5,642	-3,992	
Accrued interest	1,399			16,482	-15,083	
Total inventory change						-3,160
Net operating profit						214,441

Depreciation	Beginning Inventory	Purchases	Sales	Ending Inventory	Depreciation	
Machinery and equipment	505,005	48,500	-	465,015	-88,490	
Titled vehicles	18,260	-	-	11,475	-6,785	
Buildings and improvement	29,325	-	-	26,125	-3,200	
Total depreciation						-98,475

Net farm income **115,966**

Profitability Measures

			Cost	Market
(A)	Net farm income from operations		115,966	150,157
	Rate of return on assets	(E/F)	18.1 %	15.5 %
	Rate of return on equity	(G/H)	19.6 %	18.5 %
	Operating profit margin	(E/I)	32.8 %	40.1 %
	Asset turnover rate	(I/F)	55.1 %	38.7 %
	EBITDA		253,281	287,472
(B)	Change in market valuation		-	34,191
(C)	Interest expense		38,840	38,840
(D)	Value of unpaid oper labor & mgmt		-	-
(E)	Return on farm assets	(A+C-D)	154,806	188,997
(F)	Average farm assets		855,468	1,217,521
(G)	Return on farm equity	(A-D)	115,966	150,157
(H)	Average farm net worth		592,757	812,963
(I)	Value of farm production		471,286	471,286

Liquidity Measures

			Begin	End
(J)	Current assets		103,387	172,344
(K)	Current liabilities		20,476	25,455
	Current ratio	(J/K)	5.05	6.77
	Working capital	(J-K)	82,911	146,889
	Change in working capital		63,978	
	Working capital to gross revenues		17.6 %	31.2 %

Solvency Measures (Market)

			Begin	End
(L)	Total assets		1,588,874	1,668,044
(M)	Total liabilities		417,289	430,944
	Net worth	(L-M)	1,171,585	1,237,100
	Net worth change		65,515	
	Current debt to assets	(K/J)	20 %	15 %
	Intermediate debt to assets		34 %	33 %
	Long term debt to assets		12 %	12 %
	Personal debt to assets		1 %	1 %
	Total debt to assets ratio	(M/L)	26 %	26 %

Repayment Capacity

	Net farm income from operations		115,966
	Depreciation	(+)	98,475
	Personal income	(+)	-
	Family living expense	(-)	58,082
	Income taxes accrued	(-)	17,514
	Interest on term debt	(+)	17,573
(N)	Capital debt repayment capacity	(=)	156,418
(O)	Scheduled term debt payments		35,000
(P)	Capital debt repayment margin	(N-O)	121,418
(Q)	Cash replacement allowance		40,059
	Replacement margin	(P-Q)	81,360
	Term debt coverage ratio	(N/O)	4.47
	Replacement coverage ratio	(N/O+Q)	2.08

Statement of Owner's Equity

(a)	Beginning net worth		1,171,585
	Net farm income		115,966
	Personal income	(+)	-
	Family living expense	(-)	58,082
	Income taxes accrued	(-)	17,514
	Change in personal assets	(+)	-5,732
	Change in nonfarm accounts payable	(+)	905
(b)	Total change in retained earnings	(=)	35,543
	Change in market value of capital assets		43,178
	Change in deferred liabilities	-	13,206
(d)	Total change in market valuation	=	29,972
(e)	Total change in net worth	(b+d)	65,515
	Ending net worth		1,237,100

Statement of Cash Flows

(f)	Beginning cash balance (farm & personal)		100,499
	Gross cash farm income		464,099
	Cash farm expenses	(-)	246,498
(g)	Cash provided by operating activities	(=)	217,601
	Sale of capital assets		-
	Purchase of machinery and equipment	(-)	48,500
	Purchase of personal assets	(-)	18,879
(h)	Cash provided by investing activities	(=)	-67,379
	Money borrowed		-
	Principal payments	(-)	17,721
	Personal income	(+)	-
	Family living expense	(-)	58,082
	Income taxes paid	(-)	17,514
(i)	Cash provided by financing activities	(=)	-93,317
	Net change in cash	(g+h+i)	56,905
	Ending cash balance (farm and personal)		157,404

Nonfarm Summary

Personal Income	**Amount**
Personal wages & salary	-
Personal business income	-
Personal rental income	-
Personal interest income	-
Personal cash dividends	-
Tax refunds	-
Other personal income	-
Total personal income	-

Family Living Expenses	
Number of family members	3.6
Food and meals expense	8,439
Medical care	4,387
Health insurance	7,465
Cash donations	2,748
Household supplies	3,125
Clothing	2,829
Personal care	3,125
Child / Dependent care	758
Alimony and child support	32
Gifts	2,243
Education	2,770
Recreation	3,060
Utilities (household share)	2,716
Personal vehicle operating expenses	3,512
Household real estate taxes	519
Dwelling rent	319
Household repairs	1,583
Personal interest	1,488
Disability / Long term care insurance	522
Life insurance payments	1,476
Personal property insurance	296
Miscellaneous	4,670
Total cash family living expense	58,082
Family living from the farm	-
Total family living	58,082
Furnishings and appliances	386
Personal vehicles	4,284
Personal business investment	-
Other intermediate assets	-
Personal real estate	12,497
Other long term assets	1,712
Personal savings and investments	3,863
Income and social security tax	17,514
Total personal expenditures	98,338

Crop Enterprise Analysis
Area Average Data - Owned Acres
(Farms Sorted By Return to Overhead)

	Improved Pecans	Intensive Pasture
Acres	160	120
Yield per acre	1000.00	1.00
Operators share of yield %	100.00	100.00
Value	2.72	25.25
Gross return per acre	2720.00	25.25
Direct Expenses		
Seed		-
Fertilizer	77.00	47.50
Weed Control	88.00	3.00
Disease Control	121.00	-
Insect Control	112.50	-
Fuel & oil	125.00	-
Repairs	41.12	-
HIred Labor	259.00	1.00
Hired Labor - other	199.75	-
Irrigation	97.50	
Marketing	150.10	-
Operating interest	20.25	2.35
Miscellaneous	27.16	-
Total direct expenses per acre	1318.38	53.85
Return over direct exp per acre	1401.62	-28.60
Overhead Expenses		
Hired labor/Custom Hire	157.95	17.50
RE & pers. property taxes	25.98	3.66
Farm insurance	21.85	6.96
Utilities	21.75	3.87
Dues & professional fees	2.03	1.29
Interest	42.30	7.37
Mach & bldg depreciation	204.65	4.85
Miscellaneous	4.51	1.80
Total overhead expenses / acre	481.02	47.30
Total dir & ovhd expenses / acre	1799.40	101.15
Net return per acre	920.60	-75.90
Labor & management charge	145.30	8.50
Net return over lbr & mgt	775.30	-84.40
Cost of Production		
Total direct expense per unit	1.32	53.85
Total dir & ovhd exp per unit	1.80	101.15
With labor & management	1.94	109.65
Net value per unit	2.72	25.25
Machinery cost per acre		

Livestock Enterprise Analysis
Area Average Data
(Farms Sorted By Return to Overhead)

	Beef Cow Calf	
Beef Calves sold (lb)	303.2	448.22
Cull Cow sales (lb)	98.4	123.17
Purchased (lb)	-44.8	-118.15
Other income/Inv Chg		251.21
Gross margin		704.45
Direct Expenses		
Pasture		258.12
Hay	2,384.70	78.97
Protein Vit Mineral (lb.)	572.3	73.73
Veterinary		33.25
Supplies		51.91
Fuel & oil		29.64
Repairs		46.09
Operating interest		15.96
Total direct expenses		587.67
Return over direct expense		116.78
Overhead Expenses		
Farm insurance		14.06
Utilities		14.83
Interest		47.39
Mach & bldg depreciation		41.87
Miscellaneous		30.97
Total overhead expenses		149.12
Total dir & ovhd expenses		736.79
Net return		-32.34
Labor & management charge		68.29
Net return over lbr & mgt		-100.63
Other Information		
Number of cows		102.5
Pregnancy percentage		95
Pregnancy loss percentage		1.6
Culling percentage		11.3
Calving percentage		93.5
Weaning percentage		86.4
Calves sold per cow		0.8
Calf death loss percent		7.6
Cow death loss percent		3.2
Average weaning weight		550
Lb. weaned/exposed female		475
Feed cost per cow		410.82
Avg wgt/ Beef Calves sold		636
Avg price / cwt.		147.81

2019 Beef Cow Calf Budget

PRODUCTION	Weight	Units	Price/cwt		$/Head
Steer Calves	580	lbs	$ 163.00	$	441.19
Heifer Calves	560	lbs	$ 148.00	$	156.55
Cull Cows	1,150	lbs	$ 60.00	$	153.33
Cull Replacement Heifers	825	lbs	$ 135.00	$	61.88
Cull Bulls	1,750	lbs	$ 86.00	$	-
Other Income		head	$ -	$	-
Total Receipts				**$**	**812.95**
OPERATING COSTS					
Pasture				$	260.00
Hay				$	63.00
Grain				$	-
Protein Supplement				$	61.00
Salt				$	-
Minerals				$	12.25
Other Feed Additives				$	-
Vet Services/Medicine				$	14.00
Vet Supplies				$	7.00
Marketing				$	8.50
Machinery/Equip Fuel, Lube, Repairs				$	30.00
Machinery/Equipment Labor				$	50.25
Other Labor				$	70.80
Other Expense				$	5.00
Annual Operating Capital				$	20.36
Total Operating Costs				**$**	**602.16**
Returns Above Total Operating Costs				**$**	**210.79**
FIXED COSTS					
Average value of machinery/equipment					
Proportion Charged					
Machinery/equipment					
Interest at				$	10.89
Taxes at				$	1.56
Insurance				$	1.32
Depreciation				$	24.22
Average value of breeding livestock inventory					
Interest at				$	34.72
Taxes at				$	13.89
Insurance				$	11.81
Depreciation				$	17.72
Land					
Interest at				$	-
Taxes at				$	-
Total Fixed Costs				**$**	**116.13**
Total Costs (Operating + Fixed)				**$**	**718.29**
Returns Above All Specified Costs				**$**	**94.66**

Participant Number _____ State Abbreviation _____

Participant's Name (please print clearly) _____

Important: Before you start this portion of the event, please write your participant number and state abbreviation on the blanks provided at the top of ***each page***.

2019 NATIONAL FFA
FARM AND AGRIBUSINESS MANAGEMENT
CAREER DEVELOPMENT EVENT

Page Number	Part	Area	Possible Points
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		TOTAL POSSIBLE POINTS	**300**

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Part I - Financial Statements

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. How is the net farm income reported on the 2018 Income Statement calculated?

   A. Gross Cash Income – Total Cash Expense
   B. Gross Cash Income – Total Cash Expense + Total inventory change + Depreciation
   C. Gross Cash Income – Total Cash Expense ± Total Inventory Change ± Depreciation
   D. Gross Cash Income – Total Cash Expense – Depreciation

2. The statement summarizing the value of business assets and liabilities is often referred to as a balance sheet because

   A. Assets = Liabilities + Owner Equity or Net Worth
   B. Assets + Liabilities = Owner Equity
   C. Assets + Owner Equity or Net Worth = Liabilities
   D. Owner Equity or Net Worth = Assets + Liabilities

3. The purpose of the balance sheet is to show at a point in time

   A. the change in owner equity.
   B. the change in cash balances.
   C. the value of assets, liabilities and owner equity.
   D. if the business made a profit.

4. If the Statement of Cash Flow indicates an increase in the cash balance, this means

   A. total farm revenues were larger than total farm expenses.
   B. total cash received was larger than total cash used.
   C. there was an additional cash contribution made to the business.
   D. net farm income was positive.

5. Net farm income will influence all of the following except

   A. the change in retained earnings.
   B. owner equity.
   C. total cash expenses.
   D. the rate of return on assets.

6. Which of the following is a source of farm revenue? Place the letter of the correct item(s) in the answer sheet box.

   A. Customer payment of accounts receivable.
   B. Interest payments during the accounting period.
   C. Sale of grain produced during the accounting period.
   D. Cash received from a new noncurrent loan to purchase a new tractor.

7. Which of the following is likely found in a revenue ledger tracking sources of cash revenue?

   A. Date of sale
   B. Buyer
   C. Quantity sold
   D. Unit price and total revenue received
   E. All of the above

8. In an accrual adjusted income statement, accrual adjustments are made for which of the following? Place the letter of the correct item(s) in the answer sheet box.

   A. Changes to the value of 2017 and 2018 pecan inventory
   B. Changes to the value of 2017 and 2018 prepaid supplies on hand
   C. Changes in the amount of 2017 and 2018 cash pecan sales
   D. Changes in the amount of 2017 and 2018 cash

9. The chart of accounts normally includes

   A. income and expense accounts.
   B. accounts for current assets and liabilities.
   C. depreciable business asset accounts.
   D. other accounts necessary to create reports needed for good management.
   E. All the above

10. When using cash accounting records, a business will recognize

    A. income and expense transactions at the time of actual cash transactions.
    B. income and expense transactions regardless of when they are incurred.
    C. income when it is produced.
    D. expenses when the item is used in the production process.

11. Which of the following financial statements lists the cash and non-cash receipts and expenses of a business during a specified period of time?

    A. Balance sheet
    B. Income Statement
    C. Statement of Cash Flows
    D. Statement of Owner Equity

12. Which of the following financial statements explains the change in net worth for an accounting period?

    A. Balance sheet
    B. Income Statement
    C. Statement of Cash Flows
    D. Statement of Owner Equity

13. Which of the following financial statements explains the change in cash balance for an accounting period?

    A. Balance sheet
    B. Income Statement
    C. Statement of Cash Flows
    D. Statement of Owner Equity

14. Which of the following is not included in the calculation of accrual adjusted gross farm income?

    A. Crop sales
    B. Crop inventory change
    C. Change in prepaid supplies
    D. Livestock sales

15. A major advantage of cash accounting when compared to accrual accounting is it

    A. provides a more accurate calculation of profit.
    B. provides more flexibility in managing taxable income.
    C. provides a more realistic approach to measuring profits because it more closely matches cash flows.
    D. does not require maintaining revenues and expenses.

16. The original cost basis of a capital asset, plus improvements, less accumulated depreciation is referred to as the

    A. net cost value of the asset.
    B. net market value of the asset.
    C. adjusted basis of the asset.
    D. total amortization value of the asset.

17. A method of prorating the cost of a capital asset over its useful life is

    A. depreciation.
    B. amortization.
    C. remaining value.
    D. capitalized value.

18. The reason for making accrual adjustments to a cash income is to allow

    A. a better match of cash receipts and expenses to the actual cash flows.
    B. a better match of production with the expenses associated with the timing of production.
    C. an easier explanation of the change in net worth.
    D. a better match of revenue and expenses reported to the Internal Revenue Service for income tax purposes.

19. Contributed (or paid in) capital, plus retained earnings, plus valuation equity is equal to

    A. total assets plus total liabilities.
    B. total assets minus total liabilities.
    C. net farm income from operations minus cash withdrawals from the business.
    D. total assets plus total liabilities minus equity.

20. A complete set of financial statements will allow Bryan to calculate each of the following financial measures except

    A. profitability measures.
    B. efficiency measures.
    C. per bushel breakeven measures.
    D. repayment capacity measures.

Calculate the 1/1/2019 **market value** net worth for the farm only before adjusting for deferred liabilities and market valuation equity and place the answers, 21 through 25 in the corresponding answer boxes. **Refer to Page R4.**

Item	Value
Answer 21.	**Answer 23.**
Answer 22.	**Answer 24.**
Net Worth (Farm Only)	**Answer 25.**

26. If you have the following items:

1/1/2018 Cash Balance	$88,315
2018 Cash Provided by Operating Activities	$414,346
2018 Cash provided by Investing Activities	-$261,050
2018 Cash provided by Financing Activities	-$176,597

What is the 1/1/2019 cash balance?

27. Since the establishment of the Volkstad Pecan Company, what is the amount of accumulated retained earnings?

28. How much has the change in market value assets contributed to equity of the Volkstad Pecan Company?

How much did items 29 - 30 contribute to the change in retained earnings? **Refer to Page R11.**

Item	Amount
Change in Personal Assets	**Answer 29.**
Family Living Expenses	**Answer 30.**

Part II - Budgeting

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. Budgets are used in planning to evaluate the impact of future actions. To improve the accuracy of a budget, the operator may use

   A. historical data.
   B. forward contract pricing.
   C. more than one source for estimated data.
   D. All of the above.

2. When an increase in the level of production of one enterprise causes a reduction in the level of production of another enterprise, these two enterprises are said to be

   A. independent.
   B. complimentary.
   C. competitive.
   D. supplementary.

3. An enterprise budget is

   A. a physical and financial plan for the entire farm business for a specified period of time.
   B. a record of past production performance, usually for one production cycle.
   C. the tool used in analyzing only changes in the farm operation and the potential change in net income.
   D. a statement of projected costs and returns associated with one production process, usually for one production cycle.

4. If you are considering a change in the farm business that affects only a few items in the total farm budget, this change could most appropriately be evaluated using

   A. an enterprise budget.
   B. a cash flow budget.
   C. a total farm budget.
   D. a partial budget.

5. Budgeting is not used to

   A. estimate the amount of credit needed.
   B. determine the useful life of assets.
   C. allow for experimentation with possible outcomes before resources are committed.
   D. All of the above.

6. When determining the effect of growing more acres of a crop, the cost most likely to change would be

   A. fixed costs per acre.
   B. operating costs per acre.
   C. rent per acre.
   D. crop insurance per acre.

7. A whole farm schedule of expected returns and expenses is a

   A. balance sheet.
   B. partial budget.
   C. depreciation schedule.
   D. budget.

8. For a livestock budget to be meaningful, what value should be placed on raised crops fed?

   A. The costs to produce these crops
   B. Local market value
   C. Local market value plus 10%
   D. Reported state average sale price

9. A cash flow projection is a form of budgeting that is used to

   A. determine living expenses.
   B. determine year-end asset values.
   C. determine operating credit needs.
   D. calculate total farm equity.

10. Which of the following would be considered a fixed cost?

    A. Depreciation on machinery
    B. Hired seasonal labor
    C. Crop production inputs
    D. Feed purchases

11. The cost of using a resource based on what it could have earned in the next best alternative is

    A. an opportunity cost.
    B. always a variable cost.
    C. always a fixed cost.
    D. an alternative cost.

12. What is the break-even yield per acre for the pecan enterprise **(R12)** to cover total direct and overhead expenses? Calculate to the nearest tenth (x.x) of a pound.

13. What is the largest direct expense for the pecan enterprise?

14. What is the operating interest expense per acre for the pecan enterprise?

15. What is the irrigation energy expense per acre for the pecan enterprise?

16. If total direct and overhead expenses for the pecan enterprise were to increase to $2,000 per acre, what would the break-even price per pound be? Round to the nearest cent.

17. For the Beef Cow Calf Budget on **R22,** What are the projected total operating costs per cow?

18. What is the projected return over all specified costs per cow for the beef cow calf budget?

19. What is the veterinary cost per cow in the beef cow calf budget?

Participant Number _____ State Abbreviation _____

Part III – Cash Flow Planning

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. What are the four factors of production?

2. What impact would there be on total revenue if the highest revenue item fell by 5%? (Round to nearest whole dollar)

For questions 3 through 9, answer **Yes** if the item listed below shows up on a projected cash flow or answer **No** if the items would not be included on a projected cash flow.

3. Depreciation

   A. Yes
   B. No

4. New Loans

   A. Yes
   B. No

5. Farm Equity

   A. Yes
   B. No

6. Payment on Term Debt

   A. Yes
   B. No

7. Land Appreciation

   A. Yes
   B. No

8. Sale of Capital Items

   A. Yes
   B. No

9. Family Living

   A. Yes
   B. No

10. To analyze the health of the farm business, you should use which of the following? (Place the letters of all that apply in the answer box.)

    A. Income Statement
    B. Cash Flow Projection
    C. Depreciation Schedule
    D. Net Worth Statement

11. In 2019, the annual operating loan has to have a limit of at least

    A. $300,000.00
    B. $400,000.00
    C. $500,000.00
    D. $600,000.00

12. What month has the highest income _____?

13. What month has the highest cost (outflow) _____?

14. What are the total dollars needed for intermediate and long-term interest and principal loan payments?

15. At the end of 2019 total assets

    A. do not change.
    B. are lower.
    C. are higher.

16. Based on the 2019 cash flow Executive Summary **(R5)** (for every dollar of income, what is the amount in cents spent for operating expenses?

    A. 40.1
    B. 60.7
    C. 26.2
    D. 17.3

17. In 2019 what is the highest outflow item?

18. In the 2019 cash flow, the minimum checkbook balance maintained is

    A. $10,000.
    B. $15,000.
    C. $20,000.
    D. $25,000.

19. Based on the 2019 cash flow, the cost of production for beef calves is _____ /cwt. (calculate to the nearest cent)

20. In what month are the most dollars being spent for his 2019 crop production?

Part IV - Marketing

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. A tariff assessed on imports is similar to a duty or a tax.

   A. True
   B. False

USDA uses a milk pricing formula for each of the 4 categories based on end use. For questions 2 and 3, match the product category to the corresponding milk price class.

2. Which product category is associated with the Class I milk price?

   A. Butter and dry products (e.g., non-fat dry milk)
   B. Fluid/beverage milk
   C. Soft/manufactured dairy products (e.g., ice cream, yogurt)
   D. Hard cheeses

3. Which product category is associated with the Class III milk price?

   A. Butter and dry products (e.g., non-fat dry milk)
   B. Fluid/beverage milk
   C. Soft/manufactured dairy products (e.g., ice cream, yogurt)
   D. Hard cheeses

4. Produce is shipped Free On Board (FOB) Shipping Point from South America to the U.S. Upon arrival in the U.S., the buyer pays the full price for the shipment but determines there is a deterioration in produce quality. Who is liable for the damaged produce?

   A. Shipping company
   B. Seller
   C. Buyer

5. How many pounds are in a beef feeder cattle futures contract?

   A. 30,000
   B 50,000
   C. 40,000
   D. 10,000

6. In the event of a suspected food contamination event, which of the following agencies will respond to the situation? (Place the letters of all that apply in the answer box.)

   A. Centers for Disease Control and Prevention (CDC)
   B. State and county health departments
   C. Federal agencies including Food and Drug Administration (FDA)
   D. Environmental Protection Agency (EPA)

7. Products labeled “organic” must meet specific USDA requirements regarding which practices?

   A. Production
   B. Handling
   C. Labeling
   D. A and B
   E. A, B and C

8. USDA certified organic produce must be grown on soil free of prohibited substances for ___ years.

   A. 2
   B. 3
   C. 4
   D. 5

9. A hedge-to-arrive (futures) contract has three components, two of which are known at the time the contract is purchased. The known components include _____ and _____. The third component, _____, is unknown until a later date.

   A. delivery month, futures price, premium
   B. futures price, basis, and delivery month
   C. margin, basis, delivery month
   D. futures price, delivery month, basis

10. All other factors held equal, large carryover stocks will tend to have what effect on a commodity’s price?

    A. Increase price
    B. Decrease price
    C. Increase storage costs
    D. B and C

11. Which of the following factors will cause a movement along the demand curve?

    A. Own price change
    B. Change in consumer tastes/preferences
    C. Prices of other goods/services
    D. Consumer incomes

12. A producer who suspects that pecan markets will be bearish in the coming year thinks pecan prices will

    A. increase.
    B. decrease.
    C. exceed a three-year average.
    D. A and C

13. Federal marketing orders are intended to promote agricultural products by collectively influencing

    A. product demand.
    B. product supply.
    C. product price.
    D. All of the above

14. A producer using the futures market to hedge the price of a commodity sold in the fall would take what action in May?

    A. Buy futures contracts expecting to buy more contracts when the commodity is sold.
    B. Buy futures contracts expecting to sell those contracts when the commodity is sold.
    C. Sell futures contracts expecting to buy them back when the commodity is sold.
    D. Sell futures contracts expecting to sell more contracts when the commodity is sold.

15. When the cash price falls relative to the futures price, this is known as

    A. strengthening basis.
    B. weakening basis.
    C. under basis.
    D. basis risk.

16. A producer buys 5,000 units of a product for $3.00 per unit in Market A. She simultaneously sells all 5,000 units for $4.00 per unit in Market B. The producer's ability to profit from price discrepancies in different markets is called

    A. arbitrage.
    B. marginal value.
    C. margin.
    D. None of the above

17. An increase in the U.S. exchange rate causes domestic goods to become

    A. less expensive for consumers abroad.
    B. more expensive for consumers abroad.
    C. less expensive for U.S. consumers.
    D. more expensive for U.S. consumers.

18. Which of the following considerations would factor into storing pecans but not cotton?

    A. Price
    B. Quality
    C. Perishability
    D. Location

19. If the Volkstads expand into feeder cattle and wish to hedge against future corn price increases, which of these actions would accomplish that goal?

    A. Sell a corn futures contract
    B. Buy a corn futures contract
    C. Buy a corn put option
    D. Sell a corn call option

20. The difference between the cash price and the futures price is called the

    A. strike price.
    B. premium.
    C. basis.
    D. spread.

21. Marketing margin is calculated as the per unit sale price less the per unit

    A. labor cost.
    B. production cost.
    C. marginal cost.

22. If Volkstad Pecan Company were to add online sales to their operation, this would be an example of _____ integration.

    A. vertical
    B. horizontal

23. Organic pecans are attractive because they command a higher sale price than non-organic pecans. Under the current conditions, which of the following factors would the Volkstads need to consider before planting an organic pecan orchard?

    A. Labor requirements
    B. Equipment needs
    C. Pest control costs
    D. All of the above

Part V - Income Tax

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Answers in this section will be based upon the 2018 Farmer's Tax Guide.

Over the next several years the Volkstad Pecan Company may purchase a number of depreciable assets. When using the Modified Accelerated Cost Recovery System (MACRS), General Depreciation System (GDS), farm property falls into different Recovery Periods. For questions 1 through 4, how many years would be required to depreciate the listed properties?

1. Used tractor

2. New pecan harvester

3. Water well

4. Refrigerated storage (single use)

5. The main thing to keep in mind with regard to income tax management is to

   A. minimize the tax obligation.
   B. have zero taxes due.
   C. maximize after tax income.
   D. defer income taxes to the future.

6. Effective tax planning requires

   A. knowing personal financial goals.
   B. up-to-date records.
   C. reliable long-range projections.
   D. All the above

7. The most common accounting method used by farmers for taxes.

   A. Accrual
   B. Cash
   C. Cash with accrual adjustments
   D. None of the above

8. Assets, other than land and some livestock, used in farming that have a useful life of more than one year are

   A. ordinary expenses.
   B. not deductible for taxes.
   C. considered lease expenses.
   D. depreciable.

9. Place the letters in the box of all the items that would increase a farm's taxable income.

   A. Prepay seed for next year
   B. Defer crop sales to next year
   C. Purchase and pay for diesel fuel
   D. Sell two semi loads of soybeans
   E. Use section 179 on capital purchases
   F. Use straight line depreciation versus MACRS depreciation
   G. Pay interest on loans even if it is not due
   H. Delay paying open accounts
   I. Pay operating loan principal

10. Which person below is required to pay social security taxes?

    A. Spouse who works with the other spouse
    B. Parent who works for his child who receives payment in-kind
    C. Parent who works for his child's corporation
    D. Child under 18 who works for his parent

11. The taxes that may be due when a person dies.

    A. Asset taxes
    B. Estate taxes
    C. Property taxes
    D. Real Estate taxes

12. A producer must send form _____ to each independent contractor earning over $600.

13. A producer must send each employee a form _____ at the end of the year showing earnings and all withholdings.

14. The standard deduction for a married couple in 2018 is

    A. $12,000.
    B. $24,000.
    C. $34,000.
    D. $44,000.

15. The personal exemption in 2018 is

    A. $0.00.
    B. $1,000.00.
    C. $2,500.00.
    D. $5,000.00.

16. Farmers that do not pay income tax quarterly or file an estimate must file and pay by

    A. Jan 30.
    B. Feb 15.
    C. Mar 1.
    D. Mar 15.

17. When a farmer trades in a piece of equipment, it is

    A. treated as a sale.
    B. added to the purchase price of the new item.
    C. left on the depreciation schedule.
    D. considered tax free income.

18. When a new or used capital item is purchased and no section 179 is taken, then

    A. there is nothing to do.
    B. the boot price is put on the depreciation schedule.
    C. the entire amount is placed on the depreciation schedule.
    D. it depends on the item.

Part VI – Investment Analysis

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Volkstad Pecan Company purchased a new John Deere 6130 on January 1 to replace their aging tractor. The dealer will provide them a seven-year loan with an interest rate of 4%. The price of the tractor was $149,900 which included the front-end loader attachment. The dealer allowed them $24,900 on their trade in. The payments are due in annual installments. Because they are such great customers, John Deere Financial will carry the note at the lower rate.

Year	Total Payment	Interest	Principal	Balance
0	[redacted]	[redacted]	[redacted]	$125,000.00
1	20,826.20	5,000	15,826.20	109,173.80
2	20,826.20	4,366.95	16,459.25	92,714.55
3	20,826.20	3,708.58	17,117.62	75,596.93
4	20,826.20	3,023.88	17,802.32	57,794.61
5	20,826.20	**Answer 1**	**Answer 2**	**Answer 3**
6	20,826.20	1,571.21	19,254.99	20,025.20
7	20,826.21	801.01	20,025.20	0

Questions 1 – 4: Calculate the amounts in the table above and enter them in the corresponding box on the answer sheet.

1. What is the interest for year 5?

2. What is the principal for year 5?

3. What is the remaining balance for year 5?

4. The total accumulated interest is

5. For an amortized loan, which of the following increases each year?

   A. total payment
   B. interest payment
   C. principal payment
   D. none of the above

6. What is the total cash outlay on this note?

   A. The actual amount of money borrowed less interest
   B. The total amount of money paid to the lender
   C. The present value of the annuity
   D. The amount of money left over

7. If the interest increases to 5%, what would be the amount of interest paid in the first year?

8. What is lender repossession?

   A. Recovering an asset and refunding principal paid
   B. Paying off debt with a varying repayment schedule
   C. Paying off debt with a fixed repayment schedule
   D. Losing the asset for non-payment

9. An annual payment consists of _____. Two points

10. An amortization table and loan documents are what a lender provides the borrower with each loan to disclose the

    A. amount of money borrowed.
    B. amount of principal and interest paid with each payment.
    C. amount and rate paid to the lender for borrowing the money.
    D. unpaid balance due at the end of each year.
    E. All of the above.

11. The principal and interest amounts in each of the payments on this note will always be the same.

    A. True
    B. False

Part VII - Risk Management

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. Which of the following is an example of financial risk that applies to Volkstad Pecan Company?

   A. A change in pecan yield
   B. A change in interest rates
   C. A change in consumers' tastes and preferences
   D. A and C
   E. A, B and C

2. Which of the following is an example of legal risk?

   A. A change in tariff rates and food export regulations
   B. A change in consumers' tastes and preferences
   C. A change in interest rates
   D. A and C
   E. A, B, and C

3. Which of the following best describes risk avoidance?

   A. Paying another party to assume a portion of a risk
   B. A methodology to reduce the severity of a risk
   C. A methodology to reduce the frequency of a risk
   D. Ending an activity to eliminate the possibility of a loss
   E. Setting aside funds to pay for any losses that may occur

4. _____ is an example of risk transfer.

   A. An insurance policy
   B. A fire suppression system
   C. Testing for food-borne pathogens
   D. B and C

5. A solvency ratio is a measure of _____ risk.

   A. Market
   B. Legal
   C. Financial
   D. Human
   E. Production

6. Assume that the following debt-to-asset ratios are given for 5 farms. Based solely upon these ratios, which farm is at the greatest financial risk?

   A. 0.2
   B. 0.7
   C. 0.6
   D. 0.9
   E. 0.5

7. Adopting an appropriate integrated pest management system mitigates _____ risk.

   A. market
   B. legal
   C. financial
   D. human
   E. production

8. Which of the following is an example of market risk that applies to Volkstad Pecan Company?

   A. A change in pecan prices
   B. A change in interest rates
   C. A change in consumers' tastes and preferences for organic products
   D. A and C
   E. A, B, and C

9. A worker's compensation insurance policy is an appropriate treatment for a farm's _____ risk.

   A. market
   B. legal
   C. financial
   D. human
   E. production

10. A farmer who wants to establish a price floor for corn to be received at harvest would

    A. buy a call option.
    B. buy a futures contract.
    C. buy a put option.
    D. sell a put option.

11. A farmer would use the futures market with the objective to

    A. transfer risk.
    B. increase risk.
    C. participate in government farm programs.
    D. obtain a loan.

12. A farmer decides to use the futures market to hedge the price of soybeans to be sold at harvest. What should the farmer do to hedge the soybeans?

    A. Buy futures contracts expecting to buy more contracts when the soybeans are sold.
    B. Buy futures contracts expecting to sell those contracts when the soybeans are sold.
    C. Sell futures contracts expecting to buy them back when the soybeans are sold.
    D. Sell futures contracts expecting to sell more contracts when the soybeans are sold.

13. After the farmer is hedged in Question #12, what is the only factor that could change the price received?

    A. An increase in the futures price.
    B. A decrease in the futures price.
    C. A change in the basis.
    D. A larger than expected yield.

14. When hedging, it is important that farmers close out both the cash and futures position

    A. prior to selling the crop.
    B. simultaneously when selling the crop.
    C. keep the futures position open to protect against price risk.
    D. at any time.

15. To hedge using commodity futures, a farmer must

    A. use a broker.
    B. create a margin account.
    C. both A and B.
    D. do nothing. A farmer can hedge over the internet without a broker or margin account.

16. A farmer uses revenue protection insurance to protect a corn crop. This type of insurance would protect against

    A. high prices and high yields.
    B. low yields and low prices.
    C. increases in cash rental rates.
    D. failure of a grain buyer to make a payment upon delivery.

17. The yield protection in revenue protection insurance is based on

    A. the farm’s actual production history of yields.
    B. the county’s actual production history of yields.
    C. the state’s actual production history of yields.
    D. whatever yield coverage the farmer wants to buy.

18. The price protection in revenue protection insurance is based upon

    A. the futures market.
    B. the local cash market.
    C. the U.S. Marketing-Year Average price.
    D. a price determined by the USDA.

19. Pecan markets pose an interesting problem for farm price risk management. There is not a futures contract for pecans. In the absence of a futures contract, what is the most appropriate means to manage price risk for pecan operations?

    A. A forward contract
    B. A production contract
    C. Both A and B
    D. Neither A nor B

20. Which of the following is not one of the steps in the risk management process?

    A. Identify
    B. Monitor
    C. Plan
    D. Prioritize
    E. All of the above

21. Which of the following risks should be avoided?

    A. A high frequency and high severity risk
    B. A low frequency and high severity risk
    C. A low frequency and low severity risk
    D. A high frequency and low severity risk

Part VIII - Business Organization

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. If Volkstad Pecan Company decided to join with other pecan growers to start a pecan shelling plant, which type of cooperative should they form?

   A. Processing
   B. Marketing
   C. Credit
   D. Purchasing
   E. Service

2. During their farming career, Bryan and Brianna have grown their operation from nothing to a thriving 210-acre pecan orchard. In the long-term, they are interested in protecting their orchard and ensuring that it stays in their family for many generations to come. Which of the following business organizations would best suit their goal?

   A. A partnership
   B. A sole proprietorship
   C. A cooperative
   D. A trust

3. Which of the following is a benefit of a corporate business structure?

   A. Corporate income can be taxed at a lower rate than personal income.
   B. Ownership is easily divided into shares.
   C. A corporation does not dissolve with the death of an owner.
   D. All of the above

4. The most commonly used type of business organization for US farms and ranches is the _____.

   A. corporation
   B. partnership
   C. sole proprietorship
   D. limited liability company
   E. Cooperative

5. Choosing to organize a business as a(n) _____ provides entrepreneurs with the greatest access to capital.

   A. corporation
   B. partnership
   C. sole proprietorship
   D. limited liability company
   E. cooperative

6. Of the types of business organizations listed below, which would provide the least protection from legal liability to the owners?

   A. Limited Liability Company
   B. S-Corporation
   C. C-Corporation
   D. General Partnership

7. If a farm business owner wishes to organize her business as simply as possible with minimal record keeping requirements, which type of organization should she choose?

   A. C-Corporation
   B. Limited Partnership
   C. Sole Proprietorship
   D. Limited Liability Company
   E. Cooperative

8. An owner of a corporation is also called a(n) _____.

   A. director
   B. stockholder
   C. officer
   D. member
   E. trustor

9. An owner of a Limited Liability Company is also called a(n) _____.

   A. director
   B. stockholder
   C. officer
   D. member
   E. trust

10. Which of the following statements is not a best practice when selecting a business organization structure?

    A. Business owners should select the simplest business organization that still meets their needs and goals.
    B. Partnership agreements should always be signed, written agreements that are reviewed with the help of an attorney or other competent professional.
    C. The business structure that minimizes taxation the most is always the best choice for business owners.
    D. Future plans and aspirations of the business owner should be taken into account when deciding the optimal business structure.

11. According to the IRS code, owners of an S-Corporation must be US citizens.

    A. True
    B. False

12. According to IRS rules, C-Corporations may not have more than 100 stockholders.

    A. True
    B. False

13. Cooperatives are owned and controlled by their member-patrons and the profits earned by the cooperative are returned to the members based on patronage.

    A. True
    B. False

14. Cooperatives allow farmers and ranchers to gain market power by combining their resources.

    A. True
    B. False

15. Trusts are a particularly useful form of business organization for estate planning purposes.

    A. True
    B. False

Part IX – Land Measurement

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. Thomas Jefferson authorized a system of land measurements to define locations of properties in the western territory for which of these main reasons?

   A. So that private ownership of property could be easily defined.
   B. So that property could be exchanged to another owner more easily.
   C. A checkerboard system was employed to create more reliable delineations.
   D. All of the above

2. How many sections are in a township?

   A. 12
   B. 24
   C. 36
   D. 48

3. The purpose of a school section was to plan ahead for land settlements so that

   A. children wouldn't have to travel far to school.
   B. the sections would become the property of the state.
   C. Both A and B
   D. Neither A or B

4. When interpreting a legal land description, you

   A. read it backwards.
   B. locate the section in the township.
   C. find the location in the quarter.
   D. All of the above

5. The range refers to columns of townships running north and south (quadrangle).

   A. True
   B. False

6. Some properties in the U.S. do not have a form of legal land description.

   A. True
   B. False

7. An acre is equal to _____ square feet.

8. A tier refers to the townships running east and west in six-mile increments.

   A. True
   B. False

9. The curvature of the earth causes a need to include correctional sections in legal descriptions.

   A. True
   B. False

10. Generally, parcels of land that are located in a city subdivision are legally described by using

    A. metes and bounds.
    B. recorded plats.
    C. rectangular survey.
    D. None of the above

11. Property in most towns and cities on the East coast generally use the metes and bounds survey system.

    A. True
    B. False

12. “Starting at an iron post, 523’ N 10˚” is an excerpt from a legal land description. What system of legal land descriptions does this description conform to?

    A. Rectangular Survey
    B. Recorded Plat
    C. Metes and Bounds
    D. None of the above

13. The following excerpt is from a legal description: “W ½, E ½, SE ¼, Section 10”. What system of legal land descriptions does this description conform to?

    A. Rectangular Survey
    B. Recorded Plat
    C. Metes and Bounds
    D. None of the above

The illustration below is for a one-mile square section of land.

14. In the section above, which is the southwest quarter?

    A. A
    B. B
    C. C
    D. D

15. How many acres are in parcel B?

    A. 25
    B. 80
    C. 100
    D. 160

Part X - Analyzing the Agricultural Business

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Use the Executive Summary on **Page R9** in the Resource Information for the Volkstad Pecan Company and the Executive Summary for Average Data on **Page R17** to answer questions 1 through 9.

1. Compare the beginning and ending values on the first 5 Financial Standards Measures listed. Which measure(s) were worse at the end of the year?

   A. Debt to Asset Ratio
   B. Debt to Equity Ratio
   C. Current Ratio
   D. Both A and B
   E. None of the above

2. The Operating Expense Ratio is a financial factor that represents

   A. Operating expense in comparison to Operating Income.
   B. Operating expense in comparison to Gross Farm Income.
   C. Total Farm Expense compared to Operating Expense.
   D. Operating Expense in comparison to Net Farm Income.

3. What is the Operating Expense Ratio for Volkstad Pecan Company?

4. Is their Operating Expense Ratio better or worse than the average?

   A. Better
   B. Worse

5. If the Operating Expense Ratio for a given farm is 63%, with a total operating expense of $250,000, what is the dollar amount of Gross Farm Income? Round to the nearest cent.

In the Efficiency section of the Financial Standards Measures, there are four ratios. The Depreciation Expense Ratio, the Interest Expense Ratio, and the Operating Expense Ratio are all part of the Total Farm Expenses. The Net Farm Income Ratio is an indicator of the percentage of Net Farm Income in comparison to Gross Farm Income.

6. What is the percentage of Total Expenses compared to Gross Farm Income for the Volkstad Pecan Company? Round to the nearest hundredth of a percent x.xx.

7. What is the percentage of Total Expenses compared to Gross Farm Income for the Average Farm? Round to the nearest hundredth of a percent x.xx.

Using the information in questions 6 and 7, calculate the Net Farm Income Ratio for each. Round to the nearest hundredth of a percent x.xx.

8. Volkstad's

9. Average

10. Is the Volkstad Net Farm Income Ratio better or worse than the average?

A. Better
B. Worse

11. The Volkstads have projected the value of the business for a future sale using the Market Balance Sheet. If they would have sold out completely on 1/1/19, what would be the difference between their Market Net Worth and the Retained Earnings?

12. If the Average Farm would have sold out completely on 1/1/19, what would be the difference between their Market Net Worth and the Retained Earnings if the retained earnings are $969,683?

13. What is the term used to describe the difference in question 11?

Participant Number _____ State Abbreviation _____

Use the Income Statement on **Page R10** and the Contributions to Overhead Expenses on **Page R14** in the Resource Information for the Volkstad Pecan Company to answer questions 14 and 15.

What percent of Gross Income from pecans and beef cattle is available for Overhead Expenses? Round to the nearest hundredth of a percent x.xx.

14. Pecans

15. Beef Cattle

16. Using the percentages from question 14 and 15, if planning to invest more in one of these enterprises, which would provide you the highest percent Return to Overhead?

    A. Beef Cattle
    B. Pecans

Answer the following questions that relate to the Pecan enterprise, found on **Pages R12 and R21** in the Resource information.

17. What is the primary reason that the net return per acre for Volkstad's pecans is greater than the average of all farms?

    A. Price
    B. Yield
    C. Direct Cost
    D. Overhead

18. Of the Overhead Expenses on the Volkstad farm, which expense is the greatest amount **above** the average for that expense?

19. What is the difference in the value per unit in the pecan enterprise for the Area Average compared to the Volkstad farm? (Indicate + or – to show the dollar amount compared to the Volkstad value) Round answers to the nearest cent.

20. What is the change in income per acre if the Volkstads would have sold their pecans for the same value as the average farm? (Indicate + or – to show the amount compared to the Volkstad value) Round answers to the nearest cent.

Participant Number _____ State Abbreviation _____

Using the “Average weight per beef calf sold” and the “Average price per Cwt” from the Other Information on the Beef Cow Calf tables for the Volkstads and the Area Average, calculate the amount received for each calf sold. Round answers to the nearest cent.

21. Volkstads

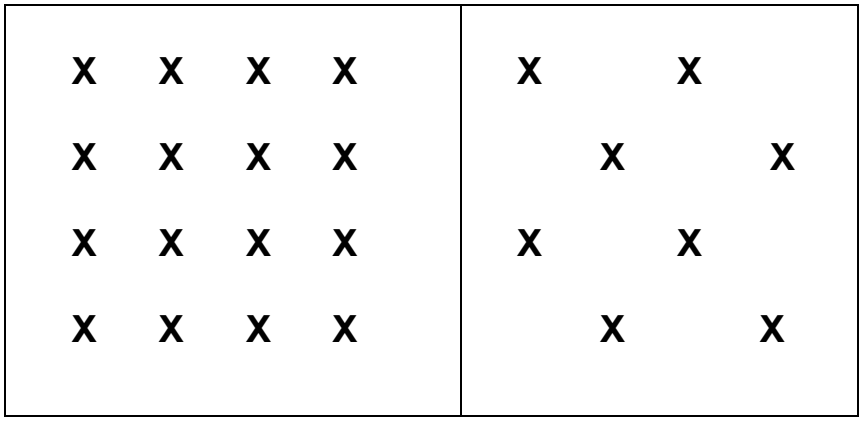
22. Area Average

23. In the information listed in questions 21 and 22, which had a greater impact on gross income, weight or price per cwt.

Pecan production can be a profitable business over the long term if the pecan tree is managed with effective production practices. A key aspect of effective management is the spacing between pecan trees in an orchard. One rule of thumb states that the distance between trees should range from 30 to 50 feet apart, depending on individual situations. After 12 – 18 years, thinning may be needed in order to allow the trees to produce for a longer time period and at an increased level.

24. If the Volkstads planted the majority of their acres with a tree spacing of 35 feet between trees in a row and 35 feet between rows, how many trees were planted per acre? Round to the nearest whole number.

25. In the current year, Volkstads are planning to thin the orchard by removing 50% of the trees leaving every other tree in a staggered pattern for each row. That will change the layout of the orchard from a rectangular pattern to a diagonal pattern. See the chart below. How many trees will remain per acre after removing 50%?



26. Based on the number of square feet in one acre and the number of trees remaining in question 25 after thinning, calculated the spacing between each tree and each row. (Round up to the nearest whole number)

27. With that reduction in the number of trees, which of the following would most likely occur on the thinned acres?

    A. Production per acre would increase naturally.
    B. Irrigation would be reduced to save costs.
    C. Fertilizer applied per acre would be reduced.
    D. None of the above
    E. All of the above

Part XI – Family Living

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Review the **Family Living Expenses, Page R14,** and **Area Average, Page R20** to answer the following questions.

1. In which category does the Volkstad family spend less per person than the area average?

   A. Medical care
   B. Clothing
   C. Education
   D. Utilities
   E. Household repairs

2. What is the total cash family living expense per person for the Volkstad family? Round answer to whole dollar.

3. What is the largest family living expenditure item for the Volkstad family?

   A. Education
   B. Income taxes
   C. Nonfarm real estate purchases
   D. Nonfarm vehicle purchases
   E. Clothing

4. Which expense listed below would be the easiest to reduce?

   A. Utilities
   B. Life insurance payments
   C. Income taxes
   D. Disability/long term care insurance
   E. Recreation

5. The Volkstad family spends more than seven percent of total cash family living on which expense category(ies)?

   A. Personal care
   B. Recreation
   C. Medical care
   D. Household repairs
   E. Both A and B

6. What is the area average amount spent per person on life insurance payments? Round answer to whole dollar.

7. What percent of total cash family living expense does the Volkstad family spend on health insurance? Round to the nearest whole percent.

8. The Volkstad family spends how much per person on medical care?

9. The area average spends at least seven percent of the total cash family living expense on which category?

   A. Life insurance payments
   B. Cash donations
   C. Medical care
   D. Recreation
   E. Personal care

10. Which expense item listed below would be the most difficult to reduce?

    A. Recreation
    B. Nonfarm vehicle purchases
    C. Gifts
    D. Clothing
    E. Income taxes

Part XII - Economic Principles

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. The production function decision rule for moving from stage one to stage two.

   A. Maximum Marginal Product.
   B. Marginal Product = Average Product.
   C. Minimum Average Product.
   D. Marginal Product = 0.
   E. Minimum Marginal Product.

2. The production function is the

   A. economic relationship between firms and consumers.
   B. production relationship between consumers and producers.
   C. economic relationship between costs and prices.
   D. cost relationship between consumers and producers.
   E. physical relationship between inputs and output.

3. The term output divided by input is known as

   A. Total Product.
   B. Marginal Product.
   C. Average Product.
   D. Marginal Cost.
   E. Marginal Revenue.

4. If the Volkstad family has a fixed cost of $100 per acre when pecan output yields 1,400 pounds per acre, what is the fixed cost per acre when pecan output falls to 1,050 pounds per acre?

   A. $75 per acre
   B. $125 per acre
   C. $0 per acre
   D. $100 per acre
   E. There is not enough information to determine fixed cost.

5. To mathematically determine the least cost combination of two inputs, you will find where

   A. the marginal rate of substitution equals the price ratio.
   B. the marginal cost equals the average cost.
   C. the marginal rate of substitution equals total revenue.
   D. the price ratio equals the marginal product.
   E. the price ratio equals the cost ratio.

6. Maximum profit will be obtained when variable input is added until

   A. total production is maximized.
   B. value of marginal product equals cost ratio.
   C. value of marginal product equals input price.
   D. marginal revenue equals output price.
   E. total revenue is minimized.

7. Diminishing returns begin to develop in

   A. stage one of the production function.
   B. stage two of the production function.
   C. stage three of the production function.
   D. stage four of the production function.
   E. None of the above

8. For the Volkstad Pecan Company, the cost of fertilizer can best be described as a(an)

   A. variable cost.
   B. fixed cost.
   C. total cost.
   D. marginal cost.
   E. average cost.

9. With current production, the Volkstads estimate total direct and overhead expenses of $1,800 per acre for pecans and predict $2.85 per pound sales price, how many pounds per acre do they need to produce to break even? Round to the nearest whole pound.

10. Recent storms have the Volkstad family concerned about pecan productivity. If production drops to 500 pounds per acre with an estimated total direct and overhead expense of $1,800 per acre, what price per pound do they need to receive to break even? Round to the nearest cent (i.e., $x.xx per pound).

Participant Number _____ State Abbreviation _____

The Volkstads plan to feed out their steers and supplement with a cottonseed meal and corn feed ration to yield constant pounds of gain. They are trying to compute the least cost feed ration. Use the table below to answer questions 11 - 15.

Ration Number	X_1 Cottonseed Meal (lb.)	X_2 Corn (lb.)	Marginal Rate of Substitution
1	10	325.0	xxxxxxxxxxxxxxxxx
			14.32
2	15	253.4	
			7.34
3	20	216.7	
			4.90
4	25	192.2	
			3.50
5	30	174.7	
			2.82
6	35	160.6	
			2.26
7	40	149.3	
			Answer 11
8	45	140.1	
			Answer 12
9	50	132.6	
			xxxxxxxxxxxxxxxxx

11. What is the marginal rate of substitution moving from ration 7 to 8? Round to nearest hundredths x.xx.

12. What is the marginal rate of substitution moving from ration 8 to 9? Round to nearest hundredths x.xx.

13. If they can buy cottonseed meal for $0.28/lb and corn for $0.08/lb, the least cost combination will be found when moving from

    A. ration 2 to ration 3.
    B. ration 3 to ration 4.
    C. ration 4 to ration 5.
    D. ration 5 to ration 6.
    E. ration 6 to ration 7.

14. If the cost of cottonseed meal decreases to $0.12/lb. and the cost of corn stays the same at $0.08/lb., the Volkstads should

    A. add cottonseed meal and reduce corn.
    B. add corn and reduce cottonseed meal.
    C. increase both corn and cottonseed meal.
    D. decrease both corn and cottonseed meal.
    E. keep the ration the same.

15. What is the marginal rate of substitution when moving from feed ration 2 (15 lbs. of cottonseed meal and 253.4 lbs. of corn) to ration 3 (20 lbs. of cottonseed meal and 216.7 lbs. of corn)?

16. When an increase in the level of production of one enterprise causes a reduction in the level of production of another enterprise, these two enterprises are said to be

    A. complimentary.
    B. competitive.
    C. supplementary.
    D. independent.

Participant Number _____ State Abbreviation _____

Participant's Name (please print clearly) **KEY**

Important: Before you start this portion of the event, please write your participant number and state abbreviation on the blanks provided at the top of ***each page***.

2019 NATIONAL FFA
FARM AND AGRIBUSINESS MANAGEMENT
CAREER DEVELOPMENT EVENT

Page Number	Part	Area	Possible Points
3	I	Financial Statements	34
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38	XI	Family Living	18
40	XII	Economic Principles	26
		TOTAL POSSIBLE POINTS	**300**

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Part I - Financial Statements

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. How is the net farm income reported on the 2018 Income Statement calculated?

   A. Gross Cash Income – Total Cash Expense
   B. Gross Cash Income – Total Cash Expense + Total inventory change + Depreciation
   C. Gross Cash Income – Total Cash Expense ± Total Inventory Change ± Depreciation
   D. Gross Cash Income – Total Cash Expense – Depreciation

2. The statement summarizing the value of business assets and liabilities is often referred to as a balance sheet because

   A. Assets = Liabilities + Owner Equity or Net Worth
   B. Assets + Liabilities = Owner Equity
   C. Assets + Owner Equity or Net Worth = Liabilities
   D. Owner Equity or Net Worth = Assets + Liabilities

3. The purpose of the balance sheet is to show at a point in time

   A. the change in owner equity.
   B. the change in cash balances.
   C. the value of assets, liabilities and owner equity.
   D. if the business made a profit.

4. If the Statement of Cash Flow indicates an increase in the cash balance, this means

   A. total farm revenues were larger than total farm expenses.
   B. total cash received was larger than total cash used.
   C. there was an additional cash contribution made to the business.
   D. net farm income was positive.

5. Net farm income will influence all of the following except

   A. the change in retained earnings.
   B. owner equity.
   C. total cash expenses.
   D. the rate of return on assets.

6. Which of the following is a source of farm revenue? Place the letter of the correct item(s) in the answer sheet box.

   A. Customer payment of accounts receivable.
   B. Interest payments during the accounting period.
   C. Sale of grain produced during the accounting period.
   D. Cash received from a new noncurrent loan to purchase a new tractor.

   A & C

7. Which of the following is likely found in a revenue ledger tracking sources of cash revenue?

   A. Date of sale
   B. Buyer
   C. Quantity sold
   D. Unit price and total revenue received
   E. All of the above

8. In an accrual adjusted income statement, accrual adjustments are made for which of the following? Place the letter of the correct item(s) in the answer sheet box.

   A. Changes to the value of 2017 and 2018 pecan inventory
   B. Changes to the value of 2017 and 2018 prepaid supplies on hand
   C. Changes in the amount of 2017 and 2018 cash pecan sales
   D. Changes in the amount of 2017 and 2018 cash

   A & B

9. The chart of accounts normally includes

   A. income and expense accounts.
   B. accounts for current assets and liabilities.
   C. depreciable business asset accounts.
   D. other accounts necessary to create reports needed for good management.
   E. All the above

10. When using cash accounting records, a business will recognize

    A. income and expense transactions at the time of actual cash transactions.
    B. income and expense transactions regardless of when they are incurred.
    C. income when it is produced.
    D. expenses when the item is used in the production process.

11. Which of the following financial statements lists the cash and non-cash receipts and expenses of a business during a specified period of time?

    A. Balance sheet
    B. Income Statement
    C. Statement of Cash Flows
    D. Statement of Owner Equity

12. Which of the following financial statements explains the change in net worth for an accounting period?

    A. Balance sheet
    B. Income Statement
    C. Statement of Cash Flows
    D. Statement of Owner Equity

13. Which of the following financial statements explains the change in cash balance for an accounting period?

    A. Balance sheet
    B. Income Statement
    C. Statement of Cash Flows
    D. Statement of Owner Equity

14. Which of the following is not included in the calculation of accrual adjusted gross farm income?

    A. Crop sales
    B. Crop inventory change
    C. Change in prepaid supplies (expense adjustment – in the key)
    D. Livestock sales

15. A major advantage of cash accounting when compared to accrual accounting is it

    A. provides a more accurate calculation of profit.
    B. provides more flexibility in managing taxable income.
    C. provides a more realistic approach to measuring profits because it more closely matches cash flows.
    D. does not require maintaining revenues and expenses.

16. The original cost basis of a capital asset, plus improvements, less accumulated depreciation is referred to as the

    A. net cost value of the asset.
    B. net market value of the asset.
    C. adjusted basis of the asset.
    D. total amortization value of the asset.

17. A method of prorating the cost of a capital asset over its useful life is

    A. depreciation.
    B. amortization.
    C. remaining value.
    D. capitalized value.

18. The reason for making accrual adjustments to a cash income is to allow

    A. a better match of cash receipts and expenses to the actual cash flows.
    B. a better match of production with the expenses associated with the timing of production.
    C. an easier explanation of the change in net worth.
    D. a better match of revenue and expenses reported to the Internal Revenue Service for income tax purposes.

19. Contributed (or paid in) capital, plus retained earnings, plus valuation equity is equal to

    A. total assets plus total liabilities.
    B. total assets minus total liabilities.
    C. net farm income from operations minus cash withdrawals from the business.
    D. total assets plus total liabilities minus equity.

20. A complete set of financial statements will allow Bryan to calculate each of the following financial measures except

    A. profitability measures.
    B. efficiency measures.
    C. per bushel breakeven measures.
    D. repayment capacity measures.

Calculate the 1/1/2019 **market value** net worth for the farm only before adjusting for deferred liabilities and market valuation equity and place the answers, 21 through 25 in the corresponding answer boxes. **Refer to Page R4.**

Item	Value
21. Total Farm Assets	**23. $2,082,489**
22. Total Farm Liabilities	**24. $414,287**
Net Worth (Farm Only)	**25. $1,668,202**

26. If you have the following items:

1/1/2018 Cash Balance	$88,315
2018 Cash Provided by Operating Activities	$414,346
2018 Cash provided by Investing Activities	-$261,050
2018 Cash provided by Financing Activities	-$176,597

What is the 1/1/2019 cash balance?

$88,315 + $414,346 - $261,050 - $176,597= $65,014

27. Since the establishment of the Volkstad Pecan Company, what is the amount of accumulated retained earnings?

$1,685,917

28. How much has the change in market value assets contributed to equity of the Volkstad Pecan Company?

$429,560

How much did items 29 - 30 contribute to the change in retained earnings? **Refer to Page R11.**

Item	Amount
Change in Personal Assets	**29. -$2,350**
Family Living Expenses	**30. $92,300**

Part II - Budgeting

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. Budgets are used in planning to evaluate the impact of future actions. To improve the accuracy of a budget, the operator may use

   A. historical data.
   B. forward contract pricing.
   C. more than one source for estimated data.
   D. All of the above.

2. When an increase in the level of production of one enterprise causes a reduction in the level of production of another enterprise, these two enterprises are said to be

   A. independent.
   B. complimentary.
   C. competitive.
   D. supplementary.

3. An enterprise budget is

   A. a physical and financial plan for the entire farm business for a specified period of time.
   B. a record of past production performance, usually for one production cycle.
   C. the tool used in analyzing only changes in the farm operation and the potential change in net income.
   D. a statement of projected costs and returns associated with one production process, usually for one production cycle.

4. If you are considering a change in the farm business that affects only a few items in the total farm budget, this change could most appropriately be evaluated using

   A. an enterprise budget.
   B. a cash flow budget.
   C. a total farm budget.
   D. a partial budget.

5. Budgeting is not used to

   A. estimate the amount of credit needed.
   B. determine the useful life of assets.
   C. allow for experimentation with possible outcomes before resources are committed.
   D. All of the above.

6. When determining the effect of growing more acres of a crop, the cost most likely to change would be

   A. fixed costs per acre.
   B. operating costs per acre.
   C. rent per acre.
   D. crop insurance per acre.

7. A whole farm schedule of expected returns and expenses is a

   A. balance sheet.
   B. partial budget.
   C. depreciation schedule.
   D. budget.

8. For a livestock budget to be meaningful, what value should be placed on raised crops fed?

   A. The costs to produce these crops
   B. Local market value
   C. Local market value plus 10%
   D. Reported state average sale price

9. A cash flow projection is a form of budgeting that is used to

   A. determine living expenses.
   B. determine year-end asset values.
   C. determine operating credit needs.
   D. calculate total farm equity.

10. Which of the following would be considered a fixed cost?

    A. Depreciation on machinery
    B. Hired seasonal labor
    C. Crop production inputs
    D. Feed purchases

11. The cost of using a resource based on what it could have earned in the next best alternative is

    A. an opportunity cost.
    B. always a variable cost.
    C. always a fixed cost.
    D. an alternative cost.

12. What is the break-even yield per acre for the pecan enterprise **(R12)** to cover total direct and overhead expenses? Calculate to the nearest tenth (x.x) of a pound.

713.1 lbs

$1,825.60 divided by $2.56

13. What is the largest direct expense for the pecan enterprise?

Hired Labor

14. What is the operating interest expense per acre for the pecan enterprise?

$81.21

15. What is the irrigation energy expense per acre for the pecan enterprise?

$107.41

16. If total direct and overhead expenses for the pecan enterprise were to increase to $2,000 per acre, what would the break-even price per pound be? Round to the nearest cent.

$1.53

$2,000 divided by 1,309.52

17. For the Beef Cow Calf Budget on **R22,** What are the projected total operating costs per cow?

$602.16

18. What is the projected return over all specified costs per cow for the beef cow calf budget?

$94.66

19. What is the veterinary cost per cow in the beef cow calf budget?

$14,00 + $7.00 = $21.00

Part III – Cash Flow Planning

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. What are the four factors of production?

   Land, Labor, Capital, Management

2. What impact would there be on total revenue if the highest revenue item fell by 5%? (Round to nearest whole dollar)

   $36,146

For questions 3 through 9, answer **Yes** if the item listed below shows up on a projected cash flow or answer **No** if the items would not be included on a projected cash flow.

3. Depreciation

   A. Yes
   B. No

4. New Loans

   A. Yes
   B. No

5. Farm Equity

   A. Yes
   B. No

6. Payment on Term Debt

   A. Yes
   B. No

7. Land Appreciation

   A. Yes
   B. No

8. Sale of Capital Items

   A. Yes
   B. No

9. Family Living

   A. Yes
   B. No

10. To analyze the health of the farm business, you should use which of the following? (Place the letters of all that apply in the answer box.)

    A. Income Statement
    B. Cash Flow Projection
    C. Depreciation Schedule
    D. Net Worth Statement

A, B and D

11. In 2019, the annual operating loan has to have a limit of at least

    A. $300,000.00
    B. $400,000.00
    C. $500,000.00
    D. $600,000.00

12. What month has the highest income _____?

November

13. What month has the highest cost (outflow) _____?

May

14. What are the total dollars needed for intermediate and long-term interest and principal loan payments?

$65,002

15. At the end of 2019 total assets

    A. do not change.
    B. are lower.
    C. are higher.

16. Based on the 2019 cash flow Executive Summary **(R5)** (for every dollar of income, what is the amount in cents spent for operating expenses?

    A. 40.1
    B. 60.7
    C. 26.2
    D. 17.3

17. In 2019 what is the highest outflow item?

Family Living or Living/Draw

18. In the 2019 cash flow, the minimum checkbook balance maintained is

    A. $10,000.
    B. $15,000.
    C. $20,000.
    D. $25,000.

19. Based on the 2019 cash flow, the cost of production for beef calves is _____ /cwt. (calculate to the nearest cent)

    $136.15 / cwt.

20. In what month are the most dollars being spent for his 2019 crop production?

    May

Part IV - Marketing

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. A tariff assessed on imports is similar to a duty or a tax.

   A. True
   B. False

USDA uses a milk pricing formula for each of the 4 categories based on end use. For questions 2 and 3, match the product category to the corresponding milk price class.

2. Which product category is associated with the Class I milk price?

   A. Butter and dry products (e.g., non-fat dry milk)
   B. Fluid/beverage milk
   C. Soft/manufactured dairy products (e.g., ice cream, yogurt)
   D. Hard cheeses

3. Which product category is associated with the Class III milk price?

   A. Butter and dry products (e.g., non-fat dry milk)
   B. Fluid/beverage milk
   C. Soft/manufactured dairy products (e.g., ice cream, yogurt)
   D. Hard cheeses

4. Produce is shipped Free On Board (FOB) Shipping Point from South America to the U.S. Upon arrival in the U.S., the buyer pays the full price for the shipment but determines there is a deterioration in produce quality. Who is liable for the damaged produce?

   A. Shipping company
   B. Seller
   C. Buyer

5. How many pounds are in a beef feeder cattle futures contract?

   A. 30,000
   B 50,000
   C. 40,000
   D. 10,000

6. In the event of a suspected food contamination event, which of the following agencies will respond to the situation? (Place the letters of all that apply in the answer box.)

   A. Centers for Disease Control and Prevention (CDC)
   B. State and county health departments
   C. Federal agencies including Food and Drug Administration (FDA)
   D. Environmental Protection Agency (EPA)

   A, B and C

7. Products labeled “organic” must meet specific USDA requirements regarding which practices?

   A. Production
   B. Handling
   C. Labeling
   D. A and B
   E. A, B and C

8. USDA certified organic produce must be grown on soil free of prohibited substances for ___ years.

   A. 2
   B. 3
   C. 4
   D. 5

9. A hedge-to-arrive (futures) contract has three components, two of which are known at the time the contract is purchased. The known components include _____ and _____. The third component, _____, is unknown until a later date.

   A. delivery month, futures price, premium
   B. futures price, basis, and delivery month
   C. margin, basis, delivery month
   D. futures price, delivery month, basis

10. All other factors held equal, large carryover stocks will tend to have what effect on a commodity’s price?

    A. Increase price
    B. Decrease price
    C. Increase storage costs
    D. B and C

11. Which of the following factors will cause a movement along the demand curve?

    A. Own price change
    B. Change in consumer tastes/preferences
    C. Prices of other goods/services
    D. Consumer incomes

12. A producer who suspects that pecan markets will be bearish in the coming year thinks pecan prices will

    A. increase.
    B. decrease.
    C. exceed a three-year average.
    D. A and C

13. Federal marketing orders are intended to promote agricultural products by collectively influencing

    A. product demand.
    B. product supply.
    C. product price.
    D. All of the above

14. A producer using the futures market to hedge the price of a commodity sold in the fall would take what action in May?

    A. Buy futures contracts expecting to buy more contracts when the commodity is sold.
    B. Buy futures contracts expecting to sell those contracts when the commodity is sold.
    C. Sell futures contracts expecting to buy them back when the commodity is sold.
    D. Sell futures contracts expecting to sell more contracts when the commodity is sold.

15. When the cash price falls relative to the futures price, this is known as

    A. strengthening basis.
    B. weakening basis.
    C. under basis.
    D. basis risk.

16. A producer buys 5,000 units of a product for $3.00 per unit in Market A. She simultaneously sells all 5,000 units for $4.00 per unit in Market B. The producer's ability to profit from price discrepancies in different markets is called

    A. arbitrage.
    B. marginal value.
    C. margin.
    D. None of the above

17. An increase in the U.S. exchange rate causes domestic goods to become

    A. less expensive for consumers abroad.
    B. more expensive for consumers abroad.
    C. less expensive for U.S. consumers.
    D. more expensive for U.S. consumers.

18. Which of the following considerations would factor into storing pecans but not cotton?

    A. Price
    B. Quality
    C. Perishability
    D. Location

19. If the Volkstads expand into feeder cattle and wish to hedge against future corn price increases, which of these actions would accomplish that goal?

    A. Sell a corn futures contract
    B. Buy a corn futures contract
    C. Buy a corn put option
    D. Sell a corn call option

20. The difference between the cash price and the futures price is called the

    A. strike price.
    B. premium.
    C. basis.
    D. spread.

21. Marketing margin is calculated as the per unit sale price less the per unit

    A. labor cost.
    B. production cost.
    C. marginal cost.

22. If Volkstad Pecan Company were to add online sales to their operation, this would be an example of _____ integration.

    A. vertical
    B. horizontal

23. Organic pecans are attractive because they command a higher sale price than non-organic pecans. Under the current conditions, which of the following factors would the Volkstads need to consider before planting an organic pecan orchard?

    A. Labor requirements
    B. Equipment needs
    C. Pest control costs
    D. All of the above

Part V - Income Tax

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Answers in this section will be based upon the 2018 Farmer's Tax Guide.

Over the next several years the Volkstad Pecan Company may purchase a number of depreciable assets. When using the Modified Accelerated Cost Recovery System (MACRS), General Depreciation System (GDS), farm property falls into different Recovery Periods. For questions 1 through 4, how many years would be required to depreciate the listed properties?

1. Used tractor

   7 years

2. New pecan harvester

   5 years

3. Water well

   15 years

4. Refrigerated storage (single use)

   10 years

5. The main thing to keep in mind with regard to income tax management is to

   A. minimize the tax obligation.
   B. have zero taxes due.
   C. maximize after tax income.
   D. defer income taxes to the future.

6. Effective tax planning requires

   A. knowing personal financial goals.
   B. up-to-date records.
   C. reliable long-range projections.
   D. All the above

7. The most common accounting method used by farmers for taxes.

   A. Accrual
   B. Cash
   C. Cash with accrual adjustments
   D. None of the above

8. Assets, other than land and some livestock, used in farming that have a useful life of more than one year are

   A. ordinary expenses.
   B. not deductible for taxes.
   C. considered lease expenses.
   D. depreciable.

9. Place the letters in the box of all the items that would increase a farm's taxable income.

   A. Prepay seed for next year
   B. Defer crop sales to next year
   C. Purchase and pay for diesel fuel
   D. Sell two semi loads of soybeans
   E. Use section 179 on capital purchases
   F. Use straight line depreciation versus MACRS depreciation
   G. Pay interest on loans even if it is not due
   H. Delay paying open accounts
   I. Pay operating loan principal

D, F and H

10. Which person below is required to pay social security taxes?

    A. Spouse who works with the other spouse
    B. Parent who works for his child who receives payment in-kind
    C. Parent who works for his child's corporation
    D. Child under 18 who works for his parent

11. The taxes that may be due when a person dies.

    A. Asset taxes
    B. Estate taxes
    C. Property taxes
    D. Real Estate taxes

12. A producer must send form _____ to each independent contractor earning over $600.

1099

13. A producer must send each employee a form _____ at the end of the year showing earnings and all withholdings.

W2

14. The standard deduction for a married couple in 2018 is

A. $12,000.
B. $24,000.
C. $34,000.
D. $44,000.

15. The personal exemption in 2018 is

A. $0.00.
B. $1,000.00.
C. $2,500.00.
D. $5,000.00.

16. Farmers that do not pay income tax quarterly or file an estimate must file and pay by

A. Jan 30.
B. Feb 15.
C. Mar 1.
D. Mar 15.

17. When a farmer trades in a piece of equipment, it is

A. treated as a sale.
B. added to the purchase price of the new item.
C. left on the depreciation schedule.
D. considered tax free income.

18. When a new or used capital item is purchased and no section 179 is taken, then

A. there is nothing to do.
B. the boot price is put on the depreciation schedule.
C. the entire amount is placed on the depreciation schedule.
D. it depends on the item.

Part VI – Investment Analysis

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Volkstad Pecan Company purchased a new John Deere 6130 on January 1 to replace their aging tractor. The dealer will provide them a seven-year loan with an interest rate of 4%. The price of the tractor was $149,900 which included the front-end loader attachment. The dealer allowed them $24,900 on their trade in. The payments are due in annual installments. Because they are such great customers, John Deere Financial will carry the note at the lower rate.

Year	Total Payment	Interest	Principal	Balance
0	[redacted]	[redacted]	[redacted]	$125,000.00
1	20,826.20	5,000	15,826.20	109,173.80
2	20,826.20	4,366.95	16,459.25	92,714.55
3	20,826.20	3,708.58	17,117.62	75,596.93
4	20,826.20	3,023.88	17,802.32	57,794.61
5	20,826.20	**2,311.78**	**18,514.42**	**39,280.19**
6	20,826.20	1,571.21	19,254.99	20,025.20
7	20,826.21	801.01	20,025.20	0

Questions 1 – 4: Calculate the amounts in the table above and enter them in the corresponding box on the answer sheet.

1. What is the interest for year 5?

$2,311.78

2. What is the principal for year 5?

$18,514.42

3. What is the remaining balance for year 5?

$39,280.19

4. The total accumulated interest is

$20,783.41

5. For an amortized loan, which of the following increases each year?

   A. total payment
   B. interest payment
   C. principal payment
   D. none of the above

6. What is the total cash outlay on this note?

   A. The actual amount of money borrowed less interest
   B. The total amount of money paid to the lender
   C. The present value of the annuity
   D. The amount of money left over

7. If the interest increases to 5%, what would be the amount of interest paid in the first year?

   $6,250

8. What is lender repossession?

   A. Recovering an asset and refunding principal paid
   B. Paying off debt with a varying repayment schedule
   C. Paying off debt with a fixed repayment schedule
   D. Losing the asset for non-payment

9. An annual payment consists of _____. Two points

   Interest and principal

10. An amortization table and loan documents are what a lender provides the borrower with each loan to disclose the

    A. amount of money borrowed.
    B. amount of principal and interest paid with each payment.
    C. amount and rate paid to the lender for borrowing the money.
    D. unpaid balance due at the end of each year.
    E. All of the above.

11. The principal and interest amounts in each of the payments on this note will always be the same.

    A. True
    B. False

Part VII - Risk Management

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. Which of the following is an example of financial risk that applies to Volkstad Pecan Company?

   A. A change in pecan yield
   B. A change in interest rates
   C. A change in consumers' tastes and preferences
   D. A and C
   E. A, B and C

2. Which of the following is an example of legal risk?

   A. A change in tariff rates and food export regulations
   B. A change in consumers' tastes and preferences
   C. A change in interest rates
   D. A and C
   E. A, B, and C

3. Which of the following best describes risk avoidance?

   A. Paying another party to assume a portion of a risk
   B. A methodology to reduce the severity of a risk
   C. A methodology to reduce the frequency of a risk
   D. Ending an activity to eliminate the possibility of a loss
   E. Setting aside funds to pay for any losses that may occur

4. _____ is an example of risk transfer.

   A. An insurance policy
   B. A fire suppression system
   C. Testing for food-borne pathogens
   D. B and C

5. A solvency ratio is a measure of _____ risk.

   A. Market
   B. Legal
   C. Financial
   D. Human
   E. Production

6. Assume that the following debt-to-asset ratios are given for 5 farms. Based solely upon these ratios, which farm is at the greatest financial risk?

   A. 0.2
   B. 0.7
   C. 0.6
   D. 0.9
   E. 0.5

7. Adopting an appropriate integrated pest management system mitigates _____ risk.

   A. market
   B. legal
   C. financial
   D. human
   E. production

8. Which of the following is an example of market risk that applies to Volkstad Pecan Company?

   A. A change in pecan prices
   B. A change in interest rates
   C. A change in consumers' tastes and preferences for organic products
   D. A and C
   E. A, B, and C

9. A worker's compensation insurance policy is an appropriate treatment for a farm's _____ risk.

   A. market
   B. legal
   C. financial
   D. human
   E. production

10. A farmer who wants to establish a price floor for corn to be received at harvest would

    A. buy a call option.
    B. buy a futures contract.
    C. buy a put option.
    D. sell a put option.

11. A farmer would use the futures market with the objective to

    A. transfer risk.
    B. increase risk.
    C. participate in government farm programs.
    D. obtain a loan.

12. A farmer decides to use the futures market to hedge the price of soybeans to be sold at harvest. What should the farmer do to hedge the soybeans?

    A. Buy futures contracts expecting to buy more contracts when the soybeans are sold.
    B. Buy futures contracts expecting to sell those contracts when the soybeans are sold.
    C. Sell futures contracts expecting to buy them back when the soybeans are sold.
    D. Sell futures contracts expecting to sell more contracts when the soybeans are sold.

13. After the farmer is hedged in Question #12, what is the only factor that could change the price received?

    A. An increase in the futures price.
    B. A decrease in the futures price.
    C. A change in the basis.
    D. A larger than expected yield.

14. When hedging, it is important that farmers close out both the cash and futures position

    A. prior to selling the crop.
    B. simultaneously when selling the crop.
    C. keep the futures position open to protect against price risk.
    D. at any time.

15. To hedge using commodity futures, a farmer must

    A. use a broker.
    B. create a margin account.
    C. both A and B.
    D. do nothing. A farmer can hedge over the internet without a broker or margin account.

16. A farmer uses revenue protection insurance to protect a corn crop. This type of insurance would protect against

    A. high prices and high yields.
    B. low yields and low prices.
    C. increases in cash rental rates.
    D. failure of a grain buyer to make a payment upon delivery.

17. The yield protection in revenue protection insurance is based on

    A. the farm's actual production history of yields.
    B. the county's actual production history of yields.
    C. the state's actual production history of yields.
    D. whatever yield coverage the farmer wants to buy.

18. The price protection in revenue protection insurance is based upon

    A. the futures market.
    B. the local cash market.
    C. the U.S. Marketing-Year Average price.
    D. a price determined by the USDA.

19. Pecan markets pose an interesting problem for farm price risk management. There is not a futures contract for pecans. In the absence of a futures contract, what is the most appropriate means to manage price risk for pecan operations?

    A. A forward contract
    B. A production contract
    C. Both A and B
    D. Neither A nor B

20. Which of the following is not one of the steps in the risk management process?

    A. Identify
    B. Monitor
    C. Plan
    D. Prioritize
    E. All of the above

21. Which of the following risks should be avoided?

    A. A high frequency and high severity risk
    B. A low frequency and high severity risk
    C. A low frequency and low severity risk
    D. A high frequency and low severity risk

Part VIII - Business Organization

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. If Volkstad Pecan Company decided to join with other pecan growers to start a pecan shelling plant, which type of cooperative should they form?

   A. Processing
   B. Marketing
   C. Credit
   D. Purchasing
   E. Service

2. During their farming career, Bryan and Brianna have grown their operation from nothing to a thriving 210-acre pecan orchard. In the long-term, they are interested in protecting their orchard and ensuring that it stays in their family for many generations to come. Which of the following business organizations would best suit their goal?

   A. A partnership
   B. A sole proprietorship
   C. A cooperative
   D. A trust

3. Which of the following is a benefit of a corporate business structure?

   A. Corporate income can be taxed at a lower rate than personal income.
   B. Ownership is easily divided into shares.
   C. A corporation does not dissolve with the death of an owner.
   D. All of the above

4. The most commonly used type of business organization for US farms and ranches is the _____.

   A. corporation
   B. partnership
   C. sole proprietorship
   D. limited liability company
   E. Cooperative

5. Choosing to organize a business as a(n) _____ provides entrepreneurs with the greatest access to capital.

   A. corporation
   B. partnership
   C. sole proprietorship
   D. limited liability company
   E. cooperative

6. Of the types of business organizations listed below, which would provide the least protection from legal liability to the owners?

   A. Limited Liability Company
   B. S-Corporation
   C. C-Corporation
   D. General Partnership

7. If a farm business owner wishes to organize her business as simply as possible with minimal record keeping requirements, which type of organization should she choose?

   A. C-Corporation
   B. Limited Partnership
   C. Sole Proprietorship
   D. Limited Liability Company
   E. Cooperative

8. An owner of a corporation is also called a(n) _____.

   A. director
   B. stockholder
   C. officer
   D. member
   E. trustor

9. An owner of a Limited Liability Company is also called a(n) _____.

   A. director
   B. stockholder
   C. officer
   D. member
   E. trust

10. Which of the following statements is not a best practice when selecting a business organization structure?

    A. Business owners should select the simplest business organization that still meets their needs and goals.
    B. Partnership agreements should always be signed, written agreements that are reviewed with the help of an attorney or other competent professional.
    C. The business structure that minimizes taxation the most is always the best choice for business owners.
    D. Future plans and aspirations of the business owner should be taken into account when deciding the optimal business structure.

11. According to the IRS code, owners of an S-Corporation must be US citizens.

    A. True
    B. False

12. According to IRS rules, C-Corporations may not have more than 100 stockholders.

    A. True
    B. False

13. Cooperatives are owned and controlled by their member-patrons and the profits earned by the cooperative are returned to the members based on patronage.

    A. True
    B. False

14. Cooperatives allow farmers and ranchers to gain market power by combining their resources.

    A. True
    B. False

15. Trusts are a particularly useful form of business organization for estate planning purposes.

    A. True
    B. False

Part IX – Land Measurement

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. Thomas Jefferson authorized a system of land measurements to define locations of properties in the western territory for which of these main reasons?

   A. So that private ownership of property could be easily defined.
   B. So that property could be exchanged to another owner more easily.
   C. A checkerboard system was employed to create more reliable delineations.
   D. All of the above

2. How many sections are in a township?

   A. 12
   B. 24
   C. 36
   D. 48

3. The purpose of a school section was to plan ahead for land settlements so that

   A. children wouldn't have to travel far to school.
   B. the sections would become the property of the state.
   C. Both A and B
   D. Neither A or B

4. When interpreting a legal land description, you

   A. read it backwards.
   B. locate the section in the township.
   C. find the location in the quarter.
   D. All of the above

5. The range refers to columns of townships running north and south (quadrangle).

   A. True
   B. False

6. Some properties in the U.S. do not have a form of legal land description.

   A. True
   B. False

7. An acre is equal to _____ square feet.

43,560

8. A tier refers to the townships running east and west in six-mile increments.

   A. True
   B. False

9. The curvature of the earth causes a need to include correctional sections in legal descriptions.

   A. True
   B. False

10. Generally, parcels of land that are located in a city subdivision are legally described by using

    A. metes and bounds.
    B. recorded plats.
    C. rectangular survey.
    D. None of the above

11. Property in most towns and cities on the East coast generally use the metes and bounds survey system.

    A. True
    B. False

12. "Starting at an iron post, 523' N 10˚" is an excerpt from a legal land description. What system of legal land descriptions does this description conform to?

    A. Rectangular Survey
    B. Recorded Plat
    C. Metes and Bounds
    D. None of the above

13. The following excerpt is from a legal description: "W ½, E ½, SE ¼, Section 10". What system of legal land descriptions does this description conform to?

    A. Rectangular Survey
    B. Recorded Plat
    C. Metes and Bounds
    D. None of the above

The illustration below is for a one-mile square section of land.

14. In the section above, which is the southwest quarter?

    A. A
    B. B
    C. C
    D. D

15. How many acres are in parcel B?

    A. 25
    B. 80
    C. 100
    D. 160

Part X - Analyzing the Agricultural Business

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Use the Executive Summary on **Page R9** in the Resource Information for the Volkstad Pecan Company and the Executive Summary for Average Data on **Page R17** to answer questions 1 through 9.

1. Compare the beginning and ending values on the first 5 Financial Standards Measures listed. Which measure(s) were worse at the end of the year?

   A. Debt to Asset Ratio
   B. Debt to Equity Ratio
   C. Current Ratio
   D. Both A and B
   E. None of the above

2. The Operating Expense Ratio is a financial factor that represents

   A. Operating expense in comparison to Operating Income.
   B. Operating expense in comparison to Gross Farm Income.
   C. Total Farm Expense compared to Operating Expense.
   D. Operating Expense in comparison to Net Farm Income.

3. What is the Operating Expense Ratio for Volkstad Pecan Company?

   46% or .46

4. Is their Operating Expense Ratio better or worse than the average?

   A. Better
   B. Worse

5. If the Operating Expense Ratio for a given farm is 63%, with a total operating expense of $250,000, what is the dollar amount of Gross Farm Income? Round to the nearest cent.

   ($250,000 / .63) **$396,825.40**

In the Efficiency section of the Financial Standards Measures, there are four ratios. The Depreciation Expense Ratio, the Interest Expense Ratio, and the Operating Expense Ratio are all part of the Total Farm Expenses. The Net Farm Income Ratio is an indicator of the percentage of Net Farm Income in comparison to Gross Farm Income.

6. What is the percentage of Total Expenses compared to Gross Farm Income for the Volkstad Pecan Company? Round to the nearest hundredth of a percent x.xx.

($458,302 / $798,451) **57.40%**

7. What is the percentage of Total Expenses compared to Gross Farm Income for the Average Farm? Round to the nearest hundredth of a percent x.xx.

($355,320 / $471,286) **75.39%**

Using the information in questions 6 and 7, calculate the Net Farm Income Ratio for each. Round to the nearest hundredth of a percent x.xx.

8. Volkstad's **(100% - 57.40%)** **42.60%**

9. Average **(100% - 75.39%)** **24.61%**

10. Is the Volkstad Net Farm Income Ratio better or worse than the average?

A. Better
B. Worse

11. The Volkstads have projected the value of the business for a future sale using the Market Balance Sheet. If they would have sold out completely on 1/1/19, what would be the difference between their Market Net Worth and the Retained Earnings?

($2,115,477 - $1,685,917) **$429,560**

12. If the Average Farm would have sold out completely on 1/1/19, what would be the difference between their Market Net Worth and the Retained Earnings if the retained earnings are $969,683?

($1,237,100 - $969,683) **$267,417**

13. What is the term used to describe the difference in question 11?

Market Valuation Equity

Participant Number _____ State Abbreviation _____

Use the Income Statement on **Page R10** and the Contributions to Overhead Expenses on **Page R14** in the Resource Information for the Volkstad Pecan Company to answer questions 14 and 15.

What percent of Gross Income from pecans and beef cattle is available for Overhead Expenses? Round to the nearest hundredth of a percent x.xx.

14. Pecans	**($411,821 / $705,275)**	**58.39%**
15. Beef Cattle	**($29,691 / $85,925)**	**34.55%**

16. Using the percentages from question 14 and 15, if planning to invest more in one of these enterprises, which would provide you the highest percent Return to Overhead?

    A. Beef Cattle
    B. Pecans

Answer the following questions that relate to the Pecan enterprise, found on **Pages R12 and R21** in the Resource information.

17. What is the primary reason that the net return per acre for Volkstad's pecans is greater than the average of all farms?

    A. Price
    B. Yield
    C. Direct Cost
    D. Overhead

18. Of the Overhead Expenses on the Volkstad farm, which expense is the greatest amount **above** the average for that expense?

    Mach & Bldg Depreciation

19. What is the difference in the value per unit in the pecan enterprise for the Area Average compared to the Volkstad farm? (Indicate + or – to show the dollar amount compared to the Volkstad value) Round answers to the nearest cent.

    ($2.72 – $2.56) **+ $.16**

20. What is the change in income per acre if the Volkstads would have sold their pecans for the same value as the average farm? (Indicate + or – to show the amount compared to the Volkstad value) Round answers to the nearest cent.

    (1309.52 X .16) **+ $209.52**

Using the "Average weight per beef calf sold" and the "Average price per Cwt" from the Other Information on the Beef Cow Calf tables for the Volkstads and the Area Average, calculate the amount received for each calf sold. Round answers to the nearest cent.

21. Volkstads	**(5.85 cwt X $153.00)**	**$895.05**
22. Area Average	**(6.36 cwt X $147.81)**	**$940.07**

23. In the information listed in questions 21 and 22, which had a greater impact on gross income, weight or price per cwt.

Weight

Pecan production can be a profitable business over the long term if the pecan tree is managed with effective production practices. A key aspect of effective management is the spacing between pecan trees in an orchard. One rule of thumb states that the distance between trees should range from 30 to 50 feet apart, depending on individual situations. After 12 – 18 years, thinning may be needed in order to allow the trees to produce for a longer time period and at an increased level.

24. If the Volkstads planted the majority of their acres with a tree spacing of 35 feet between trees in a row and 35 feet between rows, how many trees were planted per acre? Round to the nearest whole number.

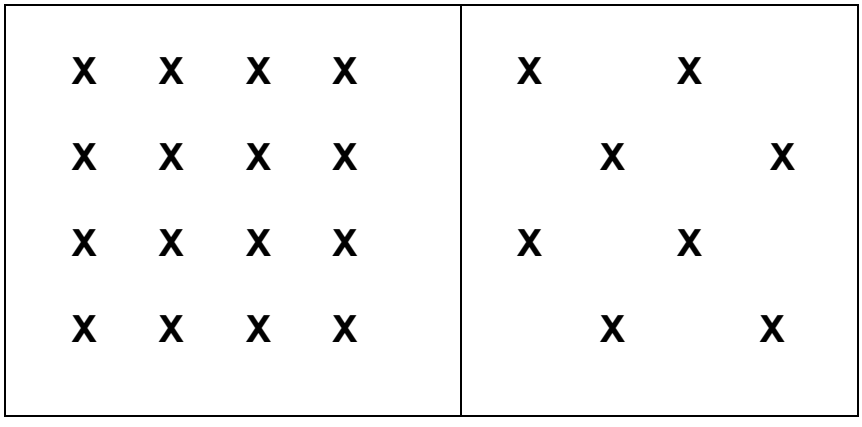
(43,560 / (35' X 35'))

36 (35.56)

25. In the current year, Volkstads are planning to thin the orchard by removing 50% of the trees leaving every other tree in a staggered pattern for each row. That will change the layout of the orchard from a rectangular pattern to a diagonal pattern. See the chart below. How many trees will remain per acre after removing 50%?

(36/2)

18



26. Based on the number of square feet in one acre and the number of trees remaining in question 25 after thinning, calculated the spacing between each tree and each row. (Round up to the nearest whole number)

43,560/18 = 2,420 so the sq root would be 49.2

OR

$$A^2 + B^2 = C^2$$
$$(35)^2 + (35)^2 = C^2$$
$$1225 + 1225 = 2450$$

Square root of 2450 = 49.5
Rounds to 50

50

27. With that reduction in the number of trees, which of the following would most likely occur on the thinned acres?

A. Production per acre would increase naturally.
B. Irrigation would be reduced to save costs.
C. Fertilizer applied per acre would be reduced.
D. None of the above
E. All of the above

Part XI – Family Living

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Review the **Family Living Expenses, Page R14,** and **Area Average, Page R20** to answer the following questions.

1. In which category does the Volkstad family spend less per person than the area average?

   A. Medical care
   B. Clothing
   C. Education
   D. Utilities
   E. Household repairs

2. What is the total cash family living expense per person for the Volkstad family? Round answer to whole dollar.

   $92,300 / 3 = $30,767 per person

$30,767

3. What is the largest family living expenditure item for the Volkstad family?

   A. Education
   B. Income taxes
   C. Nonfarm real estate purchases
   D. Nonfarm vehicle purchases
   E. Clothing

4. Which expense listed below would be the easiest to reduce?

   A. Utilities
   B. Life insurance payments
   C. Income taxes
   D. Disability/long term care insurance
   E. Recreation

5. The Volkstad family spends more than seven percent of total cash family living on which expense category(ies)?

   A. Personal care
   B. Recreation
   C. Medical care
   D. Household repairs
   E. Both A and B

6. What is the area average amount spent per person on life insurance payments? Round answer to whole dollar.

$1,476 / 3.6 = $410 per person

$410

7. What percent of total cash family living expense does the Volkstad family spend on health insurance? Round to the nearest whole percent.

($17,655 / $92,300) x 100 = 19%

19%

8. The Volkstad family spends how much per person on medical care?

$4,851 / 3 = $1,617

$1,617

9. The area average spends at least seven percent of the total cash family living expense on which category?

A. Life insurance payments
B. Cash donations
C. Medical care
D. Recreation
E. Personal care

10. Which expense item listed below would be the most difficult to reduce?

A. Recreation
B. Nonfarm vehicle purchases
C. Gifts
D. Clothing
E. Income taxes

Part XII - Economic Principles

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. The production function decision rule for moving from stage one to stage two.

   A. Maximum Marginal Product.
   B. Marginal Product = Average Product.
   C. Minimum Average Product.
   D. Marginal Product = 0.
   E. Minimum Marginal Product.

2. The production function is the

   A. economic relationship between firms and consumers.
   B. production relationship between consumers and producers.
   C. economic relationship between costs and prices.
   D. cost relationship between consumers and producers.
   E. physical relationship between inputs and output.

3. The term output divided by input is known as

   A. Total Product.
   B. Marginal Product.
   C. Average Product.
   D. Marginal Cost.
   E. Marginal Revenue.

4. If the Volkstad family has a fixed cost of $100 per acre when pecan output yields 1,400 pounds per acre, what is the fixed cost per acre when pecan output falls to 1,050 pounds per acre?

   A. $75 per acre
   B. $125 per acre
   C. $0 per acre
   D. $100 per acre
   E. There is not enough information to determine fixed cost.

5. To mathematically determine the least cost combination of two inputs, you will find where

   A. the marginal rate of substitution equals the price ratio.
   B. the marginal cost equals the average cost.
   C. the marginal rate of substitution equals total revenue.
   D. the price ratio equals the marginal product.
   E. the price ratio equals the cost ratio.

6. Maximum profit will be obtained when variable input is added until

   A. total production is maximized.
   B. value of marginal product equals cost ratio.
   C. value of marginal product equals input price.
   D. marginal revenue equals output price.
   E. total revenue is minimized.

7. Diminishing returns begin to develop in

   A. stage one of the production function.
   B. stage two of the production function.
   C. stage three of the production function.
   D. stage four of the production function.
   E. None of the above

8. For the Volkstad Pecan Company, the cost of fertilizer can best be described as a(an)

   A. variable cost.
   B. fixed cost.
   C. total cost.
   D. marginal cost.
   E. average cost.

9. With current production, the Volkstads estimate total direct and overhead expenses of $1,800 per acre for pecans and predict $2.85 per pound sales price, how many pounds per acre do they need to produce to break even? Round to the nearest whole pound.

   632

   $1,800/acre divided by $2.85/lb = 632 lbs/ac (rounded from 631.6)

10. Recent storms have the Volkstad family concerned about pecan productivity. If production drops to 500 pounds per acre with an estimated total direct and overhead expense of $1,800 per acre, what price per pound do they need to receive to break even? Round to the nearest cent (i.e., $x.xx per pound).

    $3.60

    $1,800/acre divided by 500 lbs/ac = $3.60/lb

The Volkstads plan to feed out their steers and supplement with a cottonseed meal and corn feed ration to yield constant pounds of gain. They are trying to compute the least cost feed ration. Use the table below to answer questions 11 - 15.

Ration Number	X_1 Cottonseed Meal (lb.)	X_2 Corn (lb.)	Marginal Rate of Substitution
1	10	325.0	xxxxxxxxxxxxxxxxx
			14.32
2	15	253.4	
			7.34
3	20	216.7	
			4.90
4	25	192.2	
			3.50
5	30	174.7	
			2.82
6	35	160.6	
			2.26
7	40	149.3	
			11. 1.84
8	45	140.1	
			12. 1.50
9	50	132.6	
			xxxxxxxxxxxxxxxxx

11. What is the marginal rate of substitution moving from ration 7 to 8? Round to nearest hundredths x.xx.

1.84

12. What is the marginal rate of substitution moving from ration 8 to 9? Round to nearest hundredths x.xx.

1.50

13. If they can buy cottonseed meal for $0.28/lb and corn for $0.08/lb, the least cost combination will be found when moving from

A. ration 2 to ration 3.
B. ration 3 to ration 4.
C. ration 4 to ration 5.
D. ration 5 to ration 6.
E. ration 6 to ration 7.

14. If the cost of cottonseed meal decreases to $0.12/lb. and the cost of corn stays the same at $0.08/lb., the Volkstads should

    A. add cottonseed meal and reduce corn.
    B. add corn and reduce cottonseed meal.
    C. increase both corn and cottonseed meal.
    D. decrease both corn and cottonseed meal.
    E. keep the ration the same.

15. What is the marginal rate of substitution when moving from feed ration 2 (15 lbs. of cottonseed meal and 253.4 lbs. of corn) to ration 3 (20 lbs. of cottonseed meal and 216.7 lbs. of corn)?

7.34

16. When an increase in the level of production of one enterprise causes a reduction in the level of production of another enterprise, these two enterprises are said to be

    A. complimentary.
    B. competitive.
    C. supplementary.
    D. independent.

Each team will complete and turn in only one copy of these pages. Other copies can be used to make notes and calculations

2019 National FFA Farm Business Management Career Development Event Team Activity

Expectations: The team activity evaluates the ability of team members to work together to use decision making and problem analysis skills while applying economic principles and concepts taught in farm business management.

Evaluation: The team activity portion is evaluated as follows:

- involve all members of the team
- organize the team effort
- communicate with each other in resolving issues relating to the current situation
- reach consensus and agreement
- complete the analysis of possible alternatives and solutions
- communicate and submit in writing the team's consensus of solutions

Team Activity Overview:

Permanent plantings are a unique sector of the agricultural industry. Pecan trees can produce harvestable pecans for over 80 years when they are managed correctly. When managers of pecan orchards make a decision, there is added importance to ensure that they made the correct one. Orchard design is an important factor to consider. There are over 500 varieties of pecan trees, and choosing the correct type of trees for local situations is of paramount importance.

Pecan trees require intense management and care. For pecans to be maximally productive, they require a strong fertility plan that includes Nitrogen, Phosphorus, Zinc, and other trace minerals. Additionally, lime is often required to amend the soil pH to ensure that the trees can make the best use of the nutrients in the soil. Insects and fungi are also major pests in pecan operations that are often managed by the application of chemical pesticides.

The Volkstad Pecan Company is currently in a state of review, and the family is considering how to best position the farm for the future. In their planning, the family has identified a few key areas of interest to the farm. These include removing some lower-yielding trees and replacing them with newer cultivars, adding additional processing capabilities to their farm, and assessing some additional ways to market their pecans direct to consumers.

The pecan industry as a whole looks very promising. Domestic and global growth are expected well into the future. Presently, 30 percent of the US pecan harvest is exported. Agricultural economists estimate that less than 1 percent of the demand in the overseas pecan market is being met, and there is tremendous potential for the future of the pecan industry. The pecan industry expects that US production will increase from 680 million pounds in 2017 to 1.2 billion pounds by 2027.

Explore the orchard portion of their business in the areas listed below. Review the current and past situations considering what you have learned from the Resource Information and from working on the individual problem.

Points:	**Question 1:**	**Marketing their product**	**6 points**
	Question 2:	**Business organizations**	**20 points**
	Question 3:	**Replacing trees**	**15 points**
	Question 4:	**Team of specialists**	**12 points**
	Question 5:	**Grazing cattle**	**20 points**
	Question 6:	**Regulatory agencies**	**10 points**
	Question 7:	**Net Income calculation**	**15 points**
	Question 8:	**Marginal revenue**	**4 points**
	Question 9:	**Marginal revenue for fixed costs**	**4 points**
	Question 10:	**Cash needed for fixed costs**	**4 points**
	Question 11:	**Debt needed**	**8 points**
	Question 12:	**Risk factors**	**8 points**
	Question 13:	**Reward factors**	**8 points**
	Question 14:	**Safety hazards**	**10 points**
	Question 15:	**Natural hazards**	**12 points**
	Question 16:	**Man-made hazards**	**12 points**
	Question 17:	**Increasing income**	**8 points**
	Question 18:	**Direct consumer marketing**	**10 points**
	Question 19:	**Social Media promotion**	**4 points**
	Question 20:	**Expand or improve operation**	**10 points**
		Total	**200 points**

1. If the Volkstad's decide to add the processing equipment, what possible outlets can the Volkstad's use to market their products? List 3. 6 pts

2. List two possible business organization types that would be appropriate for the Volkstad Pecan Company. Provide two advantages and two disadvantages for each type of organization. 20 pts

3. One of the most important considerations pecan growers must make is the determination of removing native pecan trees and replacing them with improved tree varieties.

Native pecan trees produce approximately 750 lbs per acre of trees. Improved pecan trees can produce approximately 1,250 lbs per acre. New trees take seven years to begin producing pecans. How many years would it take to recoup or recover an investment in replacing a native orchard with improved trees, assuming an average price of $3 per lb? It costs $3,000 to replace native trees with improved tree varieties. Show your work. 15 points

4. Part of building a successful business is assembling a team of specialists to provide expert knowledge and advice to make the best decisions possible. List 4 specialists Bryan and Brianna should have on their production and management team.
3 pts each for 12 pts total

5. Having the cattle operation along with the pecan orchard, the Volkstads have been reading about some operations that graze cattle in their orchards. When growers do this, they lose about 50 lbs of pecans per acre on average. Over the past 5 years, pecans have brought $3/ lb. at harvest, and calves have been selling for $1.50 / lb. over that same period. Show your work. 20 pts total (3, 3, 3, 3, 4, 4)

If the Volkstads pursue this, what would be the total pecan production loss in pounds?

What would be the income loss to the pecan operation from grazing the cattle?

How much weight in total must the cattle gain from grazing under the pecan trees to offset the losses to the pecan operation?

If the Volkstads can graze 1 steer per acre under the pecan trees, how many pounds must each steer gain while grazing?

What are two <u>advantages</u> of grazing cattle under the pecan trees?

What are two <u>disadvantages</u> of grazing cattle under the pecan trees?

6. List 5 potential regulatory agencies that a pecan producer might interact with while doing business. 2 pts each for 10 pts total

Use the following information to answer questions 7 through 13.

If the Volkstads wanted to increase their profit margin, the company could add processing capabilities to their operation. Bryan and Brianna have considered this option several times in the past. Currently, the Volkstads are projecting to sell their pecans for $3/ lb. and producing 250,000 lbs. of unshelled pecans per year. Recently, they met with their lender and the lender was on board with the idea of further processing their pecans at their own facility. He told them that the bank would offer them a 7-year loan with equal annual payments at 6.5% interest. The annual payment would be $182.37 per $1,000 borrowed. It takes 2 pounds of unshelled pecans to equal 1 pound of shelled pecans.

7. An initial step in evaluating changes in the operation could be to determine the projected income for the enterprise. Use the information above to calculate the projected income. Refer to Page R12 to determine expenses. 15 points possible
What is their projected pecan income? 3 pts.
What are the total direct expenses per acre? 2 pts.
What are the total overhead expenses per acre? 2 pts.
What is the total expense per acre? 2 pts.
What is the total expense for the orchard? 3 pts.
What would be the net income for the orchard? 3 pts

8. Bryan and Brianna think if they are going to make the investment in the processing equipment, they would be able to sell their shelled pecans for $10/ lb. What is the marginal revenue per pound of shelled pecans the farm would receive if they added processing capacity? It takes 2 pounds of unshelled pecans to equal 1 pound of shelled pecans. 4 pts

9. They think that the additional variable costs to the operation for labor and machinery operation would be $1.70 per lb. of shelled pecans. If the farm goes this direction, the Volkstads believe that they should net an additional $1.50 per lb. of shelled pecans for their risks and added labor on their part. How much of the marginal revenue can be contributed to paying for fixed expenses? 4 pts

10. How much cash would the Volkstads need to contribute annually to fixed costs? 4 pts

11. How much debt would the Volkstads be able to support with this income? 8 pts

12. List four risk factors the Volkstads should consider if they were to do this. 8 pts

13. List four reward factors the Volkstads should consider if they were to do this. 8 pts

14. An important aspect of management is ensuring that all employees and persons visiting a farm site are kept safe. List 5 safety hazards that pecan farmers should consider when managing their employees. 10 pts total

15. List 6 possible <u>natural</u> production hazards to pecan operations. 12 pts total

16. List 6 possible <u>man-made</u> production hazards to pecan operations. 12 points

17. What are four possible ways they could potentially increase their income? (2 pts. each = 8 points)

18. If the Volkstads choose to add processing, they might also consider adding a direct to consumer marketing promotion. Social media is an important aspect in developing a loyal customer base for small businesses. List two social media platforms and why they would be effective. 10 points possible

19. If they chose to use social media to promote their brand, what are 2 main attributes of their business they could emphasize in their social media messaging? 4 pts

20. If you were in the Volkstad's place, what would you do to expand or improve the operation going forward? List five. 10 pts possible

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	Question 6:	**Regulatory agencies**	**10 points**
	Question 7:	**Net Income calculation**	**15 points**
	Question 8:	**Marginal revenue**	**4 points**
	Question 9:	**Marginal revenue for fixed costs**	**4 points**
	Question 10:	**Cash needed for fixed costs**	**4 points**
	Question 11:	**Debt needed**	**8 points**
	Question 12:	**Risk factors**	**8 points**
	Question 13:	**Reward factors**	**8 points**
	Question 14:	**Safety hazards**	**10 points**
	Question 15:	**Natural hazards**	**12 points**
	Question 16:	**Man-made hazards**	**12 points**
	Question 17:	**Increasing income**	**8 points**
	Question 18:	**Direct consumer marketing**	**10 points**
	Question 19:	**Social Media promotion**	**4 points**
	Question 20:	**Expand or improve operation**	**10 points**
		Total	**200 points**

1. If the Volkstad's decide to add the processing equipment, what possible outlets can the Volkstad's use to market their products? List 3. 6 pts

- **Facebook**
- **Amazon**
- **eBay**
- **Farmers' Markets**
- **Roadside Stands**
- **Join or market through a Cooperative**
- **Accumulator**
- **Market through local venders**
- **Social media apps**

2. List two possible business organization types that would be appropriate for the Volkstad Pecan Company. Provide two advantages and two disadvantages for each type of organization. 20 pts

Corporation

Advantages

Permanent Existence
Liability Limited
Ease Transfer of stock
Multiple Individuals can pool financials
Owners can also be employees
Can separate ownership and management

Disadvantages

Fees for Chartering
Have to have annual meetings
Income is taxed twice
Maybe difficult to obtain credit
Money in corporation cannot be used for personal use
Can be expensive to terminate

Limited Liability Company

Advantages

- No personal liability
- Show income or loss as a sole proprietor
- May separate management
- Ease to dissolve

Disadvantages

- Management may be in proportion to membership interest
- Maybe setup to be taxed as a corporation
- Managers do not have be members and
- They may have no personal responsibilities

Trust

Advantages

- Minimization of income taxes
- Avoidance of probate
- Minimization of estate taxes
- Income for surviving spouse
- Management of assets for minors

Disadvantages

- Have to transfer assets
- Who will manage the trust
- If real estate is included must be in writing
- May run for 21 year plus life or lives of designated beneficiaries
- Grantor may not change distribution plan during the term of trust

3. One of the most important considerations pecan growers must make is the determination of removing native pecan trees and replacing them with improved tree varieties.

Native pecan trees produce approximately 750 lbs per acre of trees. Improved pecan trees can produce approximately 1,250 lbs per acre. New trees take seven years to begin producing pecans. How many years would it take to recoup or recover an investment in replacing a native orchard with improved trees, assuming an average price of $3 per lb? It costs $3,000 to replace native trees with improved tree varieties. **Show your work.**
15 points

Additional pecan yield = 1250 – 750 = 500 lbs per acre 4 pts
Additional revenue = $1500 = $3 x 500 lbs 4 pts
Years to Recover Investment = 3,000 / 1,500 = 2 yrs + 7 yrs of initial growth = 9 yrs
7 points

4. Part of building a successful business is assembling a team of specialists to provide expert knowledge and advice to make the best decisions possible. List 4 specialists Bryan and Brianna should have on their production and management team.
3 pts each for 12 pts total

- **Agronomist**
- **Horticulturalist**
- **Tax Accountant / CPA**
- **Financial Planners**
- **Commercial Applicator/ Crop-duster**
- **Equipment Manufacturer/ Dealer**
- **Banker**
- **Attorney**
- **Marketing Consultant**
- **Management Advisor**
- **Agricultural Educator**
- **Pecan Specialist**
- **Extension Agent or Educator or Specialist**

5. Having the cattle operation along with the pecan orchard, the Volkstads have been reading about some operations that graze cattle in their orchards. When growers do this, they lose about 50 lbs of pecans per acre on average. Over the past 5 years, pecans have brought $3/ lb. at harvest, and calves have been selling for $1.50 / lb. over that same period. Show your work. 20 pts total (3, 3, 3, 3, 4, 4)

If the Volkstads pursue this, what would be the total pecan production loss in pounds?
210 acres X 50 lbs = 10,500 lbs

What would be the income loss to the pecan operation from grazing the cattle?
10,500 x 3 = $ 31,500

How much weight in total must the cattle gain from grazing under the pecan trees to offset the losses to the pecan operation?
$31,500 / $1.50 = 21,000 lbs

If the Volkstads can graze 1 steer per acre under the pecan trees, how many pounds must each steer gain while grazing? 100 lbs

What are two <u>advantages</u> of grazing cattle under the pecan trees? - **Weed control** - **Fertilizer** - **Potential for organic production**	- **Potential for extra revenue streams** - **Higher profitability** - **Diversification** - **Reduces cost of mowing** - **Improves orchard floor management**
What are two <u>disadvantages</u> of grazing cattle under the pecan trees? - **Risk of damage to irrigation systems** - **Risk of damage to trees** - **Need fencing** - **More management** - **More labor**	- **Higher costs** - **Damage to orchard floor** - **Watering points for cattle** - **Cost of chemicals labeled for cattle** - **Food Safety Modernization Act**

6. List 5 potential regulatory agencies that a pecan producer might interact with while doing business. 2 pts each for 10 pts total

- **EPA**
- **USDA**
- **FDA**
- **Department of Natural Resources, Fish and Game, Wildlife and Fisheries**
- **OSHA**
- **State Department of Agriculture**
- **Department of Labor**
- **County Health Board**
- **Water Boards or Agencies**
- **State Engineer**

Use the following information to answer questions 7 through 13.

If the Volkstads wanted to increase their profit margin, the company could add processing capabilities to their operation. Bryan and Brianna have considered this option several times in the past. Currently, the Volkstads are projecting to sell their pecans for $3/ lb. and producing 250,000 lbs. of unshelled pecans per year. Recently, they met with their lender and the lender was on board with the idea of further processing their pecans at their own facility. He told them that the bank would offer them a 7-year loan with equal annual payments at 6.5% interest. The annual payment would be $182.37 per $1,000 borrowed. It takes 2 pounds of unshelled pecans to equal 1 pound of shelled pecans.

7. An initial step in evaluating changes in the operation could be to determine the projected income for the enterprise. Use the information above to calculate the projected income. Refer to Page R12 to determine expenses. 15 points possible

What is their projected pecan income? $750,000 3 pts.

What are the total direct expenses per acre? $1,391.33 2 pts.

What are the total overhead expenses per acre? $434.27 2 pts.

What is the total expense per acre? $1,825.60 2 pts.
What is the total expense for the orchard? $383,376 = $1,825.60 x 210 3 pts.
What is the net income for the pecan orchard? $366,624 = $750,000 – $383,376 3 pts

8. Bryan and Brianna think if they are going to make the investment in the processing equipment, they would be able to sell their shelled pecans for $10/ lb. What is the marginal revenue per pound of shelled pecans the farm would receive if they added processing capacity? It takes 2 pounds of unshelled pecans to equal 1 pound of shelled pecans. 4 pts
$4 = $10 - $6 ($3 x 2 pounds unshelled pecans)

9. They think that the additional variable costs to the operation for labor and machinery operation would be $1.70 per lb. of shelled pecans. If the farm goes this direction, the Volkstads believe that they should net an additional $1.50 per lb. of shelled pecans for their risks and added labor on their part. How much of the marginal revenue can be contributed to paying for fixed expenses? 4 pts
$0.80 = $4 - $1.70 - $1.50

10. How much cash would the Volkstads need to contribute annually to fixed costs? 4 pts
$0.80 x 125,000 (250,000 / 2) = $100,000

11. How much debt would the Volkstads be able to support with this income? 8 pts

($100,000 / $182.37) x $1,000 = $548,335.80

12. List four risk factors the Volkstads should consider if they were to do this. 8 pts

- **Higher costs**
- **Building permits**
- **More volatile market**
- **More labor**
- **More management**
- **Risk of storage**
- **Health department**
- **Additional debt load**
- **Short supply years**

13. List four reward factors the Volkstads should consider if they were to do this. 8 pts

- **Building a brand**
- **Additional income**
- **Potential management spots for family members**
- **Potential to add production from other orchards**
- **Additional revenue streams**
- **Diversification**
- **Better use of labor force**
- **Improves cash flow over full year**

14. An important aspect of management is ensuring that all employees and persons visiting a farm site are kept safe. List 5 safety hazards that pecan farmers should consider when managing their employees. 10 pts total

- **Ear protection**
- **Head protection**
- **Safety glasses**
- **Chemical protection**
- **PTO safety**
- **Roll cages**
- **Cabs on tractors**

15. List 6 possible <u>natural</u> production hazards to pecan operations. 12 pts total

- **Ice Storms**
- **Windstorms**
- **Birds**
- **Rodents**
- **Diseases**
- **Feral hogs**
- **Scab**
- **Tornadoes**
- **Coyotes**
- **Floods**
- **Drought**
- **Freezes**

16. List 6 possible <u>man-made</u> production hazards to pecan operations. 12 points

- **Chemical drift**
- **Water damage from over irrigation**
- **Tree damage from hedging**
- **Running over pecans with equipment**
- **Improper thinning techniques**
- **Mismanagement of insecticide applications**
- **Improper tire inflation**
-
- **Lack of management**
- **Over fertilization**
- **Allowing alternate bearing to occur**

17. What are four possible ways they could potentially increase their income? (2 pts. Ea. = 8 points)

- **Increasing yield**
- **Reducing cost**
- **Plant improved varieties**
- **Find better markets**
- **Further processing**
- **Direct sales**

18. If the Volkstads choose to add processing, they might also consider adding a direct to consumer marketing promotion. Social media is an important aspect in developing a loyal customer base for small businesses. List two social media platforms and why they would be effective. 10 points possible

- **Facebook**
- **YouTube**
- **Snapchat**
- **Instagram**
- **Twitter**

19. If they chose to use social media to promote their brand, what are 2 main attributes of their business they could emphasize in their social media messaging? 4 pts

- **Family owned**
- **Locally grown**
- **Sustainably produced**
- **Preferred varieties**
- **Story of pecans**
- **History of pecans**
- **Only native to North America, a truly American crop**
- **Health benefits**

20. If you were in the Volkstad's place, what would you do to expand or improve the operation going forward? List five. 10 pts possible

- **Alternative livestock**
- **Increase pecan acres**
- **Grazing**
- **Convert to organic production**
- **Expand the beef operation**
- **Replace existing trees with improved varieties**
- **Further processing**
- **Direct to consumer marketing**
- **Alternative sales methods**

Participant Number _____ State Abbreviation _____

Scan Sheet 1, Exam A - Financial Statements

On Scan Sheet 1, Exam A, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. The purpose of the beginning balance sheet for Banyun Timber, recorded on 1/1/2020, is to show

   A. if the business made a profit during the previous year.
   B. the value of assets, liabilities and owner equity.
   C. the change in owner equity for a given period.
   D. the change in cash balances.
   E. All of the above

2. Cash on hand on a business balance sheet would most closely correspond to which of the following?

   A. The balance in the farm checking and savings account.
   B. The balance in the farm checking and savings account plus other current assets.
   C. The cash balance in the farm hedging account.
   D. The value of stored grain inventory plus the value of market livestock.

Using the Banyun Timber balance sheets on pages R3 and R4 in the Resource Information, answer the following questions.

3. The beginning and ending balance sheets reveal the principal and interest due in 12 months on term debt. At the beginning of the year, the balance sheet shows $____ of principal was due. At the end of the year $_____ of principal was due.

   A. 10,925; 1831
   B. 11,287; 13,632
   C. 10,290; 12,560
   D. 158,243; 286,885

Answer: (Beginning Balance Sheet – 11,287 = 2488, 3510, 5289) (Ending Balance Sheet – 13632 = 2606+3712+5552+1762) or listed in current liabilities

4. The debt to asset ratio is a measure of the solvency of a farm business. Which of the following ratio(s) indicates the business is insolvent?

   A. 15.1%
   B. 35%
   C. 90%
   D. 106%

Answer: A business is solvent when the ratio is less than 1.00

5. Compared to the beginning balance sheet, the ending balance sheet for the Banyuns reveals the amount of working capital _____ from the beginning to the end of the year.

   A. increased
   B. decreased
   C. stayed the same
   D. is like the best dairy operations in the USA

Answer: -$782 to $2,955

6. Valuation equity plus retained earnings plus contributed (or paid in) capital is equal to

   A. total assets plus total liabilities.
   B. total assets minus total liabilities.
   C. net farm income from operations minus cash withdrawals from the business.
   D. total assets plus total liabilities minus equity.

7. The Farm Finance Scorecard on Page R23 in the Resource Information shows the relative strength of the working capital to gross revenues measure for the Banyun operation at the end of 2020 is

   A. vulnerable.
   B. moderate.
   C. strong.
   D. None of the above

Answer: Less than 10% which is the upper limit of vulnerable

Using the 2020 Market Comparative Balance Sheets on Page R15 in the Resource Information, answer questions 8 and 9.

8. A review of the 2020 Market Comparative Balance Sheets, found on Page R15, reveals the asset with the greatest increase in value was _____ and the liability with the greatest increase was _____ (excluding “Total Farm Assets” & “Total Farm Liabilities” lines).

   A. Other Long Term Assets; Total Intermediate Loans
   B. Other Long Term Assets; Total Long Term Loan
   C. Land; Total Long Term Loans
   D. Retained Earnings; Total Long Term Assets

Answer: Land: $874,000 to $1,159,600 – Total Long Term Loans: $158,243 to 286,885

9. The change in retained earnings (Cost balance sheet) and net worth change (Market balance sheet) for timber producers that comprises the area average, on Page R22, was _____ than experienced by the Banyuns.

   A. equal
   B. higher
   C. lower
   D. non-existent since their larger operations were so different in comparative size.

Answer: Average: RE = $138,499 NW $22,804; Banyun: $183,320 NW = $41,809

10. An examination of the 2020 Monthly Cash Flow Plan Executive Summary on Page R5 in the Resource Information, reveals an estimated earned net worth change of $ _____ and an ending working capital of $_____?

    A. 1,741,841; 18,895
    B. 1,741,841; 25.1
    C. 1,721,693; 19,895
    D. 20,148; 18,895

Answer: NWC = $20,148; Working Capital = $18,895

11. The Banyuns purchased 240 acres of additional timber land in 2020. They eventually initiated a loan for $142,229 at 4.75% interest with a local lender. However, when visiting with their lender, they entertained the idea of paying interest only for 9 months (270 days) before they started their principal payments. Calculate the daily interest (use 365 days/year). What would be the amount of interest they would be required to pay for 9 months?

    A. $4,997.32
    B. $6,755.88
    C. $18.51
    D. $105,210.49

12. The financial statement that explains the changes in net worth is the

    A. balance sheet.
    B. income statement.
    C. statement of cash flows.
    D. statement of owner equity.

13. Which of the following financial statements explains the change in cash balance for an accounting period?

    A. Balance sheet
    B. Income Statement
    C. Statement of Cash Flows
    D. Statement of Owner Equity

14. How is the net farm income reported on the 2020 Income Statement calculated?

    A. Gross Cash Income – Total Cash Expense
    B. Gross Cash Income – Total Cash Expense + Total inventory change + Depreciation
    C. Gross Cash Income – Total Cash Expense ± Total Inventory Change ± Depreciation
    D. Gross Cash Income – Total Cash Expense – Depreciation

Use the following scenario for calculations and answering questions 15-17. For the year of 2020, an area timber grower, Gregory and his spouse Tes, had timber product revenues of $271,560 and cash expenses of $215,955. Inventory values for the operation were $13,482 lower at the end of the year than at the beginning. The total depreciation charge for the year was $14,659. There are no capital item sales.

15. Calculate their net cash farm income.

    A. $145,368
    B. $55,605
    C. $43,123
    D. $27,464

16. Calculate their Net Operating Profit

    A. $145,368
    B. $55,605
    C. $43,123
    D. $27,464

17. Calculate the Net Farm Income.

    A. $145,368
    B. $55,605
    C. $43,123
    D. $27,464

18. Net farm income is used to pay for principal payment, social security and income taxes, family living and health care, and the crop input expenses for planting trees.

    A. True
    B. False

Answer: False. The crop input expenses are charged before calculating net farm income. Net farm income is used for making principal payments, social security and income taxes, family living and health care expenses, retirement accounts, and future capital investments.

19. Accrual adjustments are made to cash income in an income statement to ensure

    A. a more accurate explanation of the change in owner equity.
    B. a better match of cash receipts and expenses within the statement of cash flows.
    C. a better match of production with the expenses associated with the timing of production.
    D. a better match of revenue and expenses reported to the Internal Revenue Service.

20. The amount of net farm income that has accumulated in the Banyun business since it began is

    A. total net farm income.
    B. retained earnings.
    C. one source of owner liabilities.
    D. A and B

21. In order for the amount of retained earnings of the Banyun Timber business to increase,

    A. the cash balance on the ending balance sheet must be larger than the cash balance on the beginning balance sheet.
    B. the increase in asset value needs to be more than the net farm operating loss.
    C. asset values on the ending balance sheet must be larger than asset values on the beginning balance sheet.
    D. net farm income must be larger than money withdrawn from the business.

22. Net farm income for the Banyun Timber business represents a return to all the following except

    A. personal and non-business assets.
    B. unpaid operator and family labor.
    C. owner's investment in the business.
    D. equity capital.

23. Located on Page R23, the "Farm Finance Scorecard" is used to determine the strength of the financial **efficiency** measures of a business. What are the ratings for the Banyun business operating expense ratio, depreciation expenses ratio, interest expense ratio and net farm income ratio?

    A. Vulnerable
    B. Moderate
    C. Strong
    D. Not available

Answers: See data on the Banyun's 2020 Financial Analysis Executive Summary and Related Reports.

24. Relating to question 23, how do the financial **efficiency** measures of the Bunyan operation compare to the "Area Average Data", found on Page R17? Their scores are somewhat

    A. higher.
    B. lower.
    C. the same.
    D. unavailable.

Answer: The comparative data from the data information reveal all metrics are higher for the Banyun Timber operation.

25. Compared to the ***Market Profitability*** measures for the Area Average, the corresponding value and scores for Banyun Timber for net farm income from operations, rate of return on assets, rate of return on equity, and operating margin are

    A. higher.
    B. lower.
    C. the same.
    D. unavailable.

Answer: The comparative data from the data information reveal all metrics are lower for the Banyun Timber operation.

26. Personal income for Banyun Timber and the area average are found on Pages R14 and R21 and the term debt coverage ratio is found on Pages R5 and R9 in the Resource Information. What would be the effect upon the term debt coverage ratio value for Banyun Timber if their personal income was the same as the area average?

    A. Personal income does not impact this ratio.
    B. It would be the same.
    C. It would be more than 10.20.
    D. It would be less than 10.20.

Answer: When calculated, the ratio drops to 5.88

27. As you view Banyun Timber's Statement of Owner's Equity, found on Page R11 in the Resource Information, what would be the impact if the off-farm income was $60,550 instead of $121,100.

    A. Ending net worth would be $1,706,718.
    B. Ending net worth would be $1,585,618.
    C. The value of the total change in net worth would be $18,741.
    D. The value of the total change in net worth would be $102,259.

Answer

Beg Net Worth		1,604,359
Net farm income	+	149,402
Personal Income	+	60,550
Family Living Expense	-	63,598
Income Taxes Accrued	-	24543
Change in personal Assets	+	959
Change in nonfarm accounts payable	+	0
Total change in retained earnings	=	122,770
Change in market value of capital assets	+	-166,314
Change in deferred liabilities	-	-24,803
Total change in market valuation	=	-141,511
Total Change in Net Worth		**-18,741**
Ending Net worth		1,585,618

28. As you view Banyun Timber's Statement of Cash Flows, found on Page R11 in the Resource Information, what would be the ending cash balance (farm and personal) if they had <u>not</u> purchased $40,000 worth of personal assets.

    A. $29,101
    B. $69,101
    C. $121,100
    D. $259,798

Answer: Original ending cash balance + $40,000 = $69,101

29. Which of the following is a source of farm revenue?

    A. Principal payments during the accounting period.
    B. Interest payments during the accounting period.
    C. Sale of timber produced during the accounting period.
    D. Cash received from a new noncurrent loan to purchase a new tractor.

30. When using cash accounting records, a business will recognize

    A. income and expense transactions at the time of actual cash transactions.
    B. income and expense transactions regardless of when they are incurred.
    C. income when it is produced.
    D. expenses when the item is used in the production process.

Participant Number _____ State Abbreviation _____

Scan Sheet 1, Exam B - Budgeting

On Scan Sheet 1, Exam B, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. If you are considering a change in the farm business that affects only a few items in the total farm budget, this change could most appropriately be evaluated using

   A. a partial budget.
   B. an enterprise budget.
   C. a cash flow budget.
   D. a total farm budget.

2. A whole farm schedule of expected returns and expenses is a

   A. balance sheet.
   B. partial budget.
   C. budget.
   D. depreciation schedule.

3. For a livestock budget to be meaningful, what value should be placed on raised crops fed?

   A. The costs to produce these crops
   B. Local market value plus 10%
   C. Reported state average sale price
   D. Local market value

4. Budgets are used in planning to evaluate the impact of future actions. To improve the accuracy of a budget, the operator may use

   A. historical data.
   B. forward contract pricing.
   C. more than one source for estimated data.
   D. All of the above

5. When determining the effect of growing more acres of a crop, the cost most likely to change would be

   A. fixed costs per acre.
   B. operating costs per acre.
   C. rent per acre.
   D. crop insurance per acre.

6. When an increase in the level of production of one enterprise causes a reduction in the level of production of another enterprise, these two enterprises are said to be

   A. independent.
   B. competitive.
   C. complimentary.
   D. supplementary.

7. A cash flow projection is a form of budgeting that is used to

   A. determine living expenses.
   B. determine year-end asset values.
   C. determine operating credit needs.
   D. calculate total farm equity.

8. An enterprise budget is

   A. a physical and financial plan for the entire farm business for a specified period of time.
   B. a statement of projected costs and returns associated with one production process, usually for one production cycle.
   C. a record of past production performance, usually for one production cycle.
   D. the tool used in analyzing only changes in the farm operation and the potential change in net income.

9. Budgeting is <u>not</u> used to

   A. determine the useful life of assets.
   B. estimate the amount of credit needed.
   C. allow for experimentation with possible outcomes before resources are committed.
   D. All of the above

10. The cost of using a resource based on what it could have earned in the next best alternative is

    A. always a variable cost.
    B. always a fixed cost.
    C. an alternative cost.
    D. an opportunity cost.

11. Which of the following would be considered a fixed cost?

    A. Hired seasonal labor
    B. Depreciation on machinery
    C. Crop production inputs
    D. Feed purchases

Answer questions 12 - 14 using the Monthly Cash Flow information found on Page R5 and R6 in the Resource Information.

12. What is the projected Operating Profit Margin in 2020? *(Corrected to 2021 during exam)*

    A. -2.1%
    B. 6.3%
    C. 3.9%
    D. 16.1%

13. What is the expected income from timber sales in 2021?

    A. $14,080
    B. $207,470
    C. $68,800
    D. $27,360

14. What is the projected total Repairs expense for 2021?

    A. $292
    B. $500
    C. $2,300
    D. $3,500

Answer the following 2 questions using the Banyun Timber and area average Executive Summary, found on Page R9 and R17 in the Resource Information.

15. How much lower is the Banyun's Interest Expense Ratio compared to the Area Average in 2020?

    A. 1.4 points
    B. 1.8 points
    C. 2.2 points
    D. 1.6 points

    7.2% - 5.4%

16. How much lower would Banyun's Total expenses per acre be if they were equal to the Area Average in 2020? Round to the nearest cent.

    A. $102.21
    B. $22.09
    C. $14.35
    D. $5,176.00

Banyun $101,919 / 1,000 Acres = $101.92 Area Average $107,095 / 1,223 Acres = $87.57 $101.92 - $87.57

Answer the following 2 questions using the Banyun Timber Planting, Production, and Harvest Record found on Page R16 in the Resource Information.

17. How much more total income would Banyun receive from Pulpwood in 2021 if production per acre were to increase by 1 ton?

    A. $1,280
    B. $15,360
    C. $88
    D. $2,880

12 Tons X $8 X 160 Acres = $15,360 - $14,080 = $1,280

18. What is the expected Average Production Per Acre in tons in 2023?

A. 8 tons
B. 30 tons
C. 12 tons
D. 120 tons

Participant Number _____ State Abbreviation _____

Scan Sheet 1, Exam C – Cash Flow

On Scan Sheet 1, Exam C, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

Using the Banyun Timber Monthly Cash Flow Executive Summary on Pages R5 of the Resource Information, answer the following questions.

1. What was the Net Cash Flow projected for Banyun Timber?

   A. -$9,852
   B. $14,006
   C. $16,460
   D. $38,805

2. What is the projected Net Farm Income for Banyun Timber?

   A. -$9,852
   B. $14,006
   C. $16,460
   D. $38,805

3. One of the Banyun's business goals was to improve their Debt to Asset Ratio by 1% per year. Is their ratio projected to improve by 1%?

   A. Yes
   B. No

4. If there was a 10% increase in projected operating expenses, would the Term Debt Coverage Ratio be better or worse that the projected ratio listed on this page?

   A. Better
   B. Worse

Using the Banyun Timber Cash Flow Plan on Pages R6 and R7 of the Resource Information, answer the following questions. (Round calculations to xx.x)

5. What month is projected to have the highest total inflow?

   A. March
   B. August
   C. September
   D. October

6. Timber sales represent over 35% percent of the projected total inflow for the year.

   A. True
   B. False **$68,800 / $207,470 = 33.2%**

7. What month has the highest total outflow?

   A. January
   B. March
   C. April
   D. June

8. Income Taxes are projected to be the single largest monthly outflow.

   A. True
   B. False

9. Crop inputs (seed, fertilizer, chemicals, and non-chemical weed control) represent 23% of total operating outflow.

   ` A. True
   B. False

10. Over $80,000 is projected to be required to cover family living needs and income tax payments combined.

    A. True
    B. False **Exactly $80,000 is projected**

11. Which month is expected to have the highest total loan payment?

    A. February
    B. August
    C. October
    D. November

12. Which month is the annual operating loan projected to be paid off?

    A. March
    B. April
    C. June
    D. December

13. What are the total dollars needed for annual operating interest and principal payments?

    A. $26,371
    B. $14,006
    C. $14,184
    D. $28,190

14. What is the projected ending cash balance for Banyun Timber?

    A. $23,871
    B. $37,342
    C. $38,805
    D. $46,168

15. Is the projected cash flow positive or negative?

    A. Positive
    B. Negative

One value of cash flow planning is the fact that a projected balance sheet is available for the producer and lender to review. The projected balance sheet is based on the balance sheet at the beginning of 2021 and adjusted by the numbers in the cash flow plan. Use the Banyun Timber Balance Sheet and Financial Trends projection on Page R8 in the Resource Information to answer the following questions.

16. Cash and Checking is the single item asset, not a total, on the Balance Sheet that is projected to increase the most at year end.

    A. True
    B. False

17. Which single item liability, not a total, on the Balance Sheet is projected to reduce the most at year end?

    A. Accrued Interest
    B. Jones Land
    C. Matthews Land
    D. FCS-Adjoining Land

18. What is the projected asset turnover rate for 2021?

    A. -2.1%
    B. 3.9%
    C. 6.3%
    D. 13.5%

19. There are some key liquidity and repayment measurements listed for the projected year. Compare them to the current year actuals. Which of the following is a true statement?

    A. The Ending Current Ratio is projected to be dangerously high.
    B. Both Liquidity and Repayment measures are projected to improve.
    C. Liquidity measures are projected to weaken, but Repayment measures will improve.
    D. The Term Debt Coverage ratio projects a dangerous trend.
    E. Both Working Capital measures are projected to weaken.

20. What is the primary reason the income and social security tax payments are projected to be almost $10,000 less?

    A. Total expenses are projected to be down.
    B. Depreciation increased and gross income is projected to go down.
    C. Net Farm income is projected to be down significantly.
    D. Personal income is projected to be down by 10%.
    E. All of the above

21. Which of the following statements is <u>not</u> a true statement about Cash Flow Projections?

    A. They can be based on an annual or monthly projections.
    B. They provide information that helps guide decisions in the upcoming year.
    C. They are more important to a lender for loan purposes than to the farmer for planning.
    D. They include both known and unknown amounts of income and expense.

Participant Number _____ State Abbreviation _____

Scan Sheet 1, Exam D - Marketing

On Scan Sheet 1, Exam D, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. USDA may use ____ to collectively influence product supply, demand, and price as a marketing mechanism.

   A. arbitrage
   B. federal marketing orders
   C. crop insurance
   D. None of the above

2. Country A's currency has weakened relative to County B's currency. As a result, agricultural goods produced in Country A are now _____ in retail markets in Country B.

   A. more expensive
   B. less expensive
   C. the same price as before
   D. None of the above

3. COOL (Country of Origin Labeling) is a labeling law that requires retailers (e.g., grocery stores, supermarkets, club warehouse stores) to notify their customers with information regarding the source of certain foods.

   A. True
   B. False

4. Complete the definition: "Organic" is a labeling term that indicates that the food or other agricultural product has been produced using _____.

   A. no chemical processes
   B. no chemical inputs
   C. approved methods
   D. None of the above

5. Identify which of the following are true statements.

   I. All agricultural products marketed using USDA's organic seal must first be certified by a USDA-certifying agent.
   II. Organic agricultural products may not be subjected to radiation processes to be marketed with USDA's organic seal.
   III. Products sold, labeled or represented as organic must have at least 95% certified organic content to be marketed with USDA's organic seal.

   A. I and II
   B. II and III
   C. I and III
   D. I, II and III

6. Farmer Smith grows corn, wheat and soybeans. When he looks at his production costs for the year, and specifically his average total cost across his enterprise, he's examining the farm's _____. When he focuses on his cost advantage as he produces more of any 1 of his crops he is examining the farm's _____.

   A. economies of scale, margin
   B. economies of scope, margin
   C. economies of scale, economies of scope
   D. economies of scope, economies of scale

7. USDA uses a classified milk pricing formula for each of the 4 product categories based on end use. What product category is associated with a Class II milk price?

   A. Fluid/beverage milk
   B. Soft/manufactured dairy products (e.g., yogurt, ice cream)
   C. Hard cheeses
   D. Butter and dry products (e.g., non-fat dry milk)

8. A shift in the supply curve could be explained by what factors?

   A. An increase in input prices
   B. New technology
   C. Government policy
   D. B and C
   E. A, B and C

9. What is the specified volume in a live cattle futures contract?

   A. 50,000 pounds
   B. 40,000 pounds
   C. 30,000 pounds
   D. 20,000 pounds

   Live cattle noted, not feeder cattle

10. A price slide in beef cattle marketing is a pre-determined adjustment in sale price because of the possible discrepancies in the number of cattle sold at the time of sale versus the delivery date weight.

    A. True
    B. False

11. A rising cash price relative to the futures price is known as

    A. strengthening basis.
    B. weakening basis.
    C. under basis.
    D. basis risk.

12. Corn futures contract months include

    A. February, March, May, July, December.
    B. March, May, June, September, December.
    C. March, May, July, September, December.
    D. February, May, July, September, December.

13. A producer using the futures market to hedge the price of a commodity sold in the fall would take what action in May?

    A. Sell futures contracts expecting to buy them back when the commodity is sold.
    B. Sell futures contracts expecting to sell more contracts when the commodity is sold.
    C. Buy futures contracts expecting to buy more contracts when the commodity is sold.
    D. Buy futures contracts expecting to sell those contracts when the commodity is sold.

Questions 14 - 26 reference the timber industry and/or the Banyun Timber case story.

14. Housing starts are a measure of the number of new housing units under construction. A change in housing starts is expected to be ____ correlated to market prices for lumber sold by the Banyuns.

    A. negatively
    B. positively
    C. Neither positive nor negative

15. Timber prices are a function of

    A. timber quality.
    B. end use.
    C. quantities supplied and demanded.
    D. A, B and C

16. Which timber product would primarily be used for high-end furniture construction?

    A. Pulpwood
    B. Chip-N-Saw
    C. Veneer logs
    D. Poles and pilings

17. Which product category would the Banyuns harvest and market first in their harvest rotation?

    A. Pulpwood
    B. Chip-N-Saw
    C. Sawtimber
    D. Poles and pilings

18. Southern Pine is a primary species used for poles and pilings because of its availability, strength, and treatability.

    A. True
    B. False

19. Which supply-chain participant is the most likely buyer of veneer logs?

    A. Landowner
    B. Forester/Timber consultant
    C. Harvester
    D. Saw mill

20. Of the following timber products, which one has the most stringent density requirements?

    A. Pulpwood
    B. Energy wood
    C. Chip-N-Saw
    D. Poles and pilings

21. The Banyun family is considering adding a trucking line to their operation. This would be an example of _____ integration.

    A. horizontal
    B. vertical
    C. expansion
    D. None of the above

22. Log rules are

    A. transportation/hauling regulations.
    B. contract specifications.
    C. formulas for estimating timber volume.
    D. timber marketing orders.

23. One of the options the Banyuns is considering is selling recreational hunting permits on their forest land. Planting a mixed-stand on these grounds would _____ this possible goal.

    A. support
    B. discourage
    C. neither help nor hurt

24. The Banyuns are comparing 2 harvest bids. One uses a delivered price while the other uses a stumpage price. The bid with the ____ is higher because ____.

    A. delivered price, a larger volume of trees is harvested
    B. delivered price, the trucking rate is included
    C. stumpage price, a larger volume of trees is harvested
    D. stumpage price, the trucking rate is included

The Banyuns are weighing whether to hire a forester to help with marketing. The last one they interviewed claims her marketing expertise results in a 2.5% premium for landowners. Assume a total stumpage value over rotation of $2,740/acre or $97.85/acre/year. Calculate the expected premium per acre.

25. The expected premium if the Banyuns choose this forester is

    A. $195.70.
    B. $68.50.
    C. $127.20.
    D. $685.00.

    $2,740 x 0.025 = $68.50/acre

26. Total expected stumpage value over the rotation if they choose this forester.

    A. $2,935.70
    B. $2,867.20
    C. $2,808.50
    D. $3,425.00

    $2,740 + 68.50 = $2,808.50/acre

The Banyuns are also trying to decide whether they should sell their sawtimber on a lump sum or per unit basis as it is the highest valued timber type with the most potential for capturing a volume and/or quality premium. Answer using the information provided below. Assuming Banyun Timber can meet the minimum sawtimber volumes:

27. Which sale type yields a higher return for Banyun Timber, lump sum or per unit?

    Lump sum - $25.25/ton, minimum volume provided is 8 tons
    Per unit - $27.25/ton, minimum volume provided is 7.5 tons

    A. Lump sum
    B. Per unit

    $25.25/ton x 8 tons = $202.00/ton
    $27.25/ton x 7.5 tons = $204.38/ton

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Scan Sheet 1, Exam E – Income Tax

On Scan Sheet 1, Exam E, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. The main thing to keep in mind with regard to income tax management is to

   A. minimize the tax obligation.
   B. have zero taxes due.
   C. maximize after tax income.
   D. defer income taxes to the future.

2. Effective tax planning

   A. sets the basis for personal financial goals.
   B. is most effective with up-to-date records.
   C. does not require long-range projections.
   D. usually aligns with mid-year tax estimates.

3. The taxes that may be due when a person dies.

   A. Timberland taxes
   B. Estate taxes
   C. Property taxes
   D. Real Estate taxes

4. If a student has an FFA project and generates income, it is generally reported as Other Income on one of the 1040 forms.

   A. True
   B. False

Although not always perfectly clear, the determination of whether someone is self-employed, hired as an employee, or works as an independent contractor is fairly well defined. With the circumstances stated below, indicate whether the description indicates ~~be~~ characteristics of: *(Corrected during exam: A – D below are for information only, not a question)*

   A. A full-time employee
   B. An independent contractor
   C. A self-employed timber operation owner
   D. A part-time employee

5. Advertises his/her services and expertise to the public.

   A. A full-time employee
   B. An independent contractor
   C. A self-employed timber operation owner
   D. A part time employee

6. Is paid for work assigned and generally earns fringe benefits with the job.

   A. A full-time employee
   B. An independent contractor
   C. A self-employed timber operation owner
   D. A part-time employee

7. Provides work direction all others in the operation to support his/her activities.

   A. A full-time employee
   B. An independent contractor
   C. A self-employed timber operation owner
   D. A part-time employee

8. Would receive a form 1099 for work done if more than $600 in value.

   A. A full-time employee
   B. An independent contractor
   C. A self-employed timber operation owner
   D. A part-time employee

9. Is informed when work is available, works as needed using employer's tools.

   A. A full time employee
   B. An independent contractor
   C. A self-employed timber operation owner
   D. A part-time employee

10. When a timber owner trades in a piece of equipment, it

    A. is treated as a sale.
    B. is added to the listed price of the new item.
    C. remains on the depreciation schedule as basis value.
    D. is considered a tax free adjustment.

For the questions 11 through 14, enter the number of years used to depreciate the listed assets. Choose zero (0) if the asset is not depreciable.

11. Used John Deere tractor

    A. 0 years
    B. 3 years
    C. 5 years
    D. 7 years
    E. 15 years

12. Computer used in the business

    A. 0 years
    B. 3 years
    C. 5 years
    D. 7 years
    E. 15 years

13. Timber land

    A. 0 years
    B. 3 years
    C. 5 years
    D. 7 years
    E. 15 years

14. Logging equipment

    A. 0 years
    B. 3 years
    C. 5 years
    D. 7 years
    E. 15 years

Taxes are complicated and numerous tax forms are used when filing a tax return with the IRS. Filing a tax return on timber adds another dimension to this process. Match the 2020 business items 15 through 19 with the correct corresponding tax form.

15. Sale of Sawtimber and Pulpwood

    A. Schedule F
    B. Schedule T
    C. Form 4797
    D. Form 4562

16. Deductions detailed for depreciation and amortization

    A. Schedule F
    B. Schedule T
    C. Form 4797
    D. Form 4562

17. Interest received from the bank

    A. Schedule B
    B. Schedule C
    C. Schedule D
    D. Schedule E

18. Capital Gains reported for Timber Sales

    A. Schedule B
    B. Schedule C
    C. Schedule D
    D. Schedule E

19. Income from leasing timber land for recreational use

    A. Schedule F
    B. Schedule T
    C. Form 4797
    D. Form 4562

20. The Banyun's Timber Sales are reported as capital gains income. One reason for that is the fact that they are owners and are raising timber with the intent to sell.

    A. True
    B. False

21. Timber Sales is considered a farm income.

    A. True
    B. False

22. Timber producers are not required to enter sales on Schedule T.

    A. True
    B. False

23. The Banyuns purchased a different tractor in 2015 and decided to depreciate the asset. Another option would have been asset depletion when using section 179 in their tax reporting.

    A. True
    B. False

Paul and Lucy had considered the purchase of an additional tractor in 2019. This changed when the adjoining land came up for sale. They delayed the purchase the tractor until January 1, 2020. They are planning with the assumption that tax law will not change for an asset of this size. The purchase price was $33,500. This was an outright purchase of a used tractor. The current new price of the same tractor is $48,500. (Round answers up to the nearest whole number)

24. What will be the original basis of the tractor?

    A. $15,000
    B. $33,500
    C. $48,500
    D. $82,000

25. What is the class life or expected years to depreciate this tractor?

    A. 3 years
    B. 5 years
    C. 7 years
    D. 10 years

26. The tractor was considered “placed in service” on January 1 because that was the purchase date.

    A. True
    B. False

27. If they had purchased this tractor on Jan 1 and chose to depreciate the tractor using MACRS straight line method, what will the first year of depreciation be?

    A. $1,675
    B. $2,393
    C. $3,463
    D. $4,786

    $2,393 ($33,500 * 7.143%)
    or
    $2,393 ($33,500 / 7) / 2

28. If they chose to use the section 179 option rather than depreciation and this is their only capital purchase, how much of the purchase price can they show as a deduction on their taxes?

    A. $82,000
    B. $48,500
    C. $33,500
    D. $15,000

The Banyuns sell their timber using a cutting contract and meet the criteria needed to treat the sale as a section 1231 transaction. The adjusted basis for each acre of the timber sold is $450. The total sales per acre for the parcel of land where the timber was harvested is $2,104. Using this information, answer the following questions.

29. What is the gain for the sale of the timber?

    A. $2,104
    B. $1,654
    C. $1,057
    D. $ 694

30. This sale is considered to be what type of income for taxes?

    A. Ordinary
    B. Capital Gain
    C. Depreciable
    D. Non-taxable

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Scan Sheet 1, Exam F – Investment Analysis

On Scan Sheet 1, Exam F, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

Paul and Lucy are well equipped with their operation. However, from time to time they need to move logs (downed logs from storms, diseased logs, large limbs, etc). It would be more efficient if they could move these with heavy equipment rather than cutting the material into small pieces manageable by hand. They have looked into a skid steer for the job and determined if they added the right attachments, they could do all the 50 hp tractor work plus this lifting. They can get $26,000 by trading in their 50 hp John Deere tractor for a slightly used 863 Bobcat Skid-Steer with tracks. The Bobcat has a price tag of $50,000 and would carry a warranty that covers all labor and parts for 5 years. They believe they could sell their bush hog for $1,800 and find a used, heavy duty brush cutter for $4,500 for the skid-steer. The trade-in and proceeds from the private sale of current equipment would be used for their down payment and the couple plans to finance the remainder. The local credit union will give the Banyuns an equipment loan for 5% fixed rate for seven years. Fill in the blanks in the following table.
(5% fixed rate is noted as a distraction, actual rate was 3.3%)

EQUIPMENT	TRADE-IN/SALE VALUE	PURCHASE PRICE	BALANCE
Tractor/Skid-Steer	26,000	50,000	24,000
Cutter	1,800	3,800	2,000
Total Loan Amount			26,000

YEAR	ANNUAL PAYMENT	INTEREST PAYMENT	PRINCIPAL PAYMENT	BALANCE
0				26,000
1	4,220	858	3,362	22,638
2	4,220	747	3,473	19,165
3	4,220	_____	3,588	15,577
4	4,220	514	_____	_____
5	4,220	391	3,829	8,042
6	4,220	265	3,955	4,087
7	4,220	133	4,087	_____

1. What is the interest payment for year three?

   A. $747
   B. $632
   C. $514
   D. $391

2. What is the principal payment for year four?

   A. $4,220
   B. $3,588
   C. $3,706
   D. $3,829

3. What is the loan balance after the payment in year four?

   A. $11,871
   B. $15,577
   C. $11,357
   D. $11,989

4. What is the loan balance at the end of year seven?

   A. $133
   B. $4,087
   C. $0

5. What is the cumulative interest that will be paid on the loan?

   A. $29,540
   B. $26,000
   C. $4,087
   D. $3,540

6. The annual interest payment will remain constant from year to year.

   A. True
   B. False

7. The annual interest rate will <u>not</u> vary over the life of the loan.

   A. True
   B. False

8. Which of the following will change if the price of the skid steer increases?

   A. Interest rate
   B. Term length of the loan
   C. Payment amount
   D. None of the above

9. After considering what they can do with this skid steer and brush cutter, they believe they can save $7,000 in expenses ($2,000 in repairs and $5,000 in custom hire work) per year. What would the payback period be to cover the cost of the investment? Round to the nearest whole number.

   A. 6 years
   B. 7 years
   C. 8 years
   D. 9 years

   $53,800/$7,000 = 8 years

10. The ideas that a dollar today is worth more than a dollar tomorrow, that people are charged interest for funds they borrow, or that investors receive payments in return for depositing money into a CD are all examples of

    A. present value.
    B. future value.
    C. interest rates.
    D. time value of money.

11. If the Banyuns believe they can afford this annual payment, and are willing to, which of the following could result if an equipment dealer would make them a seven-year loan at 0% interest?

    A. The lower interest rate would help protect the Banyun's credit score.
    B. They could reduce the amount they could spend on the skid steer and brush cutter equipment.
    C. Their debt-asset ratio would be improved.
    D. The Banyuns could take the savings from lower payments and invest them in other parts of the business.

12. If the bank were offering a 3/1 variable rate loan (interest rate is fixed for the first three years and can move up as much as a half percentage point each subsequent year), that would drop the initial payment to $4,173. What is the greatest risk of taking this deal versus the original terms offered?

    A. The interest rate increases beyond double the original rate.
    B. The payments will increase beyond the original payment level.
    C. The interest rate increases could make the overall cost of the loan greater than the cost associated with the original terms.

13. The interest payments decrease with each year's payment because the interest rate declines as the principal declines.

    A. True
    B. False

14. If the Banyuns make the original deal, they would help themselves reach their goal of decreasing their debt-asset ratio.

    A. True
    B. False

15. If all else was kept the same, what would happen if the length of the loan was extended by three years (from seven to ten)?

    A. The amount of money borrowed would have to change.
    B. The annual payment would be higher.
    C. The annual payment would stay the same.
    D. The annual payment would be lower.

16. The allowed time for the term of a machinery loan is set by the asset class.

    A. True
    B. False

17. The Banyun's annual payment on this loan is comprised of the principal payment plus the interest payment.

    A. True
    B. False

Participant Number _____ State Abbreviation _____

Scan Sheet 1, Exam G – Risk Management

On Scan Sheet 1, Exam G, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. Which of the following is an example of financial risk that applies to the Banyun's timber operation?

   A. A change in timber prices
   B. A change in interest rates
   C. A change in housing demand
   D. A and C but not B are examples of financial risk
   E. A, B, and C are examples of financial risk

2. Which of the following is an example of legal risk?

   A. A change in tariff rates and food export regulations
   B. A change in consumers' tastes and preferences
   C. A change in interest rates
   D. A and C but not B are examples of legal risk
   E. A, B, and C are examples of legal risk

3. Which of the following best describes risk transfer?

   A. Paying another party to assume a portion of a risk
   B. A methodology to reduce the severity of a risk
   C. A methodology to reduce the frequency of a risk
   D. Ceasing an activity to eliminate the possibility of incurring a loss
   E. Setting aside funds to pay for any losses that may occur

4. _____ is an example of risk control.

   A. An insurance policy
   B. A fire suppression system
   C. Following label directions when applying pesticides
   D. B and C but not A
   E. None of the above

5. A wildfire is an example of _____ risk.

   A. market
   B. legal
   C. financial
   D. human
   E. production

6. Assume that the following current ratios are given for five farms. Based solely upon these ratios, which farm is at the greatest financial risk?

   A. 2.5
   B. 1.3
   C. 2.1
   D. 1.9
   E. 0.9

7. Adopting an appropriate integrated pest management system mitigates _____ risk.

   A. market
   B. legal
   C. financial
   D. human
   E. production

8. Which of the following is an example of market risk that applies to the Banyun's timber operation?

   A. A change in pine timber prices
   B. A change in the number of paper mills near the farm
   C. A switch from lumber to metal as a primary building material
   D. A and C but not B are examples of market risk
   E. A, B, and C are examples of market risk

9. A short-term disability insurance policy is an appropriate treatment for a farm owner's _____ risk.

   A. market
   B. legal
   C. financial
   D. human
   E. production

10. A farmer decides to use the futures market to hedge the price risk of timber production. What futures contract should the farmer use to hedge this risk?

    A. Crude oil
    B. Lumber
    C. Corn
    D. Steel

11. A farmer would use the futures market with the objective to

    A. transfer risk.
    B. increase risk.
    C. participate in government farm programs.
    D. obtain a loan.

12. When hedging, it is important that farmers close out both the cash and futures position

    A. prior to selling the crop.
    B. simultaneously when selling the crop.
    C. keep the futures position open to protect against price risk.
    D. at any time.

13. To hedge using commodity futures, a farmer must

    A. use a broker.
    B. create a margin account.
    C. Both A and B
    D. do nothing. A farmer can hedge over the internet without a broker or margin account.

14. Prescribed burning is a frequently used technique in forest management. While the practice is generally safe, sometimes fires become out of control. Which type of insurance would protect the Banyuns from the risk of lawsuits arising from a claim for damages caused by an out of control fire brought against the company?

    A. A Life Insurance Policy
    B. A Health Insurance Policy
    C. A Commercial Property Insurance Policy
    D. A Commercial Liability Insurance Policy

15. Pine production is reliant on the chemical control of herbaceous weeds in the early establishment of the pine tree stand. If pine producers choose to apply herbicides, they have determined that the _____ risk, associated with yield loss and potential seedling death, is greater than the _____ risk associated with the misapplication of herbicides.

    A. legal, market
    B. market, human
    C. production, legal
    D. human, production

16. Which of the following would be a part of an integrated plan to manage the human safety risks associated with a farming operation?

    A. Ensure that employees wear appropriate personal protective gear to prevent injuries.
    B. Ensure that safe pesticide mixing and handling procedures are followed.
    C. Have the appropriate insurance policies in place to pay for damages associated with work related injuries.
    D. A and B
    E. A, B, and C

17. Revenue protection coverage insurance only protects against

    A. a decline in price or yield.
    B. a decline in price.
    C. a decline in yield.

18. The yield protection in revenue protection insurance is based on

    A. the farm's actual production history of yields.
    B. the county's actual production history of yields.
    C. the state's actual production history of yields.
    D. whatever yield coverage the farmer wants to buy.

19. The price protection in revenue protection insurance is based on

    A. the futures market.
    B. the local cash market.
    C. the U.S. Marketing-Year Average price.
    D. a price determined by the USDA.

20. A farmer uses yield protection insurance to protect a corn crop. This type of insurance would protect against which of the following?

    A. Low prices
    B. Low yields
    C. Low yields and low prices
    D. Failure of grain buyer to make a payment upon delivery

21. The difference between the cash price and the futures price is called the

    A. strike price.
    B. premium.
    C. basis.
    D. spread.

22. Which of the following is not one of the steps in the risk management process?

    A. Identify
    B. Retain
    C. Plan
    D. Prioritize
    E. All of these are steps in the risk management process.

23. Which of the following risks should be transferred?

    A. A high frequency and high severity risk
    B. A low frequency and high severity risk
    C. A low frequency and low severity risk
    D. A high frequency and low severity risk

Participant Number _____ State Abbreviation _____

Scan Sheet 1, Exam H - Farm Business Organization and Land Measurement

<u>On Scan Sheet 1, Exam H, enter the correct answer for each question.</u> Answers that require a computation are worth 2 points. All other answers are worth 1 p

Part A - Farm Business Organization

1. If the Banyuns decided to join with other forestry producers to start a saw mill to add value to their forest products, which type of cooperative would they form?

   A. Marketing
   B. Credit
   C. Purchasing
   D. Processing
   E. Service

The Banyuns were the heirs of a multi-generational Southern Pine forestry operation. While the couple is not yet at retirement age, they are beginning to think about the future. The Banyuns are particularly concerned about continuing their parents' tradition of leaving future generations their family forestlands.

2. Which of the following business organizations would best suit the Banyuns' goal of leaving their forestland for future generations of their family?

   A. A Partnership
   B. A Sole Proprietorship
   C. A Cooperative
   D. A Business Trust
   E. None of these are appropriate

3. Which of the following is not a benefit of a corporate business structure?

   A. Corporate income can be taxed at a lower rate than personal income.
   B. Ownership is easily divided into shares.
   C. A corporation does not dissolve with the death of an owner.
   D. Can benefit estate planning.
   E. All of the above are benefits of organizing as a corporation.

4. The most common type of business organization for US farms and ranches is the _____.

   A. Corporation
   B. Partnership
   C. Sole Proprietorship
   D. LLC
   E. Cooperative

5. Choosing to organize a business as a(n) _____ provides entrepreneurs with the greatest potential to access equity capital.

   A. Corporation
   B. Partnership
   C. Sole Proprietorship
   D. LLC

6. Of the types of business organizations listed below, which would provide the least protection from legal liability to the owners?

   A. An LLC
   B. An S Corporation
   C. A C Corporation
   D. A Sole Proprietorship

7. Which of the following statements is <u>not</u> a best practice when selecting a business organization structure?

   A. Business owners should select the simplest business organization that still meets their needs and goals.
   B. Partnership agreements should always be signed, written agreements that are reviewed with the help of an attorney or other competent professional.
   C. The business structure that minimizes the owner's tax liability is always the best choice for business owners.
   D. Future plans and aspirations of the business owner should be taken into account when deciding the optimal business structure.

8. An owner of a C Corporation is also called a(n) _____.

   A. director
   B. stockholder
   C. officer
   D. member
   E. trustor

9. An owner of an LLC is also called a(n) _____.

   A. director
   B. stockholder
   C. officer
   D. member
   E. trustor

10. If a farm business owner wishes to organize her business as simply as possible with minimal filing requirements, but wishes to have some liability protections, which type of organization should she choose?

    A. A C Corporation
    B. A Limited Partnership
    C. A Sole Proprietorship
    D. An LLC
    E. A Cooperative

11. According to the IRS code, owners of a C Corporation must be US citizens.

    A. True
    B. False

12. According to IRS rules, C Corporations may have more than 100 stockholders.

    A. True
    B. False

13. Cooperatives allow farmers and ranchers to gain market power by combining their resources.

    A. True
    B. False

14. Business trusts are a particularly useful form of business organization for accessing equity capital.

    A. True
    B. False

Part B - Land Measurement

15. How many acres are in a half section?

    A. 80
    B. 160
    C. 320
    D. 640

16. Generally, parcels of land that are irregular in shape are legally described by using

    A. rectangular survey.
    B. metes and bounds.
    C. Either A or B

17. An acre equals ____ square feet.

    A. 23,040
    B. 43,560
    C. 64,000
    D. 12,346

18. How many sections are usually in a township?

    A. 12
    B. 24
    C. 36
    D. 48

19. Generally, parcels of land that are located in a city subdivision are legally described by using

    A. metes and bounds.
    B. recorded plats.
    C. rectangular survey.
    D. None of the above

20. Some properties in the U.S. do not have some form of legal land description.

    A. True
    B. False

21. The range refers to columns of townships running north and south (quadrangle).

    A. True
    B. False

22. When reading a legal land description, you read it by

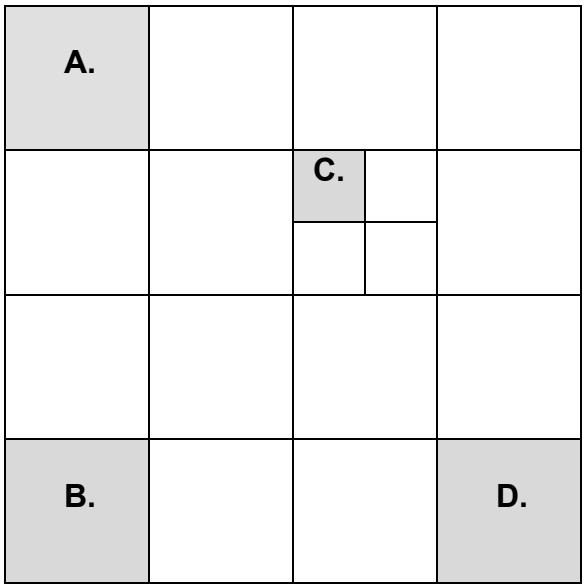
    A. reading it from the smallest to the largest parcel.
    B. locating the section in the township.
    C. finding the location in the quarter.
    D. All of the above

23. Thomas Jefferson authorized a system of land measurements to define locations of properties in the western territory for the following main reasons.

    A. So that private ownership of property could be easily defined.
    B. So that property could be exchanged to another owner more easily.
    C. A checkerboard system was employed to create more reliable delineations.
    D. All of the above
    E. None of the above

Use the chart below of section 9 to answer questions 24 and 25.

Section 9



24. How many acres are in parcel C?

A. 80 acres
B. 40 acres
C. 20 acres
D. 10 acres

25. What is the legal description of parcel D**?**

A. South 1/4 of the East 1/4 of Section 9.
B. Southeast 1/4 of the Southeast 1/4 of Section 9.
C. Southeast 1/4 of the South 1/4 of Section 9.
D. East 1/4 of the South 1/4 of Section 9.

26. There are approximately _____ acres in a township.

A. 23,040
B. 22,050
C. 19,580
D. 64,000

27. A tier refers to the townships running east and west in six mile increments.

A. True
B. False

Participant Number _____ State Abbreviation _____

Scan Sheet 1, Exam I - Analyzing the Agricultural Business, Part 1

On Scan Sheet 1, Exam I, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

Use the Executive Summary on Page R9 in the Resource Information for the Banyun Timber and the Executive Summary for Average Data on Page R17 to answer questions 1 through 6.

1. The Banyun Timber's Net Farm Income for 2020 was $149,402.

   A. True
   B. False

2. The Banyun Timber operation consists of 1,000 acres.

   A. True
   B. False

3. Banyun Timber had a higher net farm income than the Area Average and had fewer acres.

   A. True
   B. False

4. The expense item that had the greatest impact on the difference in net farm income between Banyun Timber and the Area Average was

   A. cash operating expense.
   B. total operating expense.
   C. depreciation.
   D. interest paid.

5. Compare the beginning and ending values of the Liquidity Measures listed. Which measure(s) were worse at the end of the year for Banyun Timber?

   A. Current Ratio
   B. Working Capital
   C. Working Capital to Gross Revenues
   D. All of those listed
   E. None of those listed

6. The Debt to Asset Ratio is a financial factor that represents

   A. Total Debt minus Total Assets.
   B. Total Debt divided by Total Assets - Equity.
   C. Total Debt minus Current Debt divided by Total Assets.
   D. Total Debt divided by Total Assets.

An explanation of the factors listed in the Repayment Capacity section of the Financial Standards Measures, for Banyun Timber and the Area Average, is found on page R11 and R19 of the Resource Information. Those factors include: capital debt repayment capacity, capital debt repayment margin, replacement margin, term debt coverage ratio, and replacement coverage ratio. Use that information to answer the questions below.

7. The capital debt repayment capacity for Banyun Timber is $184,315.

   A. True
   B. False

   $204,355

8. Is their capital debt repayment capacity larger or smaller than the Area Average?

   A. Larger
   B. Smaller

9. What is the primary reason for the Banyun capital debt repayment capacity being larger or smaller than the area average?

   A. Depreciation
   B. Personal Income
   C. Income taxes accrued
   D. Interest on term debt

10. The term debt coverage ratio for the Area Average is 2.50.

    A. True
    B. False

    3.57

11. Based on the term debt coverage ratio, both the Area Average and Banyun Timber are able to pay off annual term debt.

    A. True
    B. False

12. Which two items listed below are used to calculate the term debt coverage ratio?

    A. Capital debt repayment margin and scheduled term debt payments
    B. Capital debt repayment capacity and repayment margin
    C. Capital debt repayment capacity and scheduled term debt payments
    D. Scheduled term debt payments and capital debt repayment margin

Use the Business Overview on Pages R1 and R2 and the Planting, Production and Harvest Record on Page R16 of the Resource Information to answer the following questions.

13. Using the Banyun's harvest plan, how many different types of harvest events will happen on one acre of timber after planting and including the year that sawtimber is cut (Final Harvest)?

    A. 3
    B. 4
    C. 5
    D. 6

Using Parcel D, answer the following questions. Use historical and planned amounts.

14. What is the total production of timber per acre, in tons, from planting through final harvest?

    A. 46
    B. 58 (28+18+12+81+9=148)
    C. 127
    D. 148

15. What is the total value per acre of all timber sold, from planting through final harvest?

    A. $548
    B. $644 (224+324+96+2,025+72=2,741)
    C. $2,573
    D. $2,741

16. What was the annual average value of protection per acre, from planting through final harvest?

    A. $15.57
    B. $49.53 (2,741 / 28 = 97.89)
    C. $97.89
    D. $122.52

Using Parcel C, answer the following questions. Calculate to the nearest hundredth (x.xx).

17. What was the production per acre of Pulpwood from all harvest points for this parcel?

    A. 29.00
    B. 37.94 (29+13+8.94=50.94)
    C. 50.94

18. What percent of the Pulpwood production was harvested in 2003, compared to the estimated total production at that growth stage? *(Corrected 2003 to 2004 during exam)*

    A. 14.0%
    B. 48.3% ((29 / 60) * 100 = 48.33)
    C. 50.0%
    D. 61.5%

19. Over the life of an acre of timber, planting to final harvest, which product generally provides the most harvested tonnage off of that acre?

    A. Chip-n-Saw
    B. Sawtimber
    C. Pulpwood
    D. Chipwood

Participant Number _____ State Abbreviation _____

Scan Sheet 1, Exam J - Analyzing the Agricultural Business, Part 2

On Scan Sheet 1, Exam J, enter the correct answer for each question. Answers that require a computation are worth 2 points. All other answers are worth 1 point.

Compare Banyun Timber enterprise information on Page R12 with the Area Average timber enterprise information on Page R20 of the Resource Information. (Note: Production data for the Sawtimber and Chip-n-Saw enterprises includes a number for "Value of other products". The dollar amount listed is for Pulpwood that is harvested off the same acres when those products are harvested. It is common for parts of the trees not used for Sawtimber and Chip-n-Saw to be taken as Pulpwood.)

1. What is the gross return per acre for Banyun's Sawtimber'89 enterprise?

   A. $0.00
   B. $2,030.20
   C. $2,104.02

2. How much more or less is the gross return of Banyun enterprise compared to the gross return of the Area Average Sawtimber?

   A. $73.82 more
   B. $73.82 less (2104.02 – 2030.20) = + $73.82
   C. $1,689.13 more
   D. $1,689.13 less

Assume the Banyuns received $8.00 per ton of Pulpwood (value of other products) on the sawtimber land. Assume the average sawtimber enterprise other product price was $7.80 per ton of Pulpwood, slightly less than the other Pulpwood sales price. Using the value of other products dollar amount and the tons of sawtimber produced for each, calculate the total tons of timber produced per acre for each enterprise.

3. Total tons per acre for Banyun Timber

   A. 81.30
   B. 84.51 (($71.52 / 8.00) = 8.94) + 81.30 = 90.24
   C. 90.24
   D. 152.82

4. Total tons per acre for Area Average

   A. 80.00
   B. 89.00 (($70.20/ 7.80) = 9.00) + 80.00 = 89.00
   C. 104.50
   D. 150.20

For the following expense and return line items for Banyun Timber and the Area Average, identify which enterprise had the best or worst amount listed.

5. Highest net return per acre

   A. Area Average – Sawtimber
   B. Area Average – Chip-n-Saw
   C. Area Average - Pulpwood
   D. Banyun – Sawtimber'89

6. Highest total direct and overhead expenses

   A. Banyun Just Planted Adjoining Land
   B. Banyun 1996 farm
   C. Area Average – Timber to plant *(Corrected "Timber Just Planted" during exam)*
   D. Area Average – Timber no product

7. Lowest return over direct expenses

   A. Area Average – Timber just planted
   B. Banyun 1996 farm
   C. Area Average – No product
   D. Banyun Just Planted Adjoining Land

Use the "Just Planted" enterprise for Banyun Timber (Page R13) and the Area Average (Page R20), to answer the following questions.

8. Which two Direct Expenses for Banyun Timber and the Area Average were the largest?

   A. Fertilizer and Crop Chemicals
   B. Crop Chemicals and Custom Hire
   C. Seeds, Plants and Fertilizer
   D. Seeds, Plants and Custom Hire

9. Using value per unit of $8.00 per ton for Pulpwood, how many tons of Pulpwood production are needed to cover direct and overhead expenses for the Area Average?

   A. 32.22
   B. 36.29
   C. 36.84 (294.68 / 8 = 36.84)
   D. 37.78

10. Would it require more or less tons of Pulpwood for Banyun Timber to cover the cost of direct and overhead expenses?

    A. More
    B. Less

11. Based on your knowledge of the Banyun and the average Timber operation, and using the Resource Information, will the value of the first harvest of Pulpwood cover the direct and overhead expenses of planting the crop?

    A. Yes
    B. No

Timber production can be a profitable business over the long term if the parcels are managed effectively. A key practice of long-term production and effective management strategies is the spacing between trees in the initial planting. Paul and Lucy have used university guidelines and past practice to identify the optimal planting level for their timber land. Their goal is to have at least 450 trees per acre at the beginning of the second year after planting. The Banyuns plant a slightly higher population per acre because there is some loss in the first year after planting. They try to maintain an 8 foot spacing between rows on the initial plant. (Round answers to the nearest whole foot.)

12. Their target population at the time of the initial planting is 495 trees per acre. Knowing the spacing between rows, how far apart should the tree seedlings be planted in each row to attain 495 trees/acre?

    A. 8
    B. 11 ((43,560 / 495) / 8) = 11 feet
    C. 12
    D. 88

13. During the first year, the Banyuns have averaged an 8% loss of the tree seedlings. What would be the number of trees remaining in the second year?

    A. 381
    B. 414 (495 * .92) = 455.4
    C. 419
    D. 455

14. For the tree seedlings that survived the first year, what is the average spacing between the tree seedlings in each row in the second year? Round to whole feet.

    A. 9
    B. 12 ((43,560 / 455) / 8) = 11.97 feet
    C. 14
    D. 91

Participant Number _____ State Abbreviation _____

Scan Sheet 2, Exam A – Family Living

<u>On Scan Sheet 2, Exam A, enter the correct answer for each question.</u> Answers that require a computation are worth 2 points. All other answers are worth 1 point.

Review the story of Banyun Timber (Pages R1 and R2), the 2020 Family Living Expense Summary (Page R14), and the Area Average Household and Personal Living Expenses (Page R21), before answering the following questions. Round answers to whole numbers and percentages to tenths, xx.x%.

1. What is the largest expenditure for the Banyun family?

   A. Income and social security taxes
   B. Health insurance
   C. Food and meals expense
   D. Personal savings and investments

2. What is the Total Personal Expenditure per person for the Area Average? Round answer to the nearest whole dollar.

   A. $22,320
   B. $31,098 $93,294 / 3 = $31,098 per person
   C. $66,960
   D. $93,294

3. Of the Total Family Living (not including Other Nonfarm Expenditures) what expense comprises the largest percentage of Total Family Living for the Banyuns?

   A. Dwelling rent
   B. Health insurance
   C. Food and meals expense
   D. Household supplies

4. The Banyun family spends how much per person on recreation? Round answer to the nearest whole dollar.

   A. $969
   B. $1,486
   C. $1,292
   D. $339

5. The Banyun family spends more per person than the Area Average for

   A. health insurance.
   B. household supplies.
   C. food and meals expense.
   D. clothing.

6. Which expense listed below would be the easiest to reduce?

   A. Life insurance payments
   B. Gifts
   C. Income taxes
   D. Health insurance

7. The Area Average spends more than nine percent of Total Family Living on which expense category(ies)?

   A. Recreation
   B. Health insurance
   C. Food and meals expense
   D. Both B and C

8. What percent of Total Family Living is spent on health insurance by the Banyun family? Round answer to tenth of a percent (xx.x%)

   A. 5.4%
   B. 11.0%
   C. 22.6% ($14,387 / $63,598) x 100 = 22.6%
   D. 25.1%

9. What amount per person does the Area Average spend on gifts? Round to the nearest whole dollar.

   A. $497
   B. $779 $2,337 / 3 = $779 per person
   C. $1,989
   D. $2,337

10. The Area Average spends at least seven percent of the Total Family Living on this expense category.

    A. Recreation
    B. Cash donations
    C. Household supplies
    D. Life insurance payments

11. Which expense item listed below would be the most difficult to reduce?

    A. Medical care
    B. Recreation
    C. Clothing
    D. Personal savings and investment

12. What percentage of Total Personal Expenditures does the Banyun family put toward personal savings and investments? Round answer to tenth of a percent (xx.x%)

A. 18.8%
B. 32.5% ($42,506/$130,647) x 100 = 32.5%
C. 36.9%
D. 66.8%

Participant Number _____ State Abbreviation _____

Scan Sheet 2, Exam B – Economic Principles

<u>On Scan Sheet 2, Exam B, enter the correct answer for each question.</u> Answers that require a computation are worth 2 points. All other answers are worth 1 point.

1. The term Change in Y over Change in X (or $\Delta Y/\Delta X$) is

   A. Total Physical Product.
   B. Marginal Physical Product.
   C. Average Physical Product.
   D. Marginal Cost.

2. The production function is the

   A. economic relationship between firms and consumers.
   B. production relationship between consumers and producers.
   C. economic relationship between costs and prices.
   D. physical relationship between inputs and output.

3. If APP is greater than MPP, you know that

   A. APP is decreasing.
   B. you are in stage 1 of the production function.
   C. MPP is increasing.
   D. APP is increasing.

4. The decision rule for moving from stage two to stage three of the production function is

   A. Maximum APP.
   B. MPP = 0.
   C. MPP = APP.
   D. Maximum MPP.

5. The denominator of the marginal cost equation includes change in

   A. total cost.
   B. input levels.
   C. variable cost.
   D. output levels.

6. MR is the addition to total

   A. revenue from selling one more unit of output.
   B. output from using one more unit of input.
   C. revenue from maximizing production.
   D. costs from using one more unit of input.

7. To mathematically determine the least cost combination of two inputs, find where the

   A. marginal rate of substitution equals the average cost.
   B. marginal cost equals the average cost.
   C. marginal rate of substitution equals the price ratio.
   D. price ratio equals the marginal product.

8. The cost for annual mowing of roads is classified as a

   A. fixed cost.
   B. variable cost.
   C. average cost.
   D. marginal cost.

9. With a typical production process, if total fixed cost is spread over increasing output, average fixed cost will

   A. stay constant.
   B. increase then decrease.
   C. decrease then increase.
   D. decrease.

10. Assuming a typical production function, rational producers will produce in

    A. Stage 1.
    B. Stage 2.
    C. Stage 3.
    D. Stage 4.

11. If the operation has a fixed cost of $50 per acre when output yields 100 tons per acre, what is the fixed cost per acre when output increases to 120 tons per acre?

    A. $25 per acre
    B. $200 per acre
    C. $50 per acre
    D. $100 per acre

Participant Number _____ State Abbreviation _____

Use this table to answer questions 12 – 15 (Red numbers were blank)

X	Y	APP	MPP
0	0	----	
1	8	8	8
2	20	10	12
3	36	12	16
4	44	11	8
5	45	9	1
6	42	7	-3

12. When variable input is 5, then the output is

A. 36.
B. 44.
C. 45.
D. 42.

13. When Y is 44 then APP is

A. 10.
B. 11.
C. 12.
D. 9.

14. Using input level of 2 results in APP of

A. 10.
B. 11.
C. 12.
D. 9.

15. What is the MPP when moving from input level of 5 to 6?

A. 8
B. 1
C. -3
D. -5

Participant Number _____ State Abbreviation _____

Universal Form E, Exam A

2022 FABM - Financial Statements

Exam A, enter the correct answer for questions 1 through 21.
Each answer is worth 1 point.

1. The primary purpose of a balance sheet is to illustrate the

   A. value of assets, liabilities, and net farm income.
   B. value of profit, net farm income, and liabilities.
   C. value of net worth, liabilities, and assets.
   D. key measures of a farm financial scorecard.

2. Noting that a business's balance sheet on the first day of the business year has total liabilities of $675,000, total assets of $2,150,000 and a debt-to-asset ratio of 31%, calculate its net worth.

   A. $1,400,000
   B. $1,475,000
   C. $2,550,000
   D. None of the above

3. A balance sheet that includes the adjusted basis of the non-current assets is a

   A. market basis balance sheet.
   B. an asset balance sheet.
   C. cost basis balance sheet.
   D. All of the above are correct.

4. The total market valuation equity of the business owned by Amos and Adeline Bradley at the end of 2021 was

   A. $232,300.
   B. $172,287.
   C. $2,612,545.
   D. $169,267.

5. An insolvent business is best reflected by which of the following debt-to-asset ratios?

   A. 95%
   B. 110%
   C. 0%
   D. 50%

6. What is the difference between the Bradleys' Working Capital at the end of 2021 compared to the beginning of the year?

   A. $587,895, higher
   B. $505,600, lower
   C. $82,295, higher
   D. $106,600, lower

7. The asset that is a current asset is

   A. 1000 tons of haylage.
   B. a hay baler.
   C. a hay storage shed.
   D. 100 acres of land for growing haylage.

Answer: Current assets have a life of 1 year or less, noncurrent assets have a life greater than one year.

8. Principal due in the next 12 months on term debt is classified as

   A. current liabilities.
   B. long term liabilities.
   C. noncurrent liabilities.
   D. None of the above

9. The Bradleys are contemplating securing an operating loan for crop inputs. Calculate the cost of the interest per acre for 824 acres when borrowing $300,000 at 4.75% APR for 150 days. Base the calculation on a 365 day year. Round to the nearest cent.

   A. $9.07
   B. $8.07
   C. $9.01
   D. $7.11

10. _____ an entry or multiple entries on the balance sheet. It is an obligation for which settlement will occur at a later period. An example is taxes due at a later time, especially if there is a premature sunsetting of a business.

    A. Total intermediate liabilities are
    B. Deferred liability is
    C. Contributed capital is
    D. Taxable dividends are

11. Restructuring debt in the balance sheet to reduce periodic principal and interest payments usually occurs when business cash flow falls short of expectations. A common strategy used by the lender and business owner to alleviate cash flow difficulties is to

    A. convert all, or part of the short-term and/or intermediate liabilities to long-term liabilities to reduce payments.
    B. convert all, or part, of the intermediate and/or long liabilities to short-term liabilities to reduce payments.
    C. recapitalize paid debt and make no other changes to reduce payments.
    D. None of the above

12. Review the cost comparative balance sheets for years 2012 - 2021 for the Bradleys. How many years did their retained earning change in a negative manner?

    A. 1
    B. 2
    C. 3
    D. 4

13. The Farm Financial Score Card indicates when the current ratio is less than _____ and the working capital to gross revenues % is less than _____, the liquidity of the business is in the most vulnerable status.

    A. 2.0, 30
    B. 1.5, 20
    C. 1.3, 10
    D. 3.0, 35

14. A farm business income statement can show a profit in a year, and yet the business is unprofitable.

    A. True
    B. False

15. Net farm income for a business represents a return to

    A. paid family and paid operator labor.
    B. owners' investment in the business.
    C. internal revenue service.
    D. None of the above

16. Net cash farm income (NCFI) results from subtracting cash expenses from the gross cash farm income. What additionally must be added or subtracted from the (NCFI) to calculate the net farm income?

    A. Sale of capital items, depreciation, total inventory change
    B. Depreciation, total inventory change
    C. Sale of capital items, depreciation, total inventory change, principal payments
    D. All of the above

17. If the asset-turnover rate is above 45% and the operating expense ratio is 60% or less, and the net farm income ratio is above 20% on the financial scorecard, the farm business is strong.

    A. True
    B. False

18. Scenario: A business currently needs $205,000 of net farm income (NFI). Assume it maintains careful discipline in all aspects of managing the business and experiences a good year with an NFI of $300,000. If there are no changes in deferred liabilities and market evaluation values from the previous year, what is the effect upon its net worth at the end of the year?

    A. It will stay the same due to inflation
    B. It would increase by $95,000
    C. It would decrease by $100,000
    D. None of the above are realistic

19. When the Bradleys' 2021 efficiency measures are compared to the efficiency measures of the Area Average, you observe the measures of the Bradley operation that are worse than the Area Average benchmark values. They are

    A. asset turnover rate, net farm income ratio and operating expense ratio.
    B. net farm income ratio, interest expense ratio and operating expense ratio.
    C. net farm income ratio and deprecation expense ratio.
    D. depreciation expense ratio and asset turnover rate.

20. The _____ in the Bradleys' 2021 Financial Analysis summarizes the sources, uses and balances of available cash.

    A. balance sheet
    B. statement of cash flows
    C. statement of owner equity
    D. income statement

21. Change in net worth in an accounting period is best illustrated in the

    A. balance sheet.
    B. statement of cash flows.
    C. statement of owner equity.
    D. income statement.

Participant Number _____ State Abbreviation _____

Universal Form E, Exam B

2022 FABM - Budgeting

Exam B, enter the correct answer for questions 1 through 8.
Each answer is worth 1 point.

1. In a partial budget, the calculation to determine net change would be

   A. (additional revenue + reduced returns) – (additional costs + reduced costs).
   B. additional revenue + reduced costs.
   C. (additional revenue + reduced costs) - (additional costs + reduced returns).
   D. additional revenue - additional costs.

2. A financial management tool showing the projected costs and returns associated with a specific production process is a/an

   A. enterprise budget.
   B. long-term budget.
   C. cash flow projection.
   D. whole farm budget.

3. Anthony has $5,000. Instead of investing these funds at a 4.5% interest at the bank in his town, he chose to invest this money into his livestock SAE. The 4.5% interest he did not receive is a/an

   A. cost of debt.
   B. production cost.
   C. investment cost.
   D. opportunity cost.

4. Which of the following would be considered a fixed cost?

   A. Hired seasonal labor
   B. Depreciation on machinery
   C. Crop production inputs
   D. Feed purchases

5. A whole farm cash flow projection is a form of budgeting that can be used to

   A. determine operating credit needs.
   B. determine year-end asset values.
   C. determine living expenses.
   D. calculate total farm equity.

6. If the farm business increases the number of crop acres, which of the following costs are least likely to change?

   A. Average fixed costs per acre
   B. Total variable costs
   C. Average total costs per acre
   D. Average variable costs per acre

7. Which of the following contributes the largest amount of expense?

   A. Fertilizer
   B. Crop Chemicals
   C. Seed
   D. Repairs

8. Which enterprise would contribute the least to the total Net Farm Income?

   A. Corn All Fields Field Unit A Owned
   B. Corn All Fields Field Unit B Cash Rented
   C. Soybeans All Fields Combined Unit F Shared Rented
   D. Rye Cover Crop Unit B Cash Rented

Participant Number _____ State Abbreviation _____

Universal Form E, Exam C

2022 FABM - Cash Flow Planning

Exam C, enter the correct answer for questions 1 through 14. Refer to pages R5 through R8 and R24. Each answer is worth 1 point.

1. The current ratio for this farm is stronger at the end of the year than the beginning of the year.

   A. True
   B. False

2. Which month of the year has the largest ending cash balance?

   A. January
   B. April
   C. August
   D. December
   E. None of the above

3. Personal income for this farm family is sufficient to meet the anticipated family living expenses.

   A. True
   B. False

4. What month has the largest principal payment expense?

   A. January
   B. April
   C. August
   D. December
   E. None of the above

5. According to the Farm Financial Scorecard, the projected term debt coverage ratio for this farm is vulnerable.

   A. True
   B. False

6. What is the projected change in working capital for this farm for 2022?

   A. -$53,330
   B. $125,326
   C. $222,422
   D. $521,692
   E. None of the above

7. This farm has no operating loan.

   A. True
   B. False

8. The projected term debt coverage ratio will improve (get stronger) if there is a 10% decrease in gross income.

   A. True
   B. False

9. What is the projected capital debt repayment margin?

   A. $102,405
   B. $125,326
   C. $126,073
   D. $172,748
   E. None of the above

10. According to the Farm Financial Scorecard, the rate of return on assets for this farm is strong.

    A. True
    B. False

11. The projected working capital to gross revenues (percentage) is stronger for this farm at the end of the year than at the beginning of the year.

    A. True
    B. False

12. In which month does this farm receive patronage dividends income?

    A. January
    B. April
    C. August
    D. December
    E. None of the above

13. What is the total loan payment for this farm for 2022?

    A. $7,475
    B. $27,675
    C. $46,675
    D. $67,695
    E. None of the above

14. What is the beginning cash balance for this cash flow plan?

    A. $106,638
    B. $329,060
    C. $476,025
    D. $745,122
    E. None of the above

Universal Form E, Exam D

2022 FABM - Marketing

Exam D, enter the correct answer for questions 1 through 23.
Each answer is worth 1 point.

1. All other factors held equal, small carryover stocks would tend to have what effect on a commodity's price?

   A. Increase price
   B. Decrease price
   C. Increase storage costs
   D. B and C

2. A producer who suspects that corn markets will be bullish in the coming year thinks corn prices will

   A. increase.
   B. decrease.
   C. exceed a 3-year average.
   D. A and C

3. A decrease in the U.S. exchange rate causes domestic goods to become

   A. less expensive for U.S. consumers.
   B. more expensive for U.S. consumers.
   C. more expensive for consumers abroad.
   D. less expensive for consumers abroad.

4. A working mother orders organic chicken nuggets, a bag salad mix and a gallon of milk with a grocery delivery service for dinner just before leaving the office at night. She is especially grateful for this convenience. In economic terms, she draws utility in which ways with this service?

   A. Form, price, value
   B. Form, place, time
   C. Place, price, value
   D. Time, place, price

5. The micro-macro paradox suggests commodity producers, such as those growing row crops, should stay focused on which 2 practices?

   A. Value-added production, paying down debt
   B. Paying down debt, prioritizing production efficiency
   C. Tracking forces behind market price changes, prioritizing operational efficiency
   D. Paying down debt, tracking forces behind market price changes

6. Federal marketing orders are intended to promote agricultural products by collectively influencing

   A. product demand.
   B. product supply.
   C. product price.
   D. Any of the above

7. Pete from Pete's Produce farm stand notices that when he raised prices on his value-added products, quantity sold decreased but not by as much as he expected. Pete noticed that unit for unit, the change in price was greater than the change in quantity demanded. Pete concludes that his value-added products are

   A. more elastic.
   B. more inelastic.
   C. unitary elastic.
   D. None of the above

8. A cattle feeder wishes to hedge against future corn price increases. Which of these actions would accomplish that goal?

   A. Buy a corn put option
   B. Sell a corn call option
   C. Sell a corn futures contract
   D. Buy a corn futures contract

9. Recent farm subsidy programs have attempted to

   A. offset market price risk for producers.
   B. maintain a relatively affordable and plentiful food supply for consumers.
   C. prop up US food prices abroad.
   D. A and B
   E. All of the above

10. Which of the following statements about agricultural cooperatives is TRUE?

    A. A cooperative is owned and operated by member-owners who are also customers.
    B. A primary objective of a cooperative is to generate the highest possible returns to member-owners.
    C. A and B
    D. Neither A or B

11. Crop insurance helps farmers in instances of _____.

    A. Low yields
    B. Low prices
    C. A & B
    D. Neither A or B

12. A hedge-to-arrive contract has 3 components, two of which are known at the time the contract is purchased. The known components include _____ and _____. The third component is unknown until a later date. That component is the _____.

    A. delivery month, futures price, premium
    B. futures price, basis, and delivery month
    C. margin, basis, delivery month
    D. futures price, delivery month, basis

13. A producer buys 2,500 units of a product for $5.00 per unit in Market A. She simultaneously turns around and sells all 2,500 units for $7.00 per unit in Market B. A producer's ability to profit from price discrepancies in different markets is called

    A. marginal value.
    B. margin.
    C. arbitrage.
    D. None of the above

14. A tariff assessed on French cheeses by the US government likely results in which of the following effects?

    A. A decrease in the quantity of French cheeses supplied to US consumers
    B. An increase in the quantity of US or non-French cheeses demanded by US consumers
    C. A & B
    D. Neither A or B

15. Addie wants to hedge the price of soybeans sold in the fall. What actions should she take in May?

    A. Buy futures contracts expecting to buy more contracts when the soybeans are sold.
    B. Buy futures contracts expecting to sell those contracts when the soybeans are sold.
    C. Sell futures contracts expecting to buy them back when the soybeans are sold.
    D. Sell futures contracts expecting to sell more contracts when the soybeans are sold.

16. Addie has 15,000 bushels of soybeans she'd like to sell in March. How many futures contracts can satisfy this sale?

    A. 1
    B. 3
    C. 5
    D. None of the above

17. Addie can hedge new crop soybeans beginning in which contract month?

    A. March
    B. June
    C. August
    D. November

18. A futures contract is a mechanism for

    A. coordinating physical commodity delivery at a later date.
    B. narrowing the local basis at a given commodity date.
    C. facilitating price discovery at a later date.
    D. All of the above

19. When Addie markets Bradley Acres' grain, she is always watching the basis, which is the difference between a local cash price and the nearby futures price.

    A. True
    B. False

20. Amos sees the cash price decreasing relative to the futures price and calls to tell Addie that the basis is

    A. a strengthening basis.
    B. a weakening basis.
    C. an under basis.
    D. a basis risk.

21. In which months are corn futures contracts available for Addie to buy or sell?

    A. March, May, June, September, November
    B. March, May, July, September, December
    C. April, June, September, November
    D. April, July, September, December

22. If Anthony increases his sheep herd, which of the following variable costs would be most affected?

    A. Labor
    B. Machinery
    C. Feed
    D. Farm insurance

23. For his feasibility study exploring an increase in herd size, Anthony wants to calculate the expected marginal revenue by adding ewes. What formula will he use?

    A. Change in net profit divided by change in total revenue
    B. Net profit divided by total expenses
    C. Total revenue divided by quantity sold
    D. Change in total revenue divided by change in quantity sold

Universal Form E, Exam E

2022 FABM - Income Tax

Exam E, enter the correct answer for questions 1 through 8.
Each answer is worth 1 point.

The Bradleys use the cash accounting method.

1. What is the maximum tax liability for taxpayers choosing married, filing jointly as their tax status?

   A. $647,850
   B. $174,253.50
   C. The maximum is not listed.
   D. There is no maximum.

2. Amos purchased corn seed in the fall of 2021 and stored it over the winter. If he is able to claim this expense on his taxes, when would that occur?

   A. 2022
   B. 2021
   C. Must be depreciated due to time of purchase, not an deductible expense
   D. Seed purchased in the year before planting is not a deductible farm expense.

3. The Bradleys also purchased rye seed in the fall of 2021, and Amos planted the seed as the cover crop. If he is able to claim this expense on this taxes, when would that occur?

   A. 2022
   B. 2021
   C. Must be depreciated due to time of purchase, not an deductible expense
   D. Cover crop seed is not a deductible farm expense.

For questions 4 and 5, enter the number of years used to depreciate the listed assets, using the General Depreciation System (GDS). Choose zero (0) if the asset is not depreciable.

4. An iPad that the Bradleys use in the business.

   A. 0 years
   B. 3 years
   C. 5 years
   D. 7 years
   E. 15 years

5. The grain bins on the Bradley farm.

   A. 0 years
   B. 3 years
   C. 5 years
   D. 7 years
   E. 15 years

Income Tax Management or Tax Planning is an important process in managing a farm business. The farm manager must be aware of situations in the operation of the business that impact its taxes. Answer tax management question 6.

6. The primary purpose of income tax management is to

   A. minimize the tax obligation.
   B. have zero taxes due.
   C. defer income taxes to the future.
   D. maximize after-tax income.

When filing income taxes with the IRS, one may use numerous tax forms to complete a tax return. When farmers file a tax return, there are several common forms that may be included. Match the 2021 business items in questions 7 and 8 with the correct corresponding tax form.

7. Deductions detailed for depreciation and amortization.

   A. Schedule F
   B. Schedule C
   C. Form 4562
   D. Schedule D
   E. Schedule B

8. Income from sale of purchased finishing lambs held over from the prior year.

   A. Schedule F
   B. Schedule C
   C. Form 4562
   D. Schedule D
   E. Schedule E

Participant Number _____ State Abbreviation _____

Universal Form E, Exam F

2022 FABM - Investment Analysis

Exam F, enter the correct answer for questions 1 through 7.
Each answer is worth 1 point.

1. If Anthony got a machinery loan in taking over the operation of the farm, how would this loan and the purchase of the equipment impact his balance sheet?

   A. It will not affect it.
   B. It will only increase his current liabilities.
   C. It will only increase his intermediate liabilities.
   D. It will increase both his current and intermediate liabilities.

2. When considering what the future value of an investment will be, one utilizes the concept of

   A. compounding.
   B. discounting.
   C. expanding.
   D. amortization.

3. When evaluating an investment, it is important to consider the impact of time. This general concept is referred to as

   A. future value.
   B. nominal value.
   C. net present value.
   D. time value of money.

4. The allowed time for the term of a machinery loan is set by the asset class.

   A. True
   B. False

5. Assume the Bradleys build their sheep budget with a five-year projection. From that analysis, they determine the IRR is 5.6%. IRR stands for

   A. Internal Rate of Return.
   B. Internal Revenue Review.
   C. Issued Revenue Rate.
   D. Initial Rate of Revenue.

6. To conduct a thorough investment analysis, one should consider

   A. income taxes.
   B. inflation.
   C. risk.
   D. All the above

7. The Bradleys are considering two loan repayment options. For option 1 they would make only annual interest payments with the principal being paid at the maturity of the loan. For option 2 they would pay interest and principal payments annually. If no additional principal payments are made, which loan would have the largest cumulative interest paid over the life of the loan?

   A. Option 1
   B. Option 2
   C. They would be the same

Universal Form E, Exam G

2022 FABM - Risk Management

Exam G, enter the correct answer for questions 1 through 16.
Each answer is worth 1 point.

1. Which of the following is an example of financial risk that applies to the Bradleys' operation?

   A. A change in corn prices
   B. A change in interest rates
   C. A change in lamb demand
   D. A and C
   E. A, B, and C

2. Which of the following is an example of legal risk?

   A. A change in tariff rates and food export regulations
   B. A change in consumers' tastes and preferences
   C. A change in interest rates
   D. A and C
   E. A, B, and C

3. Which of the following best describes risk transfer?

   A. Paying another party to assume a portion of a risk
   B. A methodology to reduce the severity of a risk
   C. A methodology to reduce the frequency of a risk
   D. Ceasing an activity to eliminate the possibility of incurring a loss
   E. Setting aside funds to pay for any losses that may occur

4. _____ is an example of risk control.

   A. An insurance policy
   B. A fire suppression system
   C. Following label directions when applying pesticides
   D. B and C
   E. None of the above

5. Excessive rainfall is an example of _____ risk.

   A. market
   B. legal
   C. financial
   D. human
   E. production

6. An analyst has prepared a partial financial scorecard for four farms. Which farm demonstrates the greatest level of financial risk?

Financial Metric	Farm A	Farm B	Farm C	Farm D
Current Ratio	1.36	1.02	2.30	1.68
Working Capital	$400,365	$405,894	$100,456	$212,365
Total Assets	$1,503,204	$1,130,546	$735,025	$1,236,145

A. Farm A
B. Farm B
C. Farm C
D. Farm D

7. Using best practices for humane animal handling mitigates _____ risk arising from injuries to workers from startled livestock, and _____ risk associated with the loss of market animals.

A. human, market
B. financial, production
C. market, human
D. human, production

8. Which of the following is an example of market risk that applies to the Bradleys' sheep operation?

A. A change in tastes and preferences for leather goods
B. A change in lamb consumption
C. A switch from wool to polyester as a primary fabric material
D. All of these are examples of market risk

9. Which of the following is NOT one of the steps in the risk management process?

A. Identify
B. Plan
C. Prioritize
D. All of these are steps in the risk management process

10. A farmer would use the futures market with the objective to

A. transfer risk.
B. increase risk.
C. participate in government farm programs.
D. obtain a loan.

11. Fence maintenance is crucial to a livestock operation. However, even with the utmost diligence, animal escapes can happen. Which of the following types of insurance would protect the Bradleys from the risk of lawsuits arising from a claim for damages caused by an escaped animal?

    A. A Life Insurance Policy
    B. An Umbrella Property Insurance Policy
    C. A Commercial Liability Insurance Policy
    D. A Commercial Property Insurance Policy

12. If a fence were to be blown down by a derecho (high speed straight line wind), which of the following types of insurance would compensate the Bradleys for damages to their fence?

    A. A Life Insurance Policy
    B. A Umbrella Liability Insurance Policy
    C. A Commercial Property Insurance Policy
    D. A Commercial Liability Insurance Policy

13. Which of the following would be a part of an integrated plan to manage the human safety risks associated with a farming operation?

    A. Ensure that employees wear appropriate personal protective gear to prevent injuries.
    B. Ensure that safe pesticide mixing and handling procedures are followed.
    C. Have the appropriate insurance policies in place to pay for damages associated with work-related injuries.
    D. All of the these are part of an integrated plan to manage human safety risks.

14. For the Bradleys the yield protection in revenue protection insurance is based on

    A. their farm's actual production history of yields.
    B. their county’s actual production history of yields.
    C. their state’s actual production history of yields.
    D. whatever yield the Bradleys want to buy.

15. A farmer uses revenue protection insurance to protect a corn crop. This type of insurance would protect against which of the following?

    A. Low prices
    B. Low yields
    C. Low yields and low prices
    D. Failure of grain buyer to make a payment upon delivery

16. For which of the following risks is risk control the most appropriate treatment method?

A A high frequency and low severity risk
B. A low frequency and high severity risk
C. A high frequency and high severity risk
D. A low frequency and low severity risk

Participant Number _____ State Abbreviation _____

Universal Form E, Exam H

2022 FABM - Business Organization

Exam H, enter the correct answer for questions 1 through 14.
Each answer is worth 1 point.

1. Which of the following is NOT a type of cooperative?

   A. Marketing
   B. Credit
   C. Processing
   D. All of the above

2. Which of the following statements about trusts is false?

   A. A trust is a legal arrangement by which a person (settlor) transfers ownership of specific assets to another person or group to manage the property.
   B. Trustors are the people who manage a trust.
   C. A trust can be used to manage estate taxes.
   D. All of the above are true.

3. As stated in the resource materials, the Bradleys are nearing retirement. During their farming career, they have grown their farmland holdings significantly. As they are planning to retire, they have found that leaving a family legacy of farming and protecting their farmland for future generations is very important for them.

   Which of the following types of business organizations would best suit the Bradleys' goal of leaving their farm for future generations of their family?

   A. A partnership
   B. A trust
   C. A sole-proprietorship
   D. None of these are appropriate.

4. Which of the following is a benefit of a corporate business structure?

   A. Ownership is easily divided into shares.
   B. A corporation does not dissolve with the death of an owner.
   C. It benefits estate planning.
   D. All of the above

5. If a person dies without a last will and testament, the disbursement of his or her assets will be guided by

   A. county ordinances.
   B. state laws.
   C. federal laws.
   D. international laws regarding disbursement of assets.

6. The most commonly used type of business organization for US farms and ranches is the

   A. corporation.
   B. partnership.
   C. sole-proprietorship.
   D. LLC.

7. Of the types of business organizations listed below, which type of organization allows for the easiest transfer of ownership?

   A. C-Corporation
   B. S-Corporation
   C. LLC
   D. General Partnership

8. A member of a corporation's board of directors is also called

   A. a director.
   B. a stockholder.
   C. an officer.
   D. a trustor.

9. An owner of an LLC is also called a

   A. member.
   B. stockholder.
   C. director.
   D. trustee.

10. Which of the following statements is a best practice when selecting a business organization structure?

    A. Business owners should select the simplest business organization that still meets their needs and goals.
    B. Partnership agreements should always be written and reviewed by legal and tax professionals before they are signed.
    C. Future plans and aspirations of the business owner should be taken into account when deciding the optimal business structure.
    D. All of the above

11. According to the IRS code, owners of a C-Corporation must be US citizens.

    A. True
    B. False

12. In limited partnerships, management duties and liabilities are NOT shared equally amongst all partners.

    A. True
    B. False

13. Marketing cooperatives allow farmers and ranchers to gain market power by combining their resources.

    A. True
    B. False

14. C-Corporations persist after the death of the owners.

    A. True
    B. False

Participant Number _____ State Abbreviation _____

Universal Form E, Exam I

2022 FABM - Land Measurement

Exam I, enter the correct answer for questions 1 through 15.
Each answer is worth 1 point.

1. To measure using metes and bounds it is necessary to start with

   A. a principal meridian.
   B. a base line.
   C. a known landmark.
   D. an intersection of a principal meridian and a base line.

2. Much of the United States land is measured using two lines at right angles to each other. These are called

   A. base lines.
   B. principal meridians.
   C. tiers.
   D. range lines.

3. The present system of Governmental Land Surveys was adopted in 1785. This system is called the

   A. township divisions system.
   B. section subdivision system.
   C. fractional section system.
   D. rectangular system.

4. A legal land description is read by

   A. reading it from the smallest to the largest parcel.
   B. locating the section in the township.
   C. finding the location in the quarter.
   D. All of the above

5. Residential property in towns and cities is generally described by using the recorded plat system.

   A. True
   B. False

6. Some properties in the U.S., especially in the original 13 colonies, do NOT have a form of legal land description.

   A. True
   B. False

7. A tier refers to the townships running east and west in six-mile increments.

   A. True
   B. False

8. How many sections are usually in a township?

   A. 12
   B. 24
   C. 36
   D. 48

9. Township and Range Lines crossing each other form squares which are called

   A. meridians.
   B. townships.
   C. sections.
   D. land parcels.

10. The range refers to columns of townships running north and south (quadrangle).

    A. True
    B. False

11. Thomas Jefferson authorized a system of land measurements to define locations of properties in the western territory for the following main reasons.

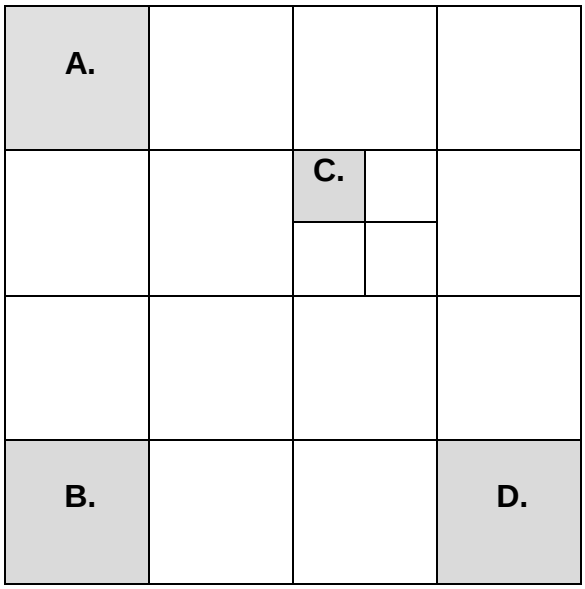
    A. So that private ownership of property could be easily defined.
    B. So that property could be exchanged to another owner more easily.
    C. A checkerboard system could create more reliable delineations.
    D. All of the above
    E. None of the above

12. There are approximately _____ acres in a township.

    A. 23,040
    B. 22,050
    C. 19,580
    D. 64,000

Use the chart below of section 9 to answer questions 13 and 14.

Section 9



13. How many acres are in parcel B?

    A. 80 acres
    B. 40 acres
    C. 20 acres
    D. 10 acres

14. What is the legal description of parcel D?

    A. South 1/4 of the East 1/4 of Section 9.
    B. Southeast 1/4 of the Southeast 1/4 of Section 9.
    C. Southeast 1/4 of the South 1/4 of Section 9.
    D. East 1/4 of the South 1/4 of Section 9.

Participant Number _____ State Abbreviation _____

Universal Form E, Exam J

2022 FABM - Family Living and Economic Principles

Exam J, enter the correct answer for questions 1 through 25.
Each answer is worth 1 point. Refer to pages R15 and R21.

1. How much did the Bradleys spend on recreation in 2021?

   A. $610
   B. $379
   C. $5,723
   D. $3,009

Bradley Acres has 2 family members instead of the 2.6 family members in the area average. For questions 2 through 5, does the family spend more or less per family member than the area average?

2. Food and meals expenses

   A. More
   B. Less

3. Household supplies

   A. More
   B. Less

4. Gifts

   A. More
   B. Less

For questions 5 through 7, determine which expenses are more or less than 10% of the total cash family living investment & nonfarm capital purchase / total personal expenditures.

5. The Bradleys' income and social security taxes

   A. More than 10%
   B. Less than 10%

6. Personal interest for Area Average

   A. More than 10%
   B. Less than 10%

7. The Bradleys' cash donations

   A. More than 10%
   B. Less than 10%

Economic Principles

8. The “Invisible Hand" in economics means

   A. the rich will get richer, and the poor will get poorer.
   B. people will steal when necessary.
   C. government intervention is needed in markets.
   D. markets find equilibrium without intervention.

9. The satisfaction created by the consumption of goods and services is known as

   A. utility.
   B. ceteris paribus.
   C. economic model.
   D. opportunity cost.

10. McDonald's offers a handful of seasonal products, such as the McRib sandwich. If they were to offer seasonal products year-around, customers might lose interest in the seasonal products. What economic principle is McDonald's leveraging?

    A. Law of increasing marginal utility
    B. Law of diminishing marginal utility
    C. Law of increasing marginal cost
    D. Law of diminishing marginal cost

11. The additional cost associated with producing one additional unit of output is known as

    A. incremental cost.
    B. average cost.
    C. supplemental cost.
    D. marginal cost.

12. Which of the following is NOT one of the requirements for a perfectly competitive market?

    A. Resources are restricted from moving in and out of production.
    B. Each firm is small relative to the total market.
    C. Each firm produces a homogenous (similar) product.
    D. All market participants share the same knowledge about the market.

13. The price of gasoline goes up, but consumers are still purchasing the same quantities. The demand for gasoline is best described as

    A. elastic demand.
    B. unit elastic demand.
    C. inelastic demand.
    D. fixed elastic demand.

14. The rate the Federal Reserve charges institutions that borrow money from them is known as the

    A. discount rate.
    B. discount window.
    C. federal funds rate.
    D. borrowing rate.

15. Four large conglomerates control most of the meat supply chain in the United States. The controlling of a market by a handful of firms results in a _____ market.

    A. vertically integrated
    B. concentrated
    C. competitive
    D. open

16. _____ receive the majority of the Farm Bill spending.

    A. Crop insurance programs
    B. Conservation programs
    C. Nutrition programs
    D. Commodity programs

17. Addie is trying to determine how much more revenue her farm will earn if she sells one more unit of output. Addie is analyzing her farm's

    A. marginal profit.
    B. average revenue.
    C. price per unit.
    D. marginal revenue.

18. In the production function, diminishing marginal returns mean output

    A. is increasing at a decreasing rate.
    B. is increasing at an increasing rate.
    C. is decreasing.
    D. remains the same.

19. All inputs are variable in the

    A. medium run.
    B. short run.
    C. long run.
    D. None of the above.

20. The combining of several steps in the food system into a single management system is known as

    A. globalization.
    B. concentration.
    C. consolidation.
    D. vertical integration.

21. Economics deals with the allocation of _____ resources among a/an _____ number of competing, alternative uses.

    A. unlimited, scarce
    B. scarce, unlimited
    C. unlimited, unlimited
    D. scarce, scarce

22. In economics, an additional unit is known as

    A. marginal.
    B. opportunity cost.
    C. ceteris paribus.
    D. utility.

23. A supply schedule is a

    A. table showing the quantity supplied of a good or service at different price levels.
    B. calendar of a producer's shipment dates.
    C. calendar of days the market is open.
    D. table showing shifts in supply.

24. The physical quantity of outputs that can be obtained from various amounts of variable inputs combined with fixed inputs is best known as the

    A. production function.
    B. macroeconomics.
    C. market function.
    D. market economics.

25. Which of the following is a factor of production?

    A. Land
    B. Labor
    C. Capital
    D. All of the above

Participant Number _____ State Abbreviation _____

Participant's Name (please print clearly) _____

Important: Before you start this portion of the event, please write your participant number, state abbreviation and your name on the blanks provided at the top of this page and page 1

2023 NATIONAL FFA
FARM AND AGRIBUSINESS MANAGEMENT
CAREER DEVELOPMENT EVENT

Participant Number _____ State Abbreviation _____

2023 FABM KEY Part I - Financial Statements

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each unless otherwise stated.

1. Which of the following ratios is **NOT** a solvency measure for the Miller's farm business?

   A. Debt-to-asset ratio
   B. Interest-to-equity ratio
   C. Debt-to-equity ratio
   D. Equity-to-asset ratio

Answer: See R25 Farm Financial Scorecard

2. Which of the Miller's management functions is concerned with financial monitoring of the results of a decision?

   A. Creating plans for business enterprise and business operations
   B. Implementing the plans within the operation
   C. Keeping financial records
   D. Making changes to the original plans due to changing conditions

Answer: The functions of management are planning, implementation, control, and adjusting. Keeping records addresses the control function. Source: Kay et el., Introduction to Farm Management

3. A major advantage of accrual accounting for the Millers compared to cash accounting would be

   A. a more accurate estimate of annual profit.
   B. simplicity.
   C. it always shows a higher profit.
   D. they can use single-entry instead of double-entry accounting practices.

Answer: See Kay et al., Introduction to Farm Management

4. The entire Miller family agrees that accurate and timely data is essential for making management decisions. A complete accounting system produces all the following types of reports except

   A. employee records.
   B. enterprise reports.
   C. individual animal records.
   D. transaction journal.

Answer: Individual animal records are maintained in an animal inventory system.

5. As their business grows and becomes more complex, the Miller family weighs the advantages and disadvantages of the accrual accounting or cash accounting systems. Which system/s ensure accurate inventory changes?

   A. Cash accounting with accrual adjustments
   B. Accrual accounting
   C. Accrual accounting with cash adjustments
   D. Cash accounting within Quicken and QuickBooks
   E. A and B

Answer: from Kay et al., Introduction to Farm Management; MN FBM Program

6. Each year Marshall meets with his family and uses the _____ to demonstrate the scope of the profit or loss of their ranching business.

   A. balance sheet
   B. statement of owner equity
   C. statement of cash flows
   D. whole farm cash flow budget
   E. income statement

7. The Millers were asked by an agricultural lender to create a revised balance sheet. All the following assets are current except _____.

   A. purchased breeding stock
   B. a check from the livestock auction for feeder cattle
   C. prepaid feed expenses
   D. unharvested winter wheat
   E. prepaid seed, fertilizer, and fuel

Answer: Purchased breeding stock have a life greater than one year.

8. The January 1, 2022 balance sheet for the Miller's eldest son, Reggie, revealed his total business liabilities were $375,000, and his total farm assets were $712,000. Calculate his owner equity (%) in his business. Calculate to the nearest hundredth x.xx 2 points

   Answer: 712,000 – 375,000= 337,000
   337,000 / 712,000 = 47.33%

47.33

Please Refer to R3 and R4 in the Resource Materials to locate the information for the following questions 9 - 12.

9. The Miller's _____ balance sheet includes the adjusted basis of the non-current assets.

   A. cost basis
   B. asset basis
   C. market basis
   D. all the above are correct

Answer: See columns in R3 and R4

10. Based upon the Miller's beginning net worth, the dollar and % change in net worth for the 2022 year was $_____ and _____ %, respectively. 2 points

A. 928,810; 7.33
B. 341,356; 6.32
C. 925,334; 14.48
D. 341,356; 6.75

Answer: 5,397,033 - 5,055,677 = 341,356
341,356 / 5,055,677 = 6.75%

11. The intermediate liabilities of the Miller's business accounted for _____% of the total farm liabilities on 1/1/2023. Calculate to the nearest hundredth x.xx 2 points

20.29%

Answer: 302,238 / 1,489,056 = 20.29%

12. If the Millers received a generous holiday gift of $75,000 from Marshall's father and mother on 12/31 for use in their business expansion plans, calculate the revised current ratio for the 1/1/2023 balance sheet. Calculate to the nearest hundredth x.xx 2 points

2.22

Answer: 1,316,421 / 592,176 = 2.22

Calculate the Miller's debt-to-asset ratio for the total farm assets and liabilities using the values from the 1/1/2022 balance sheet (R3). Then select the rating from the Farm Financial Scorecard (R25) that best describes the ratio. Calculate to the nearest hundredth x.xx

13. Debt-to-asset ratio 2 points **16.18**

14. Financial status rating 1 point **Strong**

Answer: 928,810 / 5,739,069 = 16.18%; See R25 for Debt to Asset Ratio - 16.18% is Strong. See R25, Farm Financial Score Card

15. As you observe the Financial Scorecard, you will note when the current ratio is equal to or greater than _____ and the working capital to gross revenues % is equal to or greater than _____, the liquidity of the business is in a strong status.

A. 1.3, 10
B. 1.5, 20
C. 2.0, 30
D. 3.0, 35

Answer: See R25, Farm Financial Score Card

Refer to R11 and R12 for questions 16 and 17 relating to the income statement.

16. Some producers will plan for three years of each ten years to be profitable and the remaining years to be break-even or years with business losses. Calculate the Net Farm Income if the Millers experience a 5% reduction in Gross Cash Income and an increase in Total Cash Expense of 12%. 2 points

$14,108

Answer:

Income Statement	
CASH FARM INCOME	
Gross Cash Farm Income	1,249,281
CASH FARM EXPENSE	
Total Cash Expenses	1,296,677
Net Cash Farm Income	-47,395
INVENTORY CHANGES	
Total Inventory Change	91,783
Net Operating Profit	44,388
DEPRECIATION	
Total Depreciation	30,280
Net Farm Income From Operations	14,108
Gain/loss Capital Sales	0
NET FARM INCOME	14,108

17. Calculate the Debt Repayment Margin for the Millers if the Net Farm Income from operations was $95,000 and Maggie elected to stop employment ($0 personal income). 2 points

$398

Answer: $398

	Repayment Capacity		2022
	Net Farm Income from Operations		95,000
	Depreciation	+	30,280
	Personal Income	+	-
	Family living expense	-	38,626
	Income taxes accrued	-	11,345
	Interest on term debt	+	31,070
N	Capital debt repayment capacity	=	106,379
O	Scheduled term debt payments		105,981
P	Capital debt repayment margin	N-O	398
Q	Cash replacement allowance		1,218
	Raplacement margin	P-Q	(820)
	Term debt coverage ratio	N/O	1.00
	Replacement coverage ratioi	N/(O+Q)	0.99

18. In practical terms, which, if any, management decisions may the Millers need to implement with a $95,000 Net Farm Income and no personal income from Maggie working at the extension office?

A. They would need to use some of their working capital to meet obligations.
B. Restructure their short, intermediate, and/or long-term debt.
C. The Millers may need to significantly increase off-farm income.
D. Responses in A, B, and C are sound options.
E. Responses A, B, and C will make some, but only minimal impact.

19. Which of the following is a non-cash item that is included in the profit and loss (income) statement?

    A. Prepaid expenses and supplies
    B. Interest paid
    C. Value of growing crops
    D. Depreciation
    E. Accounts receivable

Answer: Depreciation is a measure of loss in value due to time, use, and obsolescence. Some managers think of it as a value to be used for asset replacement.

20. Name the category of Inventory Changes that had the greatest impact on the annual inventory change. Refer to page R11.

Accounts Payable

Answer: Accounts Payable – Beginning of the year it was $0, end of year $325,000

21. A review of the Income Statement reveals the Millers earned a positive net farm income. What additional factor/s may explain the net worth change of $341,356 illustrated in the Solvency Measures (Market section) which is considerably more than the net farm income? Refer to page R12.

    A. Off-farm income
    B. Unpaid income taxes
    C. Market values of assets
    D. A, B, and C

22. Imagine in 2025 the Millers, 25-year plus seasoned farm business operators, with $6,245,000 total assets and a $5,450,225 net worth, experience a year with inadequate net farm income ($155,000 short of the $265,000 target) to meet their obligations. What should they **NOT** do to continue in business the following year? Place the letter(s) of your selected answer(s) separated by a comma in the box that follows.

    A. Plan a farm auction
    B. Remove money from their individual retirement accounts to pay the shortfall
    C. Sell unused machinery and tractors
    D. Secure a loan from an agricultural lending institution
    E. Find a silent partner to join the business and pay the shortfall

A, B, E

Answer: A, B, E (In this scenario, the Millers have a very strong balance sheet. They can adjust, instead, by rebalancing their balance sheet, drawing from their working capital, securing a short or intermediate term loan, selling non-productive assets, and/or increasing off-farm income).

23. Which of the following would **NOT** appear within an income statement for the Millers?

    A. A gain or loss on sale of capital asset
    B. Inventory changes
    C. Term loan principal payments
    D. All of the above

Answer: Principal payments are paid from the net farm income.

24. The Miller's net farm income is **NOT** used to directly pay for

    A. interest for ranch business loans.
    B. state income taxes.
    C. family living.
    D. federal and self-employment income taxes.
    E. None of the above

Answer: Interest is already included in the calculation of the NFI.

25. The net farm income has covered which of the following?

    A. Principal payments
    B. Feed purchases
    C. Equity
    D. Family living
    E. None of the above

26. Net operating profit results from subtracting cash expenses from the gross cash farm income. What must also be added or subtracted from the net operating profit value to calculate net farm income?

    A. Sale of capital items
    B. Depreciation
    C. Total inventory change
    D. All of the above

Answer: formula for net farm income is gross cash farm income – total cash expense +/- total inventory change +/- depreciation + capital sales

27. The _____ in the Miller's 2022 Financial Analysis Executive Summary summarizes the sources, uses and balances of available cash. Refer to page R12.

    A. balance sheet
    B. statement of cash flows
    C. statement of owner equity
    D. income statement

Answer: See R12

28. Using the information on R12 in the Statement of Owner Equity, calculate the Total Change in Retained Earnings for the Millers if Maggie earned $50,000 and the Net Farm Income was $300,000 due to unexpected high market prices for the naturally grown cattle. 2 points

$232,291

Answer: $232,291 Calculation – 2 points

Statement of Owner' Equity		Example 1
(a) Beginning Net Worth		5,055,677
Net Farm Income		300,000
Personal Income	+	50,000
Family Living Expenses	-	38,626
Income Taxes Accrued	-	11,435
Change in Personal Assets	+	(67,648)
Change in NonFarm Accounts Payable	+	-
(b) Total Change in Retained Earnings		232,291
Change in market value of capital assets		224,080
Change in deferred liabilities	-	23,732
(d) Total change in market valuation	=	200,348
(e) Total change in net worth	b + d	432,639
Ending net worth calculated	a + e	5,488,316

29. The Miller's farm business cannot be liquid and insolvent and stay operating.

A. True
B. False

30. The current liabilities in the Miller's balance sheet include accounts payable, operating loans, interest, and principal due within 12 months of the date of the balance sheet.

A. True
B. False

(38 points)

2023 FABM KEY Part II - Budgeting

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each unless otherwise stated.

1. When the Millers are analyzing a proposed farm business change that impacts only a few items in the overall farm budget, the most suitable evaluation method would be

   A. an enterprise budget.
   B. a partial budget.
   C. a cash flow budget.
   D. a total farm budget.

2. A cash flow projection is a form of budgeting used to determine

   A. living expenses.
   B. year-end asset values.
   C. operating credit needs.
   D. total farm equity.

3. When determining the effect of growing more acres of a crop, the cost most likely to change would be

   A. operating costs per acre.
   B. fixed costs per acre.
   C. rent per acre.
   D. crop insurance per acre.

4. The cost of using a resource based on what it could have earned in the next best alternative is

   A. always a variable cost.
   B. always a fixed cost.
   C. an alternative cost.
   D. an opportunity cost.

5. Sensitivity analysis in farm budgeting is a method designed to

   A evaluate the impact of changing variables.
   B. track historical farm data.
   C. analyze the farm's balance sheet.
   D. forecast future market trends.

6. Which of the following would be considered a fixed cost?

   A. Hired seasonal labor
   B. Depreciation on machinery
   C. Crop production inputs
   D. Feed purchases

7. For a livestock budget to be meaningful, what value should be placed on raised crops fed?

   A. The costs to produce these crops
   B. Local market value plus 15%
   C. Reported state average sale price
   D. Local market value

8. Marginal revenue can be used by farmers to

   A. maximize total revenue.
   B. minimize total costs.
   C. determine the average price of their products.
   D. decide whether to increase or decrease production.

Answer questions 9 and 10 using the Monthly Cash Flow Executive Summary (R5 and R6) in the resource information.

9. What is the projected operating profit margin in 2023?

   A. 21.4%
   B. 83.2%
   C. 28.5%
   D. 10.3%

10. What are the projected total veterinary expenses for June, July, and August in 2023?

    A. $2,100
    B. $2,500
    C. $8,000
    D. $23,500

Answer questions 11-15 using the Enterprise Analysis pages R13 - R14 in the Resource Information.

The Millers use current year enterprise analysis information to plan for budgeting and cash flow planning.

11. In the Beef Cow-Calf Livestock Enterprise Analysis, which of the following contributes the largest expense?

    A. Mixed Hay
    B. Crop Chemicals
    C. Hired Labor
    D. Protein Minerals

12. Which crop enterprise has the highest net return per acre?

    A. Pasture Dryland Private Cash Rented
    B. Pasture Dryland Owned
    C. Mixed Hay Irrigated Shared Rented
    D. Mixed Hay Irrigated Flood Owned

13. What is the break-even price per ton to cover Direct and Overhead Expenses for Mixed Hay Irrigated Center Pivot Owned? Round answer to the nearest cent. 2 points

32.53 / 3.5 = 9.29 or 9.30

14. What is the break-even price per cwt needed to cover Total Direct and Overhead Expenses in the Beef Cow-Calf Enterprise? Round to the nearest cent. 2 points

$160.36

15. What is the break-even price per AUM needed to cover Direct and Overhead Expenses for Int. Pasture Irrigated Flood Owned? Round answer to the nearest cent. 2 points

55.36 / 6.00 = 9.23

Answer questions 16 and 17 to evaluate the financial impact by analyzing the partial budget associated with the investment.

The Millers are considering purchasing a new tractor for their ranch. A new tractor costs $100,000. The expected life of the tractor is 10 years, and it will have a salvage value of $20,000 at the end of its useful life. The annual operating cost of the old tractor is $12,000. The new tractor is expected to have an annual operating cost of $8,000. The projected annual revenue increase associated with the new tractor is $25,000.

16. What is the annual net cost savings associated with the new tractor compared to the old tractor? 2 points

A. $2,000
B. $4,000 Annual Operating Cost Savings = $12,000 - $8,000 = $4,000
C. $6,000
D. $8,000

17. What would be the payback period for this purchase? 2 points

A. 5 years
B. 4 years Payback Period = $100,000 / $25,000 = 4 years
C. 10 years
D. 12 years

18. What is the total net return over labor and management for “pasture dryland owned” enterprise for 2022? Indicate plus or minus. 2 points

500 * -3.86 = -$1,930

-$1,930

19. What is the total estimated labor hours dedicated to the “pasture dryland owned” enterprise? 2 points

500 X .13 = 65 hours

65 hours

2023 FABM KEY Part III – Cash Flow Planning

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each unless otherwise stated.

Please refer to pages R5, R6, R7, R25 and R26 for this section.

1. Comparing the Miller's projected ending operating loan balance to their beginning operating loan balance, their projected ending operating loan balance is

   A. $120,000 less.
   B. $81,080 more.
   C. $201,080 more.
   D. $547,094 more.
   E. Beginning and projected ending balances are the same.

2. In the projected cash flow summary, the total operating outflow is $1,118,629. What would the outflow be if actual cost of fuel and oil was 20% less than projected? 2 points

   A. $1,123,649
   B. $1,118,629
   C. $1,113,609
   D. $1,108,629
   E. $25,100

3. The Millers pay land rent in two payments. In what month do they make the initial land rent payment?

   A. January
   B. February
   C. March
   D. April
   E. May

4. Although government payments have historically been a reliable income source, the Millers would like to consider what could happen if they were to end. What would be the resulting total operating inflow if CRP payments and conservation government payments (cons gov pay) were eliminated? 2 points

   A. $1,242,402
   B. $1,153,236
   C. $1,130,319
   D. $1,115,136
   E. $1,108,236

5. If you compare the beginning and ending financial standards measures of the Millers on page R5, which of these statements is correct concerning the current ratio?

   A. It is stronger at the beginning of the year.
   B. It is stronger at the end of the year.
   C. It is the same at the beginning of the year as at the end of the year.
   D. It is not strong at all but is vulnerable.

6. Using the Plan on a Page on R26, what percent is the 2023 projected net farm income from operations compared to the farm 3-year average? Calculate to the nearest tenth of a percent. x.x 2 points

2023 projected ($159,670), 3-year average ($166,871)
2023 / 3 yr avg=95.68%

95.7%

7. At the end of the year (R5), according to the Farm Financial Scorecard (R25), which of these ratios is strongest for this farm?

   A. Current ratio
   B. Rate of return on assets
   C. Debt coverage ratio
   D. Operating expense ratio
   E. All of these are strong for this farm

8. If the Millers were able to save 10% on purchased feed, what would be the resulting projected NFI (assuming no other changes to income or expenses)? 2 points

current feed costs	619,893
10% savings	61,989
current NFI	150,981
resulting NFI	212,970

$212,970

9. Which of the following is true for the M & M Beef & More projection concerning personal wages and personal business income, and family living/draw? See page R6.

   A. Personal wages and personal business income are not sufficient to meet projected family living/draw.
   B. Personal wages and personal business income are sufficient to meet projected family living/draw.

10. In which months do the Millers plan to make capital purchases?
    Bulls in February and Cows in December

February, December

11. The projected replacement coverage ratio for M & M Beef & More is strong.

A. True
B. False **farm is 1.27 over 1.5 is strong**

12. What is the projected depreciation expense for the Millers for 2023?

A. $27,405
B. $53,680
C. $100,705
D. $212,259

13. What month has the lowest balance on the operating loan at the end of the month?

November

14. How much is the balance for that month?

$556

15. What would be the projected cash interest expense if the Millers reduced interest expenses by 10%? 2 points

A. $9,660
B. 15,680
C. $41,484
D. $48,312
E. $53,680

16. Rate of return on assets is a measure of

A. liquidity.
B. solvency.
C. profitability.
D. repayment capacity.
E. efficiency.

17. How much is the Earned Net Worth projected to change in 2023? (If a negative number, indicate that.)

$134,681

18. Looking at monthly cash inflows and cash outflows, what month has the greatest projected operating surplus?

A. January
B. June
C. August
D. September
E. November

19. The Millers are currently projected to have $728,316 in working capital at the end of 2023. What would the working capital be if a late fall blizzard causes loss of 5 percent of the breeding stock?

$728,316

For the questions 20 through 22, refer to the Plan on a Page on page R26.

20. Is the 2023 projected term debt coverage ratio stronger or weaker than the farm 3-year average term debt coverage ratio? What is the 2023 projected term debt coverage ratio?

Weaker, 1.27

2023 projected (1.27) is lower than both the 3-year average (2.15) and 2022 actual (2.37). Both 2.15 and 2.37 are strong (on the farm financial scorecard), while 1.27 is just above vulnerable (1.25).

21. In comparing this farm 2023 projected to the group benchmark, this farm has

A. less personal income.
B. a poorer current ratio.
C. less working capital.
D. a greater amount of depreciation.
E. less interest on term debt.

22. Compare the 3-year average interest on term debt for this farm to the group benchmark. This ranch's interest is _____ percent of the group benchmark. Calculate to the nearest tenth of a percent x.x. 2 points

203.2%

this farm 3-year avg=$45,110 group=$22,203 this farm is 203.171% of group benchmark

2023 FABM KEY Part IV - Marketing

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each unless otherwise stated.

1. All other factors held equal, large carryover stocks will tend to have what effect on a commodity's price?

   A. Increase price
   B. Decrease price
   C. Increase storage costs
   D. B and C

2. A producer who suspects that corn markets will be bearish in the coming year thinks corn prices will _____.

   A. decrease
   B. increase
   C. exceed a 3-year average
   D. A and C

3. An increase in the U.S. exchange rate causes domestic goods (produced in the U.S.) to become

   A. less expensive for U.S. consumers.
   B. more expensive for U.S. consumers.
   C. more expensive for consumers abroad.
   D. less expensive for consumers abroad.

4. A normal good is a good whose quantity _____ as an individual's income _____.

   A. decreases, decreases
   B. increases, increases
   C. decreases, increases
   D. increases, decreases
   E. None of the above

5. In a market economy, what feature is the primary catalyst for change?

   A. Volume
   B. Price
   C. Utility
   D. Value

6. The micro-macro paradox suggests commodity producers, such as those growing row crops, should stay focused on which two practices?

   A. Tracking forces behind market price changes, prioritizing operational efficiency
   B. Paying down debt, prioritizing production efficiency
   C. Value-added production, paying down debt
   D. Paying down debt, tracking forces behind market price changes

Questions 7 – 9 are fill in the blank.

List three of the five interrelated functions associated with supplying a good to market.

producing
processing
wholesaling
retailing
consuming

Answers 7 through 9 can be in any order.

7. **wholesaling**

8. **retailing**

9. **consuming**

10. The difference between the cash price and the futures price is called the basis and is generally a(n) ___ value.

    A. negative
    B. positive
    C. unknown
    D. fixed

.

11. A hedge-to-arrive contract has three components, two of which are locked at the time the contract is established. The components that are locked include _____ and _____. The third component varies over the life of the contract. That variable component is the _____.

    A. delivery month, futures price, premium
    B. futures price, basis, and delivery month
    C. margin, basis, delivery month
    D. futures price, delivery month, basis

12. Elasticity is a measure of price sensitivity. It is calculated as X / Y where X and Y, respectively represent

    A. retail price and volume sold.
    B. volume sold and retail price.
    C. percent change in price and percent change in quantity.
    D. percent change in quantity and percent change in price.

13. Recent farm subsidy programs have attempted to

A. offset market price risk for producers.
B. maintain a relatively cheap and plentiful food supply to consumers.
C. bolster US food prices abroad.
D. A and B
E. A, B and C

14. A futures contract is a mechanism for

A. coordinating physical commodity delivery at a later date.
B. narrowing the local basis at a given commodity date.
C. facilitating price discovery at a later date.
D. B and C
E. All of the above

15. In which months are corn futures contracts available to buy or sell?

A. March, May, July, September, December
B. March, May, June, September, November
C. April, June, September, November
D. April, July, September, December

16. A put option is the right to _____ underlying futures at _____ price.

A. buy, market
B. sell, market
C. buy, a specific
D. sell, a specific
E. None of the above

17. Options are a form of price insurance that affords producers protection against lower prices yet still offers them an opportunity to benefit from higher prices.

A. True
B. False

18. Price movement over time is a function of a shift in

A. supply.
B. demand.
C. supply and/or demand.

19. As price takers, commodity producers are open to market risk. Forward pricing strategies allow producers to temper price risk by influencing _____ because they allow them to decide _____.

A. volume sold, price level
B. timing, price level
C. volume sold, delivery location
D. timing, delivery location

Questions 20 – 22 refer to the case study.

20. What percentage of 2022 gross farm income comes from conservation programs? Round to the nearest tenth of a percent x.x 2 points

CRP	$30,000
Conservation gov't program	$35,039
Total	$65,039
Gross farm income	$1,315,033

4.9%

Calculation: 65,039 / 1,315,033 = 0.0494 or 4.9%

21. Joe and Jody are always evaluating the natural beef market opportunity. If they increase their natural beef herd size, what formula would they use to calculate the expected marginal revenue of 40 additional cows?

A. Change in total revenue divided by change in quantity sold
B. Change in net profit divided by change in total revenue
B. Net profit divided by total expenses
C. Total revenue divided by quantity sold

22. Joe and Jody are considering investing in resources that would enhance the natural beef portion of the business. Adding a small on-site processing facility could impact their enterprise in which of the following ways?

A. Reduce long-term retailing costs
B. Increase labor costs
C. Lower production costs
D. A and B

(Points = 23)

2023 FABM KEY Part V - Income Tax

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each unless otherwise stated.

Marshall purchased a new heavy-duty trailer in 2019 to haul cattle. He bought the trailer outright, without a trade-in, for $28,260. Marshall is using the GDS straight line method for depreciation. Refer to Chapter 7 of the Farmer's Tax Guide to answer the questions.

1. What is the official Asset Classification for this trailer? 1 point

New farm machinery and equipment

2. What is the Asset Recovery Period for this trailer? 1 point

5 years

3. Using the straight line method table, calculate the depreciation taken in 2019 for this trailer. 2 points

($28,260 * .10 or 10%) = $2,826

$2,826

4. Calculate the remaining value of the asset at the end of 2022, after deducting the depreciation for the year. 2 points

($28,260 - ($28,260 * .70 or 70%)) = $8,478
Or ($28,260 * .30 or 30%) = $8,478

$8,478

Self-employment tax (SE tax) is a social security and Medicare tax primarily for individuals who work for themselves. Refer to Chapter 12 of the Farmer's Tax Guide to answer the next two questions.

5. What identification is needed in order to pay SE tax? 1 point

A. Official Driver's License
B. Social Security Number
C. Taxpayer Identification Number
D. B or C
E. All of the above

6. Before calculating the actual SE tax, the Net Farm Profit on Schedule F is multiplied by a % factor to determine the net earnings used for calculating the SE Tax. What is the percentage amount of that factor? Calculate to the nearest hundredth of a percent (X.XX). 2 points

92.35%

The projected income sources and expenses, and related inventory changes and loan payments, are listed below for M & M Beef & More in 2023. The Millers file their federal income taxes using the cash method. Use the Sample "Schedule F" page R27 to answer the following questions. (Expect that Schedule F will not change in 2023.)

Livestock sales	$1,061,936	Feed Expense	$619,893
Personal income	$34,500	Other cash farm expense	$447,936
Other cash farm income	$71,983	Total depreciation	$27,405
Capital asset sales	$111,679	Loan payments	$166,689

7. Calculate their Schedule F "Gross Income". 2 pts

$1,133,919

8. Calculate their Schedule F "Total Expenses". 2 pts

$1,095,234

9. Calculate their Schedule F "Net Farm Profit or Loss" line 34. 2 pts

$38,685

The Millers file their federal income taxes as Married, Filing Jointly. Basing their taxable income calculation on only the Schedule F data and using the tax table found on page R27, answer the following questions.

10. What is their total tax liability, based on Schedule F net farm profit or loss, line 34, before adjustments, deductions, and credits? Round down to the nearest whole dollar. 2 points

($2,200 + (($38,685 – 22,000 = 16,685) * .12 = 2,002.20) = $4,202.20)

$4,202

11. If their Schedule F income would have calculated to exactly $89,450, what would their tax liability be before adjustments, deductions, and credits? 2 points

Read from table or
(2,200 + (89,450 – 22,000 = 67,450) * .12 = 8,094) = 10,294

$10,294

(Points = 19)

2023 FABM KEY Part VI – Investment Analysis

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each unless otherwise stated.

The Millers are part of a legacy to care for land, animals, and family. They have a solid business model in their natural beef line and have additional options of more direct-to-consumer sales. They also have options to change how they source their beef calves with purchasing like feeder calves from other producers. Jody and Jill are taking the lead on investigating the feasibility of direct-to-consumer sales. They have been considering expanding their sales to include selling individual cuts to local restaurants. This project would require slaughtering under USDA inspection, something their current processor could accommodate. The bigger challenge is cold storage. Due to limited (and cost prohibitive) cold storage in the area for rent, they would need to build their own cold storage facility. After meeting with a specialized builder and refrigerant specialist, they determined they could build the cold storage facility for $245,700. After a family meeting, Marshall, Maggie, and the others all agreed to put in $25,000 per family (Parents plus kids equals four families). The bank has offered an 8.5% interest rate for a 5-year loan with fixed principal and annual interest payments. Thus, the annual payment is 1/5th of the principal borrowed plus interest for the outstanding principal during that period (year).

1. What is the amount the Millers plan to have as a down payment in this capital expansion project? 2 points

$100,000

2. What is the annual, fixed-principal payment for the loan? 2 points

$29,140

3. What is the total payment for the loan at the end of the first year? Calculate to the nearest cent. 2 points

$41,524.50

4. What is the outstanding principal after the first payment? Calculate to the nearest cent. 2 points

$116,560.00

5. How much interest will the Millers pay over the life of the loan? Calculate to the nearest cent. 2 points

$37,153.50

6. Over the life of the loan, how much would the Millers have to make in order to cover the payments? Calculate to the nearest cent. 2 points

$182,853.50

7. If they projected an aggregate operating profit per head sold through restaurants was $434, how many head would they need to sell to make the first year's payment? Round all fractions up to the next whole number. 2 points

$42,524.50 / $434 = 95.68 = 96 head

96 head

8. If they projected an aggregate operating profit per head sold through restaurants was $434, how many head would they need to sell to make the payments over the life of the loan? Round all fractions up to the next whole number. 2 points

$182,853.50 / $434 = 421.32 = 422 head

422 head

9. What would be the most logical source for collateral the Millers could put up for the cold storage expansion?

A. Feeder cattle to be marketed through the business.
B. The building itself.
C. The land the building is built on.
D. Both B and C

10. When considering the present value of a future amount of money, one utilizes the concept of

A. compounding.
B. discounting.
C. interest rates.
D. amortization.

11. When considering an investment, it is important to consider the impact of time on the final value of the initial investment. This concept is referred to as

A. future value.
B nominal value.
C. net present value.
D. time value of money.

12. As the Millers consider expansions of any kind, which of the following would allow them to consider the impact of the idea would have on their Profit and Loss Statement?

A. partial budget
B. payback period
C. time value of money
D. pro forma cash flow

13. Collateral is the only thing a bank considers when they make a loan decision.

    A. True
    B. False

14. It is common to consider IRR as a measure of investment potential. What does IRR stand for?

    A. Internal Revenue Review
    B. Issued Revenue Rate
    C. Initial Rate of Revenue
    D. Internal Rate of Return

15. To conduct a thorough investment analysis, one should consider

    A. income taxes.
    B. inflation.
    C. risk.
    D. profitability.
    E. All the above

16. If the Millers calculated the projected Profit and Loss for buying feeder cattle, but were concerned if their price assumptions would hold, what analysis could they use to test their projections under different assumptions?

Sensitivity Analysis

(Points = 24)

2023 FABM KEY Part VII – Risk Management

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each unless otherwise stated.

1. Which of the following is an example of production risk that applies to the Miller's cattle operation?

   A. Changes in consumer preferences affecting demand for agricultural products
   B. Extreme weather events, such as hailstorms or floods, damaging crops, livestock, or infrastructure
   C. Volatile interest rates
   D. All of the above
   E. None of the above

2. Which of the following is an example of a financial risk facing cattle producers?

   A. A change in tariff rates and food export regulations
   B. A change in consumers' tastes and preferences
   C. A change in interest rates
   D. A and C
   E. A, B and C

3. Which of the following best describes risk avoidance?

   A. Paying another party to assume a portion of a risk
   B. A methodology to reduce the severity of a risk
   C. A methodology to reduce the frequency of a risk
   D. Ceasing an activity to eliminate the possibility of incurring a loss
   E. Setting aside funds to pay for any losses that may occur

4. _____ is (are) an example(s) of risk control.

   A. Diversifying marketing channels, such as selling through farmers' markets, community-supported agriculture (CSA) programs, or direct-to-consumer platforms, reduces reliance on a single market and increases market stability
   B. Investing in and maintaining appropriate drainage systems and erosion control measures
   C. Using appropriate Integrated Pest Management systems to reduce the economic impact of harmful pests
   D. All of the above
   E. None of the above

5. Excessive rainfall is an example of _____ risk.

   A. market
   B. financial
   C. human
   D. production

6. A farm business management educator is reviewing the financial risk of four farms. The Debt to Asset Ratio is listed for each farm. Which is in the best financial position based on this metric?

   A. Farm A - .65
   B. Farm B - .45
   C. Farm C - 1.25
   D. Farm D - .30

7. Using best practices for biological security mitigates _____ risk associated with the loss of market animals due to disease.

   A. human
   B. production
   C. market
   D. financial

8. Which of the following is an example of production risk that applies to the Miller's ranching operation?

   A. A change in the herd's conception rates
   B. A change in beef consumption
   C. A change in the value of the U.S. Dollar relative to other foreign currencies
   D. All of these are examples of production risk

9. A yield protection crop insurance policy is an appropriate treatment for a farm owner's _____ risk.

   A. market
   B. financial
   C. human
   D. production

10. A farmer would use the options market with the objective to

    A. transfer risk.
    B. increase risk.
    C. participate in government farm programs.
    D. obtain a loan.

11. When hedging, it is important that agricultural producers close out both the cash and futures position

    A. prior to selling the crop.
    B. simultaneously when selling the crop.
    C. keep the futures position open to protect against price risk.
    D. at any time.

12. To hedge using commodity futures, an agricultural producer must

    A. use a broker.
    B. create a margin account.
    C. Both A and B
    D. Nothing. An agricultural producer can hedge over the internet without a broker or margin account.

13. Which of the following types of insurance would protect the Millers from the risk of lawsuits arising from a claim for damages caused by an escaped animal?

    A. A Life Insurance Policy
    B. A Health Insurance Policy
    C. A Commercial Property Insurance Policy
    D. A Commercial Liability Insurance Policy

14. If a farm building were destroyed by the weight of ice and snow, which of the following types of insurance would compensate the Millers for damages to their building?

    A. A Life Insurance Policy
    B. A Health Insurance Policy
    C. A Commercial Property Insurance Policy
    D. A Commercial Liability Insurance Policy

15. Which of the following would be a part of an integrated pest management plan to manage the production risks associated with an agricultural operation?

    A. Utilize appropriate mechanical control measures including cultivation to manage invasive weeds.
    B. Have the appropriate insurance policies in place to pay for damages associated with crop losses.
    C. Selectively use chemical control methods to manage pest infestations that surpass economic thresholds.
    D. All are part of an integrated plan to manage production risks.

16. Revenue protection coverage insurance protects against

    A. a decline in price or yield.
    B. only a decline in price.
    C. only a decline in yield.

17. Which of the following USDA Livestock Disaster Assistance programs would pay a producer a loss payment if a covered animal were killed by a severe weather event?

    A. Emergency Livestock Relief Program
    B. Forage Disaster Assistance Program
    C. Livestock Indemnity Program
    D. Environmental Quality Incentives Program

18. The USDA's Rangeland Insurance Products use an area-based loss trigger. Which of the following appropriately defines a geographic area for an area-based loss trigger for USDA programs?

    A. A county
    B. A state
    C. An individual producer's covered premises
    D. A defined map grid

19. The USDA's Rangeland Insurance Products use an area-based loss trigger. Which of the following appropriately defines a covered loss that will trigger a payment for USDA rangeland programs?

    A. A qualifying weather event in the ranch's USDA defined area
    B. A qualifying weather event in the ranch's county
    C. A qualifying weather event on the ranch's owned or leased premises
    D. A qualifying weather event in the ranch's state

20. Which of the following is **NOT** one of the steps in the risk management process?

    A. Identify
    B. Plan
    C. Prioritize
    D. All of these are steps in the risk management process

21. For which of the following risks is risk avoidance the most appropriate treatment method?

    A. A low frequency and high severity risk
    B. A high frequency and high severity risk
    C. A low frequency and low severity risk
    D. A high frequency and low severity risk

Risk Management Calculated Questions

Using the Income Statement on R10, complete the following questions.

22. What is the total market value of insurable machinery and equipment that the Millers own? 2 points

    $217,500 see R3

23. How much did the Millers spend on farm insurance? 2 points

    $6,408

24. How much did the Millers spend on health insurance? 2 points

    $17,407 see R17

2023 FABM KEY Part VIII - Farm Business Organization and Land Measurement

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each unless otherwise stated.

Part A - Farm Business Organization

1. Which of the following is **NOT** a category of farm cooperative?

   A. Marketing
   B. Supply
   C. Service
   D. All of these are categories of cooperatives

2. Of the types of business organizations listed below, which would provide the least protection from legal liability for the owners?

   A. General partnership
   B. Limited Liability Company
   C. S-Corporation
   D. C-Corporation

3. An owner of a corporation is called a(an)

   A. director.
   B. stockholder.
   C. member.
   D. officer.

4. During their careers the Millers have grown their agricultural business. They are interested in protecting their operation and ensuring that it remains in the family. Which of the following business organizations would best allow them to meet this goal?

   A. A partnership
   B. A sole proprietorship
   C. A trust
   D. A cooperative

5. All the following statements are true of a corporate business structure except

   A. corporate income is not subject to income taxes.
   B. ownership is easily divided into shares.
   C. it benefits estate planning.
   D. a corporation does not dissolve with the death of an owner.

6. Profits earned by a cooperative are returned to the members based upon patronage.

   A. True
   B. False

7. The transfer of ownership of a corporation is by the sale or gifting of

   A. bonds.
   B. loans.
   C. capital.
   D. stocks.

8. The most common form of a farm business is a

   A. partnership.
   B. sole proprietorship.
   C. trust.
   D. cooperative.

9. The document used for creating a corporation is called

   A. Articles of Incorporation.
   B. Articles of organization.
   C. Stock issuance.
   D. Bond issuance.

10. With a sole proprietorship, if the business owner does not have a will at the time of death, the distribution of assets will be guided by

    A. federal statutes.
    B. county statutes.
    C. state statutes.
    D. city statutes.

11. If a farm business owner wishes to organize his/her business as simply as possible with minimal filing requirements, but wishes to have some liability protections, which would be the best type of business organization?

    A. General partnership
    B. Limited Liability Company
    C. S-Corporation
    D. C-Corporation
    E. Sole proprietorship.

12. An individual who creates a trust is called the

    A. manager.
    B. stockholder.
    C. trustee.
    D. trustor.

Part B - Land Measurement

13. In rectangular surveying, what is the point at which the base line and the principal meridian meet called?

    A. Terminal point
    B. Starting point
    C. Cross section
    D. Initial point

14. An acre equals _____ square feet.

    A. 23,040
    B. 43,560
    C. 64,000
    D. 12,346

15. What is another name for the Rectangular Survey System?

    A. The block survey system
    B. Military grid survey system
    C. Latitude and longitude system
    D. Public land survey system

16. Thomas Jefferson authorized a system of land measurements to define locations of properties in the western territory for which of these reasons?

    A. So that private ownership of property could be easily defined
    B. So that property could be exchanged to another owner more easily
    C. It employed a checkerboard system to create more reliable delineations
    D. All of the above

17. You read a legal land description by

    A. reading it from the smallest to the largest parcel.
    B. locating the section in the township.
    C. finding the location in the quarter.
    D. All of the above

18. A tier refers to the townships running north and south in six-mile increments.

    A. True
    B. False

19. Sections of land are usually identified by which of the following?

    A. Major landmarks
    B. Number
    C. Letter
    D. GPS coordinates

20. Township and Range Lines crossing each other form squares which are called

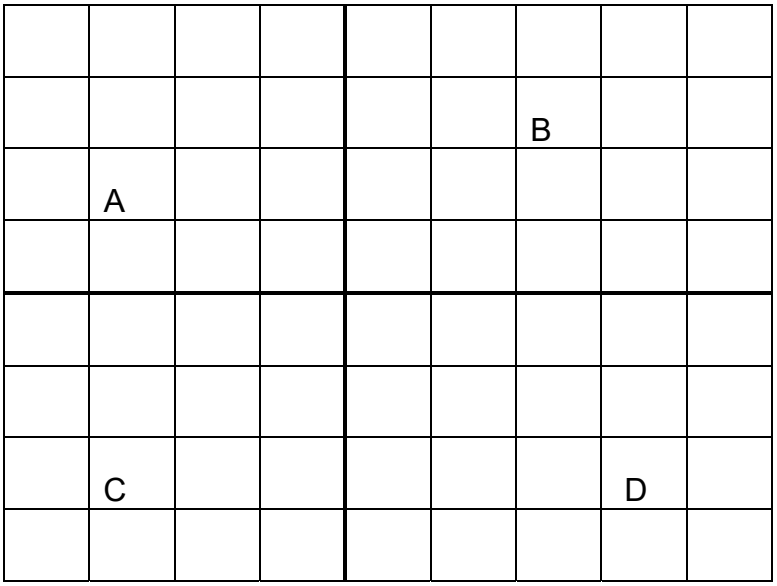
    A. meridians.
    B. townships.
    C. sections.
    D. land parcels.

21. A _____ is a map showing the divisions of a piece of land mapped out by a surveyor on a subdivision map.

    A. rectangular survey
    B. recorded plat
    C. metes and bounds
    D. None of the above

22. How many acres are in 1/2 of a 1/4 section?

80 acres



23. The township labeled D in the example above is considered?

    A. Township 3 south range 4 west
    B. Range 3 north township 4 west
    C. Range 3 south township 4 east
    D. Township 3 south range 4 east

24. “Starting at an iron post, N 15° W 1320 feet” is an example of what system of legal land description?

    A. Rectangular survey
    B. Recorded plat
    C. Metes and bounds
    D. None of the above

25. Generally, parcels of land that are irregular in shape are legally described using

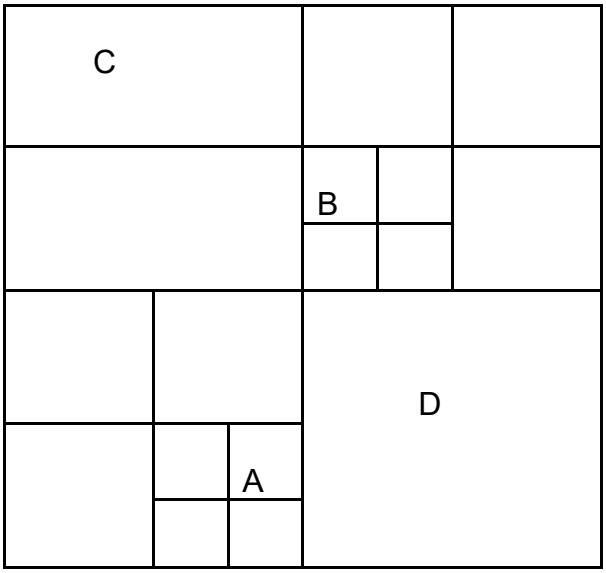
A. rectangular survey.
B. metes and bounds.
C. recorded plats.
D. Either A or B

26. The curvature of the earth causes a need to include correctional sections in legal descriptions.

A. True
B. False

Use the chart below of Section 4 to answer questions 28 and 29.

Section 4



27. What is the legal land description of parcel A?

A. Northwest ¼ of the Southwest ¼ of the Southwest ¼ of Section 4
B. Northeast ¼ of the Southwest ¼ of the Southeast ¼ of Section 4
C. Northeast ¼ of the Southeast ¼ of the Southwest ¼ of Section 4
D. Northwest ¼ of the Southeast ¼ of the Southeast ¼ of Section 4

28. How many total acres are in parcels B, C and D? 2 points

250

29. Some properties in the U.S., especially in the original 13 colonies, do **NOT** have a form of legal land description.

A. True
B. False

30. How many acres are in a township?

23,040

2023 FABM KEY Part IX - Analyzing the Agricultural Business

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each unless otherwise stated.

Farmers, Ranchers and Agribusiness Managers who are able to analyze their business data and compare it to that of their peers have an advantage when making business decisions. This comparison is known as benchmarking. It enables the owner or manager to determine their business's financial strengths and weaknesses and areas for improvement. That knowledge improves decision-making.

Review the 2022 Financial Analysis Executive Summary on page R10 to answer the following two questions.

1. From the Income Statement section, what percent of the Gross Farm Income comes from Gross Livestock Income? Round to the nearest tenth of a percent x.x
   2 points

   $1,391,135 / $1,674,404 * 100 = 83.08 = 83.1%

83.1%

2. List an operating Expense Ratio that would be better than the Miller's ratio.
   2 points

Any number less than 83.3%

3. What income line shows on the area average but not on the Miller's income statement?

   A. Gross cash farm Income
   B. Net cash farm income
   C. Net operating profit
   D. Net farm income from operations
   E. Net farm income

4. What expense item is needed to calculate the income line in the previous question and is found on the area average income statement but not on the Miller's income statement?

   A. Hedging Accounts
   B. Accounts Payable
   C. Gain or loss on capital assets
   D. Buildings and improvements

Page R12 in the Resource Information displays a summary of financial information. Use the measures on the left side of the page to answer the following questions for calculating the financial standards measures. Use the formulas displayed on the page to answer these questions.

What are the two measures used to calculate the Rate of Return on Assets?

Answers 5 and 6 can be in any order

5. **Average farm assets**

6. **Return on farm assets**

7. Which answer(s) indicate the difference between return on farm assets (ROA) and return on farm equity (ROE)?

   A. ROA includes interest expense in the calculation
   B. ROE makes an adjustment for interest
   C. ROA indicates returns on loan-free assets while ROE focuses on all assets
   D. None of the above

8. Is the Miller "Debt coverage ratio" stronger, weaker, or nearly the same as the Area Average? (1 point)

   Miller's 2.55 (R10) Area 3.25 (R22)

   Weaker

9. Which answer(s) indicate an expanded definition or explanation of the Debt Coverage Ratio (DCR)?

   A. DCR does not include interest expense in calculating factors that calculate it.
   B. DCR indicates the dollars available to pay debt.
   C. This ratio compares the amount of dollars available and the total debt due using a numerical ratio.
   D. The same factors calculate DCR and debt repayment margin but use different formulas.
   E. None of the above

   C & D

Review the M & M Beef & More crop enterprise report on page R13 and the Area Average crop enterprises on page R23 to answer the following five questions.

10. Consider the dryland pasture enterprises on the Miller farm. What two overhead expenses are different on owned land versus rented land? 2 points

    Real Estate Taxes and Interest

11. What overall cost do the expenses in Question 10 represent for owned land?

    A. Real estate property estimate
    B. Farm taxation adjustment
    C. Total property expense
    D. Land cost

12. What expense line item causes the rented dryland pasture on M & M Beef & More, and the area average, to have a higher cost of production per unit for total direct expenses than owned dryland pasture?

    A. Crop chemicals
    B. Land rent
    C. Fuel & oil
    D. Repairs

13. What formula is used to calculate the total product value per acre for these dryland pasture enterprises?

    A. Yield/acre divided by value/unit = total product value
    B. Yield/acre X value/unit = total product value
    C. Acres X yield/acre X value = total product value
    D. Yield/acre X Share of production X value/unit = total product value

14. Which two direct expenses are the primary cause of the area average irrigated intensive pasture direct expenses to be more than Miller's?

    A. Fertilizer and Repairs
    B. Fuel & oil and Repairs
    C. Seeds & Plants and Irrigation Energy
    D. Fuel & oil and Custom Hire

Answer question 15 and 16 using "Financial Analysis Executive Summary" (R10) and Area Average (R22) in the resource information.

15. How much lower is the Area Average operating expense ratio compared to the M & M Beef and More operating expense ratio in 2023? 2 points

    83.3% - 78.7% = 4.6%

16. How much higher is the Area Average term debt coverage compared to the M & M Beef and More operation in 2023? 2 points

    3.16 - 2.37 = .79

(21) points

2023 FABM KEY Part X - Analyzing the Agricultural Business

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each unless otherwise stated.

Review the M & M Beef & More livestock enterprise reports on pages R14 through R17 and the Area Average livestock enterprises on page R24. There are several key factors that could be reviewed to determine how their enterprises compare with the area average. The following questions identify some of those factors.

The Millers need to compare how many tons of mixed hay they produce with how much they are currently feeding the Beef Cow-Calf herd (page R13) and the Beef Finish Yearlings at home (page R15). This will help them when considering any expansion of the Beef Finish Yearlings enterprise.

1. How many tons of mixed hay do they produce? 2 points

   (80 ac * 3.50) + (300 ac * 3.50) = 1330 tons

   1330

2. How many tons of mixed hay do they feed to the Beef Cow-Calf and Beef Finish Yearlings at home enterprises? 2 points

   BCC (1050 ton) + BFY (135 ton) = 1185 tons

   1185

3. How many more head of Beef Finish Yearlings can the Millers feed based on their total production of mixed hay? Enter the number of head. 2 points

   145 tons available / (3452.69 / 2000) = 1.73
   145 / 1.73 = 83.82 or 84

   83 or 84

4. The Miller's Beef Cow-Calf enterprise has greater net return than the area average. Is that related more to the income or expense in the enterprise? 1 point

   A. Income
   B. Expense

5. The Millers have a lower feed cost per cow in their Beef Cow-Calf enterprise than the area average. The feed expense that has the greatest impact on the extra cost for the area average is _____. 1 point

   A. Protein, Vitamins, Minerals
   B. Forages (Hay and Silage)
   C. Pasture
   D. Other feedstuffs
   E. A and C

6. The Miller's Beef Finish Yearlings at home enterprise has a "lb. of feed / lb. of gain" that is better or worse than the area average? 1 point

   A. Better
   B. Worse

7. Compare the Miller's Beef Finishing-Natural Group enterprise with the Area Average Beef Finishing enterprise. Is the higher net return per cwt a result of greater income, lower expenses, or both?

   A. Greater income
   B. Lower Expenses
   C. Both

8. The Miller's Beef Finishing-Natural Group enterprise has a higher "Avg Sales Price per cwt." but also has a higher "Feed cost per cwt. of gain" than the Area Average Beef Finishing enterprise. If you compare the gain in sales price with the loss in feed cost, what is the net difference between the two? (Enter a "+" or "-") 2 points

   ($145.53 - $129.56) = $15.97
   ($69.37 - 79.65) = -$10.28

   + $5.69

The ending Financial Standards Measures are found on page R10 for the Miller operation, on page R22 for the area average, and on page R25 of the Farm Financial Scorecard.

For questions 9 – 11, consider the impact on each financial measure if the number for that measure was higher than it currently is. Use the farm financial scorecard to indicate if the business would be more vulnerable, have a stronger position, or no change if the financial measure listed was higher. (1 point each)

9. debt-to-asset ratio — **More Vulnerable**

10. operating expense ratio — **More Vulnerable**

11. operating profit margin — **Stronger position**

Using the three Liquidity measures on the Farm Financial Scorecard, which of the measures on either the Area Average or M & M Beef & More are **NOT** "strong"? Indicate whether it is the average or M & M Beef measure. (1 point each)

12. **Average – Current Ratio**

13. **Average – Wk Cap to/% of Opr Exp**

Another useful tool for the farm manager's toolbox is the Plan on a Page report. That report is found on page R26. Use first three columns in that report to answer the following questions.

14. Compare the Balance Sheet (Market Value) financial standards measures for the Group Benchmark, 3-year average, and the 2022 actual for the Millers. Which measure(s) were better for the Group Benchmark than either the Miller's 2022 actual or the 3-year average?

    A. Total assets
    B. Total liabilities (excl def liabs)
    C. Net worth (excl def liabs)
    D. Change in retained earnings
    E. Net worth change (excl def liabs)

15. Compare the Farm Financial Standards Measures for the 3-year average to the 2022 actual. Which measure(s) were better in 2022 than for the 3-year average?

    A. Working Capital
    B. Debt to Asset ratio (market)
    C. Operating profit margin (cost)
    D. Term debt coverage ratio (farm)
    E. Operating expense ratio

A & D

(19 points)

2023 FABM KEY Part XI - Family Living

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each unless otherwise stated.

1. The Miller family spends how much on recreation?

   A. $142
   B. $1,579
   C. $1,406
   D. $1,604

2. What is the total Personal Income per person for the Millers? 2 points

   $39,928 / 2 = $19,964 **$19,964**

The Millers have 2 family members instead of the 2.9 family members in the area average. Does the family spend less or more per family member than the area average?

3. Food and meals expense.

   A. Less Area Average - $9,303 / 2.9 = $3,210
   B. More Millers - $5,086 / 2 = $2,543 Less

4. Household supplies

   A. Less Area Average - $6,626 / 2.9 = $2,285
   B. More Millers - $1,579 / 2 = $790 Less

5. Health insurance

   A. Less Area Average - $8,138 / 2.9 = $2,806
   B. More Millers - $17,407 / 2 = $8,704 More

6. Total Family Living

   A. Less Area Average - $71,486 / 2.9 = $24,650
   B. More Millers - $38,626 / 2 = $19,313 Less

7. If Anthony comes back to the family farm full time how much would total family living expenses be, based on the per person expense for the total family living area average? 2 points

   $71,486 / 2.9 = $24,650 + $38,626 = $63,276 **$63,276**

For questions 8 - 10 determine which expenses are more or less than 10% of the total personal expenditures.

8. Miller's income and social security tax.

   A. More than 10% $11,435 / $50,061 = 23% More
   B. Less than 10%

9. Personal interest for Area Average.

   A. More than 10% $1,974 / $105,260 = 2% Less
   B. Less than 10%

10. Miller's cash donations.

    A. More than 10% $325 / $50,061 = 1% Less
    B. Less than 10%

What are the three annual cash family living expenses that the Millers would find most difficult to reduce?

These can be in any order

11. **Household real estate taxes**
12. **Health insurance**
13. **Medical care**

14. Compared to the area average, how much more or less are Millers spending per person on Total Family Living costs? Indicate more or less. 2 points

    $5,337 Less

    Area Average - $71,486 / 2.9 = $24,650
    Millers - $38,626 / 2 = $19,313 $24,650 - $19,313 = $5,337 Less

15. The Millers total family living per person is 9% of net farm income. What is the total family living per person as a percentage to net farm income using the area average? Round to the nearest whole percent. 2 points

    $71,486 / 2.9 = $24,650 / $155,183 = 16%

    16%

16. Calculate the total family living per person as a percentage to net farm income if the Millers added two people to the operation. Use the area average for the two additional family members. Round to the nearest whole percent. 2 points

    $71,486 / 2.9 = $24,650 * 2 = $49,300 + $38,626 = $87,926 / 4 = $21,982 / $218,789 = 10%

    10%

2023 FABM KEY Part XII - Economic Principles

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each unless otherwise stated.

1. Which of the following is **NOT** a factor of production?

   A. Land
   B. Labor
   C. Capital
   D. Taxes

2. Which of the following is a characteristic of a perfectly competitive market?

   A. Many buyers and sellers
   B. Homogeneous products
   C. Easy entry and exit of firms
   D. All the above

3. Which of the following best describes "elasticity"?

   A. The ability of a company to achieve lower costs per unit of output as production volume increases
   B. The measure of how much demand changes as the price of a good or service changes
   C. The difference between total revenue and total costs
   D. The amount of money a company owes its creditors

4. A laissez-faire economist (one who does not favor government intervention) would most favor

   A. increasing tariffs.
   B. eliminating minimum wage.
   C. additional stimulus checks.
   D. increasing regulations.

5. The total value of goods and services produced in a country for one year is known as

   A. gross domestic product.
   B. aggregate demand.
   C. aggregate supply.
   D. emerging markets.

6. Policy actions undertaken by the U.S. Federal Reserve are known as

   A. monetary policies.
   B. fiscal policies.
   C. state policies.
   D. international policies.

7. Many economists believe the ideal unemployment rate is

   A. less than 1%.
   B. 4 - 7%.
   C. 9 - 15%.
   D. greater than 20%.

8. One of the most concentrated sectors in the U.S. agricultural market is

   A. beef packers.
   B. corn producers.
   C. equipment retailers.
   D. commodity brokers.
   E. None of the above

9. Investors who are optimistic about future market performance describe the market as a

   A. bull market.
   B. bear market.
   C. bison market.
   D. buffalo market.

10. The central bank for the U.S. that develops monetary policy is

    A. the Federal Reserve.
    B. Congress.
    C. the Bank of America.
    D. American Express.

11. The largest portion of the Farm Bill funding goes to

    A. nutrition programs.
    B. crop insurance programs.
    C. commodity support programs.
    D. conservation programs.

12. Which of the following is an example of protectionist policies that may support American agribusinesses?

    A. Tariffs
    B. Quotas
    C. Subsidies
    D. All listed

13. Marshall Miller left his teaching job to pursue a ranching career. For this move, his income from the teaching job could be considered an

    A. opportunity cost.
    B. opening cost.
    C. prospect cost.
    D. chance cost.

14. The Millers anticipate the “natural beef” label will provide more utility to consumers than traditional beef. In an economic context, utility means

    A. the satisfaction derived from consuming a good or service.
    B. how useful the good or service is.
    C. how healthy the good or service is.
    D. the adaptability of the good or service.

15. The Miller’s cost per head is likely higher than larger operations with thousands of head. The ability for larger operations to reduce their cost per unit, relative to smaller operations, is known as

    A. economies of scale.
    B. economies of scope.
    C. economies of leverage.
    D. economies of operation.

16. In perfectly competitive markets, the equilibrium price occurs when

    A. quantity supplied and quantity demanded are equal.
    B. producers’ profits are maximized.
    C. prices are artificially established by the government.
    D. producers’ profits equal their costs.

17. Which of the following is **NOT** one of the three foundations of economics?

    A. Self-interest
    B. Scarcity
    C. Choice
    D. Debt

18. Economists often use the Latin phrase “ceteris paribus” when describing an economic model. This phrase means

    A. everything else being equal.
    B. all else different.
    C. fixed costs equal.
    D. variable costs equal.

19. The poultry industry is more vertically integrated than the beef industry. This means that companies in the poultry industry

    A. take direct ownership of multiple stages of their production and marketing processes.
    B. experience higher profits than beef companies.
    C. experience higher operating costs than beef companies.
    D. are more profitable because they are more connected to policy makers than beef companies.

20. Beef company A just acquired beef company B in a “leveraged buyout”. This term means

    A. the acquisition was mainly debt funded.
    B. the acquisition was mainly cash funded.
    C. beef company A received their ideal price.
    D. beef company B received their ideal price.

21. The principle of time value of money states that

    A. money received now is worth more than money received in the future.
    B. money received in the future is worth more than money received now.
    C. money should be invested as quickly as possible.
    D. money should be spent as quickly as possible.

22. If individuals have access to a public resource without oversight, they will likely exploit it without considering the common good. This economic principle is known as

    A. tragedy of the commons.
    B. free markets.
    C. public dilemma.
    D. open access impasse.

23. Laws designed to increase market competition by limiting monopoly power are known as

    A. antitrust laws.
    B. friendly laws.
    C. small business laws.
    D. main street laws.

(Points = 23)

Participant Number _____ State Abbreviation _____

Participant's Name (please print clearly) _____

Important: Before you start this portion of the event, please write your participant number and state abbreviation on the blanks provided at the top of each page.

2024 NATIONAL FFA
FARM AND AGRIBUSINESS MANAGEMENT
CAREER DEVELOPMENT EVENT

Page Number	Part	Area	Possible Points
2	I	Financial Statements	29~~30~~
7	II	Budgeting	28~~30~~
11	III	Cash Flow Planning	28~~27~~
15	IV	Marketing	33
21	V	Income Tax	26
25	VI	Investment Analysis	24
28	VII	Risk Management	29
33	VIII	Business Organization / Land Measurement	19~~21~~
37	IX	Analyzing the Agricultural Business P1	13~~13~~
40	X	Analyzing the Agricultural Business P2	3~~8~~9
46	XI	Family Living	13
48	XII	Economic Principles	20
		TOTAL POSSIBLE POINTS:	**30~~0~~5**

Participant Number _____ State Abbreviation _____

Part I - Financial Statements

On the answer sheet enter the answer for each question. For Multiple Choice, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice questions are one point each. Calculations questions are two points each.

Please refer to pages R3 through R12, R23 and R24 for this section.

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1. ~~What is T~~the current ratio for Triple E Farms on January 1, 2023 is _____ ~~current ratio for Triple E Farms?~~

   A. 3.14
   B. 1.94
   C. 2.24
   D. 2.38

2. The 3-year average current ratio for Triple E Farms is 2.01. According to the Farm Financial Scorecard, this is

   A. strong.
   B. vulnerable.
   C. neither vulnerable nor strong.

3. Triple E Farms sold over 51,000 bushels of soybeans in 2023. Where should these beans be listed on their January 1, 2024 balance sheet?

   A. Should not be listed.
   B. Accounts payable
   C. Current asset
   ~~D. Intermediate liability~~ _____
   D~~E~~. Current liability

4. Crop sales (soybeans, sugar beets, and spring wheat) make up what percentage of gross cash income? Round to the nearest whole percent.

   95%

Answer: Crop tot $2,203,601; GCI $2,309,322; $2,203,601 / $2,309,322 = 95% (95.42)

Participant Number _____ State Abbreviation _____

5. _____ had the largest increase in value from the beginning to the ending balance sheet for Triple E Farms in 2023.

   A. Livestock held for sale
   B. Cash and checking
   C. Hedging account balance
   D. Prepaid expenses and supplies
   E. Accounts receivable

6. Interest expense is what percent of the total cash expense for Triple E Farms? Round to the nearest whole percent.

7%

Answer: $138,913 / $1,934,733 = 7% (7.17996)

7. How many bushels of soybeans did Triple E Farms produce in 2023?

   A. 43,353
   B. 33,300
   C. 25,418
   D. 42,393
   E. 51,353

8. What would be the net return per acre for Triple E Farms' soybean owned enterprise if they had achieved their planned yield of 37 bushels per acre and all other factors remained unchanged? Indicate + or -

-$62.15

Answer: Current yield 29.97 bu/A Planned yield 37 bu/A increase 7.03 bu/A$11.75 /bu Increase NR by $82.60 Resulting NR -$144.75 + $82.60 = -$62.15

For questions 9 through 14 refer to pages R23 and R24.

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9. The 2024 projected debt coverage ratio for Triple E Farms is

   A. strong.
   B. vulnerable.
   C. neither strong nor vulnerable.

10. The 2024 projected current ratio for Triple E Farms is

    A. strong.
    B. vulnerable.

C. neither strong nor vulnerable.

11. The 2024 projected operating expense ratio for Triple E Farms is

    A. strong.
    B. vulnerable.
    C. neither strong nor vulnerable.

12. The 2024 projected working capital to gross revenue (working capital as a percent of gross revenue) ratio for Triple E Farms is

    A. strong.
    B. vulnerable.
    C. neither strong nor vulnerable.

13. The 2024 projected debt to asset ratio for Triple E Farms is

    A. strong.
    B. vulnerable.
    C. neither strong nor vulnerable.

14. In comparing the Triple E Farms' 2024 projection to their group benchmark, Triple E Farms' projected

    A. current ratio is stronger than the group benchmark.
    B. interest expense is less than the group benchmark.
    C. net farm income from operations is greater than the group benchmark.
    D. net worth change is greater than the group benchmark.

15. The _____ provides Triple E Farms an indication of their profitability.

    A. current ratio
    B. operating expense ratio
    C. rate of return on assets
    D. replacement coverage ratio
    E. debt to asset ratio

16. In comparing the Triple E Farms' balance sheet and income statement,

    A. either will show Triple E Farms is not profitable.
    B. the balance sheet is for a particular date, a "financial snapshot" of the business.
    C. depreciation is reflected on the balance sheet, not the income statement.
    D. the income statement is for a particular date, a "financial snapshot" of the business.

Participant Number _____ State Abbreviation _____

17. In looking at the historical trends of Triple E Farms, **what year** did they have the highest yield per acre for sugar beets? **What was that yield**? Round to the nearest ton. Separate the two answers with a comma. Answer is 1 ~~one~~ point.

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2016, 39 tons

Answer: 2016: 39.0 tons per acre

18. _____ is the ability of a business to generate sufficient cash to pay expenses without disrupting business operations.

A. Liquidity
B. Balance sheet restructuring
C. Capital acquisition
D. Solvency

19. The percent change in net worth in 2023 that came from the change in retained earnings/contributed capital is _____. Round to the nearest whole percent. (Refer to Pages R3 and R4)

82%

Answer:

	retained earnings	net worth
beginning	**6,118,484**	**7,106,046**
ending	**6,693,487**	**7,805,692**
increase	**575,013**	**700,646**

575,013 / 700.646 = 82.07 = 82%

20. The resulting ending balance sheet (Jan 1, 2024) current ratio would be _____ if all soybeans in inventory were valued at $11.50 per bushel and the accounts receivable was actually $750,000. Assume no other changes in the balance sheet. Round to the nearest hundredth x.xx

1.77

Answer:
Soybean value decreases (from 311,766 to 292,307) 19,459
Acct rec decreases (from 1,003,066 to 750,000) 253,066
Tot decrease 272,525 revised current assets 2,793,441 rev curr ratio is 1.77

Participant Number _____ State Abbreviation _____

21. The decrease in value of a capital asset that occurs regardless of repair and maintenance due to wear and/or obsolescence is called

    A. amortization.
    B. book value.
    C. market value.
    D. depreciation.

22. _____ is associated with farm revenue.

    A. The decline in the value of crop or livestock inventory
    B. Cash received from the sale of sugar beets produced
    C. Interest payments during the accounting period
    D. Fertilizer purchased during the accounting period

23. What percent increase is the 2024 projected interest expense over the 2023 interest expense for Triple E farms? (Refer to page R24). Round your answer to the nearest whole percent.

96%

Answer:
2023 interest expense 140,095
2024 proj int exp 275,088
96%

Participant Number _____ State Abbreviation _____

Part II - Budgeting

On the answer sheet enter the answer for each question. For Multiple Choice, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice questions are one point each. Calculations questions are two points each.

1. E~~The e~~nterprise and whole farm cash flow budgets are primarily used for

   A. planning future actions.
   B. tracking historical data.
   C. analyzing competitor performance.
   D. documenting past expenditures.

2. The primary benefit of budgeting is

   A. providing a systematic approach to planning.
   B. ensuring accurate predictions of future trends.
   C. eliminating all financial risks.
   D. guaranteeing future profitability.

3. A producer wants to plan and project costs and returns per acre for a crop and costs and returns per head for livestock. The producer should use _____ budget.

   A. a partial
   B. a cash flow
   C. an enterprise
   D. an income

4. Fixed expenses in an enterprise budget normally do **NOT** include

   A. insurance.
   B. rent.
   C. depreciation.
   D. taxes.

5. What budgeting guideline is recommended when developing a systematic approach to planning? ~~(WHOLE FARM CASH FLOW BUDGET?)~~

   A. Decide what data will be needed.
   B. Decide whether to use whole farm, enterprise and~~or~~ partial budgeting.
   C. Decide how many alternatives will be evaluated or analyzed.
   D. All of the above

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~~6. The primary purpose of an enterprise budget is (REPEATED QUESTION of No. 3)~~

~~A. tracking historical data for multiple crops.~~
~~B. identifying potential cost savings and revenue increases from specific changes.~~
~~C. projecting costs and returns for a specific production process.~~
~~D. estimating future market trends for an operation.~~

67. How are input quantities and prices typically estimated for the operating expenses in an enterprise budget?

A. Derived from governmental regulations and policies
B. Based on historical use and recommendations from experts
C. Determined solely by the farm owner's intuition
D. Speculated from market trends and global economic indicators

78. The primary purpose of partial budgeting is

A. planning the management of funds and estimating surpluses and deficits.
B. predicting future market trends for specific inputs required.
C. estimating the economic effects of adjustments.
D. analyzing overall farm profitability of an operation.

89. The primary purpose of a cash flow budget projection is

A. predicting future market trends for specific inputs required.
B. planning the management of funds and estimating surpluses and deficits.
C. estimating the economic effects of adjustments.
D. analyzing overall farm profitability of an operation.

~~10. A Replacement Margin Coverage Ratio (RMCR) greater than one indicates?~~

~~A. Insufficient funds exist to cover term debt coverage, current capital lease payments, and unfunded capital purchases~~
~~B. Sufficient funds exist to cover term debt coverage, current capital lease payments, and unfunded capital purchases~~
~~C. Funds are evenly distributed between term debt coverage and current capital lease payments~~
~~D. Funds are evenly distributed between term debt coverage and unfunded capital purchases~~

Participant Number _____ State Abbreviation _____

Refer to R5 through R20 for questions 9~~11~~ through 16~~8~~.

9~~11~~. What is the projected operating profit margin in 2024?

A. 3.14
B. 13.1%
C. 74.1%
D. 1.65

10~~2~~. What is the break-even price per ton to cover Direct and Overhead Expenses for Sugar Beets MDF Cash Rented in 2023? Round answer to the nearest cent.

$38.67

Answer: $1,137.55 / 29.42 = $38.67

11~~3~~. What is the break-even price per bushel to cover Direct Expenses for Owned Corn in 2023? Round answer to the nearest cent.

$2.66

Answer: $447.59 / 168.23 = $2.66

12~~4~~. What is the difference in the Area Average term debt coverage ratio compared to Triple E Farms in 2023? Round to the nearest hundredth. x.xx. Indicate + or -

-0.80

Answer: 2.34 - 3.14 = -0.80

13~~5~~. How much lower is the 2023 operating expense ratio compared to the 2024 projection? Round your answer to the nearest whole percent.

11% or -11%

Answer: 63.0% - 74.1% = -11%

14~~6~~. _____ has the highest gross return per acre for Triple E Farms.

A. Wheat
B. Sugar Beets
C. Alfalfa Hay
D. Corn

E. Soybeans

157. _____ has the highest total direct expenses per acre for Triple E Farms.

A. Wheat
B. Alfalfa Hay
C. Soybeans
D. Sugar Beets
E. Corn

1618. _____ has the lowest machinery cost per acre for Triple E Farms.

A. Sugar Beets
B. Soybeans
C. Corn
D. Alfalfa Hay
E. Wheat

Participant Number _____ State Abbreviation _____

Historically, the price of corn in this area is about $0.50 per bushel higher in March and April than at harvest. Triple E Farms is considering putting in additional storage to take advantage of this seasonal difference. The farm generally stores corn in town for a total cost of $0.12 per bushel for three months and $0.03 per bushel per month after that. As an alternative, they are looking at a 40,000 bushel storage unit which will cost $50,000. The total interest on a loan would be $7,750. They figure the total cost of $57,750 could be spread over 15 years. They were also told to figure $0.03 per bushel per year for maintenance, insurance, and operation of an aeration fan. The farm expects to store the corn for five months. Use the partial budget below to determine if storing in town or if building additional storage is a more profitable alternative. Answers 17 through 23 are 1 point each.

Column One	Column Two
179. Additional Costs **$57,750 divided by 15 = $3,850** **40,000 bu. X $.03 = $1,200** **Total AC = $5,050.**	1820. Additional Returns **$0.00**
1921. Reduced Returns **$0.00**	2022. Reduced Costs **$0.18 X 40,000 bu. = $7,200**
213. Total AC + RR = **$5,050**	224. Total AR + RC = **$7,200**
235. Net Change **$7,200 - $5,050 = $2,150**	

246. Should Triple E Farms build the additional storage unit?

A. Yes
B. No

Participant Number _____ State Abbreviation _____

Part III - Cash Flow Planning

Enter the response for each question on the answer sheet. For multiple choice questions, shade the appropriate oval. For calculation questions, write the answer in the box in the answer column. Do not make any marks in the C/I column. Multiple choice and data transfer questions are each one point. Calculation and multiple answer completion questions are each two points.

Refer to R7 and R11 when responding to these questions.

1. The gross cash farm income for Triple E Farms was

   A. $2,309,322.
   B. $1,934,733.
   C. $34,000.
   D. $374,589.

2. How does depreciation affect the cash flow statement?

   A. Results in Negative Cash Flow
   B. No effect on Cash Flow
   C. Decreases Cash Flow
   D. Increases Cash Flow

3. The net change in cash for Triple E Farms was

   A. $206,705.
   B. $4,916.
   C. $576,378.
   D. $1,310,357.

4. Operating activities for Triple E Farms provided _____ in cash.

   A. $34,000
   B. $30,123
   C. $9,118
   D. $374,589

5. Triple E Farms invested $_____ for purchasing machinery and equipment.

   A. $34,000
   B. $32,500
   C. $45,500
   D. $532,378

Participant Number _____ State Abbreviation _____

6. ~~$~~ _____was provided by financing activities for Triple E Farms.

   A. $117,330
   B. $206,705
   C. $1,730,150
   D. $134,999

7. The ending cash balance for Triple E Farms (farm and personal) was

   A. $206,705.
   B. $4,916.
   C. $16,683.
   D. $11,767.

8. A whole farm business cash flow statement provides

   A. the amount of principal and interest payments for six months.
   B. the total revenue generated by Triple E Farms for~~in~~ a decade.
   C. a summary of the money in and out of Triple E Farms for~~in~~ 365 days.
   ~~D. A, B, and C are incorrect~~

9. _____ would indicate a positive cash flow.

   A. Cash Inflows > Cash Outflows
   B. Cash Inflows < Cash Outflows
   C. Cash Inflows = Cash Outflows
   D. Cash Inflows + Cash Outflows = 0

Refer to R11 for questions 10 through 13.

10. The cash inflow item that supplied over $1,000,000 more than planned was the

    A. Principal payments
    B. Money borrowed
    C. Cash farm expenses
    D. Gross cash farm income

Answer: Money borrowed – Actual $1,730,150 vs. $260,608

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11. The actual versus planned total cash outflows were _____% different than planned. Round to the nearest tenth of a percent.

37.5%

Answer: 1-(3,004,976 / 4,124,480 = .72850) = .375 = 37.5%.
Or $4,124,480 / 3,004,976 = 1.375 = 37.5%

Participant Number _____ State Abbreviation _____

12. With cash expenses of $1,970,000 instead of what was reported, the ending cash balance for 2023 would have been _____.

$-18,584

Answer: $1,970,000 – 1,934,733 = 35,267; 16,683 - 35,267 = -18,584

13. The planned versus actual farm expense that was least accurate in 2023 was _____. It was underestimated by _____. Separate the two answers with a comma.

Seed, $314,8135,443

Answer: Seed; $322,742 (actual) – 7,929 (planned) = $314,8135,443

Refer to R11, R15, R16, and/or R17 for questions 14 through 20.

14. The anticipated sale of soybeans in 2024 will account for _____% of the total cash inflow. Round to the nearest ~~0.1%.~~ tenth of a percent.

12.3%

Answer: 424,911 / 3,450,299 = 0.1231

15. After paying for all planned cash outflows through the end of November 2024, Triple E Farms anticipates having a surplus or deficit of $ _____. 1 point

$634,336

16. The difference in the beginning and end of year annual operating loan balance is ~~-~~projected to be $_____.

$1,202,667

Answer: $1,450,900 – $248,233 = $1,202,667

17. The largest amount of monthly operating loan anticipated to be borrowed in 2024 is $ _____. This is projected to occur in the month of _____.

Separate the two answers with a comma. 1 point

$192,844, February

Answer: $192,844, ~~4;~~ February

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Participant Number _____ State Abbreviation _____

18. The total amount of loan payments to be made in 2024 is $_____.

$249,714

Answer: $249,714 = 94,420 + 120,523 + 34,772

19. The projected ending cash balance for 2024 is $_____.

$248,233

Answer: $248,233

20. The actual 2023 net farm income was _____ times higher than the projected 2024 net farm income. Round to the nearest tenth ~~0.1~~.

4.7

Answer: $790,487/169,228 = 4.671 = 4.7

Participant Number _____ State Abbreviation _____

Part IV - Marketing

On the answer sheet enter the answer for each question. For Multiple Choice, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice questions are one point each. Calculations questions are two points each.

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1. All other factors being equal, how will large carryover stocks tend to affect a commodity's price?

   A. Decreased price
   B. Increased price
   C. Increased storage costs
   D. A and C

2. A producer who suspects corn markets will be bearish in the coming year believes corn prices will

   A. increase.
   B. decrease.
   C. exceed a 3-year average.
   D. A and C

3. An increase in the U.S. exchange rate causes domestic goods (produced in the U.S.) to become

   A. less expensive for U.S. consumers.
   B. more expensive for U.S. consumers.
   C. more expensive for international consumers. ~~abroad.~~
   D. less expensive for consumers abroad.

4. In a futures market, basis is defined as

   A. Futures Price – Cash.
   B. Futures Price + Cash.
   C. Cash + Futures Price.
   D. Cash – Futures Price.

5. A hedge-to-arrive contract has three components. ~~,~~ Two are locked at the time of the contract. ~~,~~ The _____ can fluctuate.

   A. futures price
   B. delivery month
   C. basis

D. c ~~C~~ash price

6. For a farmer wanting to hedge grain, what is the functional difference between selling a futures contract and placing a put option?

   A. The put option allows for upside movements in the market price.
   B. The futures contract is for a smaller amount.
   C. The futures contract has a basis.
   D. The put option protects against downside risks.

7. The percent change in quantity demanded is a measure known as

   A. demand shift.
   B. price effect.
   C. elasticity.
   D. demand change.

8. A market clearing price represents

   A. the only condition where all products supplied in the market will be sold.
   B. the only condition where supply equals demand.
   C. a perfectly competitive market.
   D. B and C

9. A dip in the U.S. exchange rate with Mexico (a weakening of the U.S. dollar compared to the Mexican p ~~P~~eso) results in

   A. more expensive U.S. corn for Mexican livestock producers.
   B. less U.S. corn exports to Mexico.
   C. cheaper U.S. corn for Mexican livestock producers.
   D. m ~~M~~ore profit for the U.S. producer.

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10. Processing sugar beets into granulated sugar provides what type of utility?

    A. Function
    B. Place
    C. Time
    D. Form

11. A principle or rule Triple E Farms can take from the micro-macro paradox is

    A. produce as much as possible.
    B. refrain from capital improvements based on global drought.
    C. promote government support programs.
    D. lobby for trade protection legislation.

Participant Number _____ State Abbreviation _____

12. Retailers, wholesalers and processors take a margin for handling products. This leaves agricultural producers

    A. operating at a loss.
    B. vulnerable to market volatility.
    C. as price takers.
    D. m~~M~~argin seekers.

13. Triple E Farms' supply cooperative can hedge against rising fuel costs by

    A. buying an oil futures contract.
    B. selling an oil call option.
    C. buying an oil put option.
    D. selling an oil futures contract.

14. When it comes to the governance of agricultural cooperatives (e.g. votes on leadership or a major capital improvement decision), _____

    A. the management team has the final say.
    B. members who own more shares carry more weight.
    C. each member has ~~only~~ one vote.
    D. the Board of Directors makes all decisions.

15. Crop insurance can be used to protect against

    A. low prices.
    B. yield loss due to adverse weather.
    C. yield loss due to insects and disease.
    D. All of the above

16. A futures contract is a mechanism for

    A. coordinating physical commodity delivery at a later date.
    B. narrowing the local basis on a given commodity date.
    C. facilitating price discovery for a future date.
    D. ensuring a profit for the commodity.

17. If John Olsgaard expects the cash price for corn to increase next week and the corn futures price to remain the same, what does he expect the basis to be?

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A. Positive
B. Strengthening
C. Weakening
D. The same

18. Domestic sugar markets are protected in part by a Tariff-Rate Quota. Under such a trade measure, all imported refined and raw sugar must pay ~~is slapped with~~ a tariff.

A. True
B. False

19. Food producers who manufacture consumer packaged goods (e.g. Twinkies), must create and execute a marketing strategy that includes the marketing mix or 4-Ps. These four components are

A. Price, Place, Promotion, Product.
B. Price, Production, Planning, Packaging.
C. Place, Product, Process, Plant Location.
D. Product, Planning, Promotion, Place.

20. _____ moves Triple E Farms closer to being price setters versus price takers.

A. Growing specialty corn varieties
B. Converting at least a portion of production to organic crops
C. Forward contracting their corn production
D. ~~Determining the feasibility of installing~~~~Creating a~~Operating their own ~~a~~small flour mill ~~to process their own wheat~~

21. If Triple E Farms started feeding cattle using some of their~~le with a portion of the~~ corn, soybeans, and _____ _____alfalfa they produce as feed, it would be considered

A. enterprise development.
B. vertical integration.
C. horizontal integration.

22. An advancement in biotechnology resulting in greater corn production per acre may shift the U.S. corn supply curve to the right. If all other factors, like consumer demand hold constant, what impact will this have on corn prices?

Participant Number _____ State Abbreviation _____

A. No change
B. Increase
C. Decrease
D. Historically high

23. A person who attempts to anticipate price changes and makes profits through market activities is known as a/an

A. arbitrator.
B. speculator.
C. consultant.
D. broker.

24. Funds deposited with a broker to trade futures contracts are in what type of account?

A. Escrow
B. Margin
C. Certificate of deposit
D. Call

25. When using options, what is the futures price you want to fix or lock-in called?

A. Strike~~Cash~~ price
B. Cash ~~Strike~~ price
C. Purchase price
D. Option price

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26. The price quote offered to the producer is a derived price that reflects the

A. value added.
B. market-related challenges.
C. cost of production.
D. final use value.

Participant Number _____ State Abbreviation _____

27. ~~27.~~ A producer is planning to sell ~~their~~ wheat at harvest and hedge the price. ~~They have decided to hedge.~~ ~~Currently,~~ July w~~W~~heat futures are at $5.10 with an expected basis of 10 under. Assume the current basis is equal to the expected basis. What is the~~ir~~ expected ~~d~~ price? ~~(2 points).~~ Calculate to the nearest cent.

$5.00

Answer: $5.10 – $0.10 = $5.00

28. On June 1, cash prices are at $7.80 and July futures are at $8.00. What is the basis? ~~(2 points).~~ Calculate to the nearest cent.

$-0.20

Answer: $7.80 – $8.00 = $-0.20

29. Did the basis strengthen, weaken, or stay the same? (1 point)

weaken

Answer: weaken

30. Calculate the net realized price. ~~(2 points)~~ Calculate to the nearest cent.

$4.90

Answer: $5.10 – $0.20 = $4.90 OR $7.80 + ($-2.90) = $4.90

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Participant Number _____ State Abbreviation _____

Part V - Income Tax

On the answer sheet enter the answer for each question. For Multiple Choice, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each.

Triple E Farms often refer to the Farmers Tax Guide (FTG)~~FTG)~~ with questions when preparing the materials for their tax accountant. Use the FTG, as needed, to respond to the following five questions.

1. Schedule F is an accurate document used by Triple E Farms for calculating net farm income and profitability of the business.

   A. True
   B. False

2. Section 179 expense deduction dollar limits are set once every five years.

   A. True
   B. False

3. Triple E Farms can deduct 50% of the cost of restaurant meals served to the workers as a business expense.

   A. True
   B. False

4. The law requires a specific kind of system for agricultural producers for keeping records of income and expenses.

   A. True
   B. False

5. While currently not a part of Triple E Farms, the sale of livestock held for draft, breeding, sport, or dairy purposes is reported on Form 4797, not Schedule F.

   A. True
   B. False

Participant Number _____ State Abbreviation _____

John and Lisa create multiple scenarios when planning their annual business activities for Triple E Farms. They file their taxes using the cash method. Use the sample "Schedule F" (R25) to answer the following questions. ~~Insert the needed~~Use the following data for ~~the following~~ questions 6 through 8.

Gross Income: $3,106,000
Depreciation: $144,550
Net Worth: $8,359,455
Total Liabilities: $3,412,397
Interest Expense $150,000
Cash Farm Expenses: $2,224,000
Accounts Receivable: $625,675

6. Calculate the Total Expenses

$2,518,550

Answer: $2,224,000 + $150,000 + $144,550 = $2,518,550

7. Calculate the net profit or loss expected in this scenario.

$587,450

Answer: +$3,106,000 – $2,518,550 = $587,450

8. In this scenario, the total expenses comprise _____% of gross income. Round to the nearest tenth of a percent, 0.1%.

81.1%

Answer: $2,518,550 / $3,106,000 = 81.1

9. The money to pay the income taxes comes from the balance after making the following calculation.

   A. Gross farm income minus (-) total expenses
   B. Gross cash income plus/minus (+/-) inventory changes minus (-) depreciation
   C. Gross farm income minus (-) total cash expenses + non-cash expenses
   D. Gross cash income minus (-) total cash expenses plus/minus (+/-) inventory changes minus (~~-~~+) total depreciation

10. Strategies to reduce taxable income for a farm operator using cash accounting include

    A. implementing the net operating loss carry-back provision.
    B. incorporating allowable use of the Section 179 and/or special depreciation allowances.
    C. postponing the reporting of some of farm income to a year of lower income.
    D. A and B
    E. A and C

Participant Number _____ State Abbreviation _____

11. Triple E Farms had a prosperous year in 2023. Using the information on R6 and R7, calculate the share (%) of the net farm income they used to pay income taxes (state, federal income, and self-employment). Calculate to the nearest tenth of a percent, 0.1%.

14.8%

Answer: $117,330 / $790,487 = 14.8

12. Self-employment tax (SE tax) is primarily for individuals who work for themselves. The current rate (%) Triple E Farms pays on taxable income is

A. 15.3%.
B. 12.4%.
C. 2.9%.
D. 18.2%.

Triple E Farms has a large inventory of farm machinery, equipment and buildings. They use the General Depreciation System (GDS), an option within the Modified Accelerated Cost Recovery System (MACRS) to select the recovery periods to depreciate their assets. Identify the correct asset category for questions 13 to 17.

13. Used backhoe

A. 5-year property
B. 7-year property
C. 10-year property
D. 15-year property
E. 20-year property

14. New beet truck (+13K lbs.)

A. 5-year property
B. 7-year property
C. 10-year property
D. 15-year property
E. 20-year property

15. 100K bu. grain bin

A. 5-year property
B. 7-year property
C. 10-year property
D. 15-year property
E. 20-year property

Participant Number _____ State Abbreviation _____

16. Machinery storage building

    A. 5-year property
    B. 7-year property
    C. 10-year property
    D. 15-year property
    E. 20-year property

17. Drain tile for land

    A. 5-year property
    B. 7-year property
    C. 10-year property
    D. 15-year property
    E. 20-year property

18. Using the GDS straight-line method table, calculate the depreciation taken in 2023 for purchasing a $50,000 new beet hauling truck on January 14, 2023. Note: this is not the only purchase during the year so the half-year convention applies. Round to the nearest whole dollar.

$5,000

Answer: ($50,000 / 5 years) = $10,000 * 0.5 = $5,000

19. The primary goal of effective tax management is to

    A. postpone tax liability as long as possible.
    B. save money and avoid IRS reviews.
    C. experience the maximum after tax income.
    D. All of the above

The Osgaards file their federal income taxes as Married, Filing Jointly. Basing their taxable income calculation on only the Schedule F data and using the tax table found on page R25, answer the following question.

20. What would their tax liability be before adjustments, deductions, and credits?

$146,357

Answer: Taxes owed at $487,450 = $111,357($587,450 – $487,450) = $100,000 * 0.35 = $35,000($111,357 + $35,000) = $146,357

Participant Number _____ State Abbreviation _____

Part VI - Investment Analysis

On the answer sheet enter the answer for each question. For Multiple Choice, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each.

1. What is repossession?

   A. Collateral is willfully turned over to the bank
   B. Paying off debt with a revised repayment schedule
   C. The ability to repay a loan from the bank with a refinanced loan
   D. The recovery of collateral for non-payment

2. What is loan amortization?

   A. Paying off debt with a fixed repayment schedule
   B. The ability to get a loan from the bank with a repayment schedule
   C. The ability to repay a loan from the bank using a repayment schedule
   D. Paying off debt with a decreasing repayment schedule

3. Interest is

   A. half of the principal.
   B. the cost of borrowing money.
   C. the remaining balance after a principal payment.
   D. the amount of money borrowed from the lender at the time of the loan.

4. What does the term "return on investment" (ROI) represent in investment analysis?

   A. The estimated profit from crop sales
   B. The ratio of revenue to investment
   C. The amount of capital required to start a farm
   D. The ratio of net profit to investment

5. Compounding is the process of determining the

   A. interest plus principal.
   B. future value of a current sum of money.
   C. present value of a future sum of money.
   D. annual loan payment amount.

Participant Number _____ State Abbreviation _____

6. Working capital is

   A. Total Assets - Total Liabilities.
   B. Current Assets - Current Liabilities.
   C. Current Assets - Long-Term Liabilities.
   D. Long-Term Assets - Current Liabilities.

Refer to page R7 to answer questions 7 and 8.

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7. The return on farm assets is calculated as

   A. (Total Revenue / Total Assets).
   B. ((Net Income + Interest) / Operating Expenses).
   C. ((Net Income + Interest + Value of unpaid oper labor & mgmt) / Total Assets)(Operating Income / Total Assets).
   D. ((Net Income + Interest - Value of unpaid operator labor & mgmt) / Total Assets).

8. How do you calculate the debt coverage ratio?

   A. Debt repayment capacity / Debt payments
   B. Debt repayment capacity / Debt repayment margin
   C. Debt payments / Debt repayment capacity

For questions 9 through 13 please refer to R5 through R13

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9. What is the total interest paid by the operation in 2023?

$138,837

Answer: $138,837 (see page R5)

10. What is the operating interest per acre for soybeans that are owned by Triple E Farms? Indicate to the nearest cent.

$3.45

Answer: $3.45 per acre (see page R8)

11. Calculate the change in long-term loan debt from 2014 to 2023.

$2,057,438

Answer: More (see page R13; changed from $2,530,982 - $473,544 to $2,530,982 = $2,057,438)

Participant Number _____ State Abbreviation _____

12. How much has the debt-to-asset ratio changed between 2014 and 2023? Enter the percent change in the answer box and whether it has increased or decreased. Separate the answers with a comma.

4%, Increased

Answer: 4% (46% - 42% = 4%; INCREASE; see page R14)

13. On R5, using market valuation, what is Triple E Farms' rate of return on assets? Indicate to the nearest tenth of a percent, x.x

5.2%

Answer: 5.2% (see page R5)

Let us assume Triple E Farms is considering securing an operating loan of $1,500,000 for seven months (30 days per month) at which time all interest and principal is due. Their current agricultural lender of 15 years is awarding them the best interest rate of 5.0%. Another local agricultural lender seeking to get his business in the future is offering them 4.50% interest. Round all answers to the nearest whole number.

14. The total amount of principal and interest due at the end of seven months with their current lender is

$1,543,750

Answer: I = Principal X Rate X Time.
Current Lender: $1,500,000 X (.05) X (210/360 = .583) = $43,750
Answer: $1,500,000 + 43,750 = $1,543,750

15. The difference in interest for the operating loan from the two agricultural lenders is_____.

$4,397

Answer: I = Principal X Rate X Time.
Current Agricultural Lender: $1,500,000 X (.05) X (210 / 360 = .583) = $43,750
Competing Agricultural Lender: $1,500,000 X (.045) X .583 = $39,353
Answer: $43,750 - 39,353 = $4,397

16. Triple E Farms plans on securing a 9 month (30 days per month) $2 million operating loan in 2025 from a relative. The daily interest for the 3.96% interest loan will be_____.

$220

Answer: I = Principal X Rate X Time.
Answer: $2,000,000 X .0396 X (270/360) = 59,400 / 270 = $220

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Participant Number _____ State Abbreviation _____

Participant Number _____ State Abbreviation _____

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Part VII - Risk Management

On the answer sheet enter the answer for each question. For Multiple Choice, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice questions are one point each. Calculations questions are two points each.

1. John's insistence on having excess machinery capacity to take advantage of short weather windows is an example of this risk management strategy.

   A. Risk Avoidance
   B. Risk Transfer
   C. Risk Control

2. Triple E Farms uses systematically distributed cash sales to market crops. This manages price risk by

   A. diversifying the prices when crops are sold.
   B. using futures contracts to lock in a set price.
   C. insuring the crop against price reductions.

3. _____ is an example of a risk transfer mechanism.

   A. Following label directions when applying pesticides
   B. A fire suppression system
   C. An insurance policy

4. Excessive rainfall is an example of a _____ risk.

   A. financial
   B. market
   C. production

5. Using best practices for foodborne illness mitigation reduces _____ risk arising from consumers contracting foodborne illnesses, and _____ risk associated with the lost revenue from unsellable produce.

   A. human, production
   B. human, financial
   C. production, financial

Participant Number _____ State Abbreviation _____

Answer question 6 below referencing this table of farm information.

Financial Metric	**Farm A**	**Farm B**	**Farm C**	**Farm D**
Current Ratio	1.36	1.02	2.30	1.68
Working Capital	$400,365	$405,894	$100,456	$212,365
Total Assets	$1,503,204	$1,130,546	$735,025	$1,236,145

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6. An analyst has prepared a partial financial scorecard for four farms. _____ demonstrates the greatest level of short-term financial risk.

   A. Farm A
   B. Farm B
   C. Farm C
   D. Farm D

7. A health insurance policy is an appropriate treatment for a farm owner's _____ risk.

   A. human
   B. financial
   C. market

8. A farmer would use the futures market to

   A. avoid risk.
   B. participate in government farm programs.
   C. transfer risk.

9. Inadvertent spray drift can cause serious financial losses. A commercial _____ would protect Triple E Farms from the risk of lawsuits arising from a claim for damages caused by inadvertent spray drift.

   A. liability insurance policy
   B. life insurance policy
   C. property insurance policy

10. If strong winds blew down a machine shed, a commercial _____ would compensate Triple E Farms for damages to the shed.~~?~~

    A. liability insurance policy
    B. life insurance policy
    C. property insurance policy

Participant Number _____ State Abbreviation _____

11. _____ would be a part of an integrated plan to manage the human safety risks associated with this farming operation.

    A. Having legally required right-to-work signage posted on the farm premises
    B. Ensuring that employees drink plenty of water to prevent heat-related injuries and illnesses
    C. Using the E~~e~~-V~~v~~erify system to verify that workers are legally entitled to work in the United States

12. Revenue protection coverage insurance protects against a decline in

    A. yield.
    B. price.
    C. price and/or yield.

13. The yield protection in revenue protection insurance is based on the _____ actual production history of yields.

    A. farm's
    B. township's
    C. state's
    D. USDA's

14. Ranking risks by their likelihood of occurrence is an example of which step in the risk management process?

    A. Identification
    B. Planning
    C. Prioritization

15. Risk transfer is the most appropriate treatment for a

    A. low frequency and high severity risk.
    B. low frequency and low severity risk.
    C. high frequency and high severity risk.

16. Use the Crop Enterprise Analysis (R8). Crop insurance premiums equal what percentage of total direct expenses for Sugar Beets Owned Shares? Round to the nearest hundredth of a percent x.xx%

5.53%

Answer: Percentage of Expenses = Crop Insurance Premium / Total Direct Expenses; $54.08 / $977.48 = .0553 = 5.53%

Participant Number _____ State Abbreviation _____

Refer to the income statement for the farm on pages R5 and R6 to answer the following questions.

17. ~~How much did Triple E Farms spend on C~~crop insurance premiums for Triple E Farms in 2023 was _____ percent of the _____ total cash expense. Round to the nearest tenth of a percent.~~?~~

~~$61,302~~3.2

Answer: ($61,302 / $1,934,733) X 100 = 3.168 = 3.2%

18. ~~How much did Triple E Farms spend on farm insurance premiums in 2023?~~Farm insurance premiums for Triple E Farms in 2023 was _____ percent of the _____ total cash expense. Round to the nearest tenth of a percent.

~~$38,686~~2.0

Answer: ($38,686 / 1,934,733) X 100 = 1.999 = 2.0%

19. What percentage of total cash expenses did crop insurance and farm insurance premiums account for in 2023? Round to the nearest whole percent.

5%

Answer: ($61,302 + 38,686) / $1,934,733 = .0517 = 5%

20. Triple E Farms has a revenue protection insurance policy on their wheat crop that guarantees a yield of 50 bushels per acre and a price of $5.50. If the farm harvested 35 bushels per acre, what would their per acre insurance payment be? Round to the nearest cent.

$82.50

Answer: Formula: (Guaranteed Yield – Actual Yield) X Price = Insurance Payment per Acre Answer: (50 - 35) X $5.50 = $82.50

21. With commercial property insurance, a deductible is an amount that a policyholder must pay out of pocket before they can begin to recover money from their insurance policy. In some circumstances, a deductible is a percentage of the property's replacement cost. If Triple E Farms has a 3% deductible on a shed that has a replacement cost of $250,000, how much is the deductible expressed in dollars?

$7,500

Answer: Formula: Property Value x Percentage Deductible = Dollar Value Deductible Answer: $250,000 X 3% = $7,500

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Participant Number _____ State Abbreviation _____

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22. Assume that Triple E Farms suffered property damage totaling $25,000, subject to the deductible calculated in the question above. How much would Triple E Farms recover from their insurance company for this loss?

$17,500

Answer: Formula: Value of Loss – Deductible = Insurance Recovery
Answer: $25,000 - $7,500 = $17,500

Participant Number _____ State Abbreviation _____

Part VIII - Business Organization and Land Measurement

On the answer sheet enter the answer for each question. For Multiple Choice, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice questions are one point each. Calculations questions are two points each.

Business Organization

1. _____ is the most common type of business organization for US farms and ranches. ~~Needed?~~

   A. A partnership
   B. A Limited Liability Company (LLC)
   C. A sole proprietorship
   D. A corporation

2. The _____ business organization provides the least protection from tort liability (a wrongful act such as negligence).

   A. general partnership
   B. S-corporation
   C. C-corporation
   D. Limited Liability Company (LLC)

3. The purpose of a Limited Liability Company (LLC) is to

   A. create a non-profit organization.
   B. limit liability and partnership taxation.
   C. avoid all business regulations.

4. A corporation's "board of directors" includes

   A. elected individuals responsible for marketing the corporation.
   B. individuals elected to oversee management and policies.
   C. only individuals employed by the corporation.
   D. individuals responsible for day-to-day operation.

5. Shareholders in a corporation

   A. operate the corporation's accounting system.
   B. manage the day-to-day operations.
   C. oversee marketing and sales.
   D. own shares and elect the board of directors.

Participant Number _____ State Abbreviation _____

6. "Business continuity" in a corporation refers to the corporation's

   A. commitment to sustainability.
   B. strategy for maintaining market share.
   C. ability to survive economic downturns.
   D. ability to continue operations following a change in leadership.

7. "Double taxation" means a corporation

   A. pays both corporate and estate taxes.
   B. pays taxes on both sales and income.
   C. is taxed on its income and shareholders are taxed on dividends.
   D. is taxed by two different states.

8. A/n _____ can elect a special tax status to receive some tax advantages.

   A. C-corporation
   B. S-corporation
   C. A-corporation
   D. J-corporation

9. A business merger is

   A. a business diversifying into multiple areas.
   B. the expansion of a business into new markets.
   C. the combination of two or more businesses into a single entity.
   D. the separation of a business into multiple entities.

Land Measurement

10. How many square feet are in an acre?

    A. 36,120
    B. 50,240
    C. 60,980
    D. 43,560

~~11. A section has REMOVE, used in subsequent question.~~

~~A. 80 acres~~
~~B. 640 acres~~
~~C. 20 acres~~
~~D. 320 acres~~

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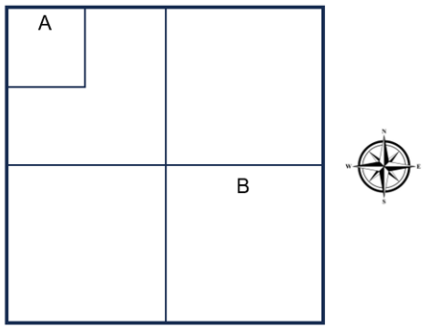
Participant Number _____ State Abbreviation _____

112. When looking at a township map where would you find Section #1?

A. Northeast corner
B. Northwest corner
C. Southeast corner
D. Southwest corner

Answer questions 124 and 135 referencing the image of Section 31.

Section 31



123. What is the legal description of the piece of land identified as A?

A. SW ¼ of the NE ¼ of Section 31
B. NW ¼ of the NW ¼ of Section 31
C. NE ¼ of the NW ¼ of Section 31
D. SE ¼ of the NE ¼ of Section 31

134. Building a fence around parcel B would require _____ feet of fence (no roads included).

A. 28,320
B. 10,560
C. 36,000
D. 43,560

Answer: (0.5 miles (2,640 ft) X 4 sides = 10,560

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Participant Number _____ State Abbreviation _____

A neighbor currently owns 3,520 acres and has purchased 1,360 acres. Use this information to answer questions 1~~4~~6 through 1~~6~~8.

1~~4~~5. How many sections of land were purchased? Calculate to the nearest hundredth x.xx.

2.13

Answer: 1,360 / 640 = 2.125 = 2.13

1~~5~~6. What percentage of a township was purchased? Round to the nearest tenth of a percent x.x

5.9%

Answer: 1,360 / (640 X 36) X 100 = 5.9%]

1~~6~~7. How many total quarter sections of land does the neighbor now own? Calculate to the nearest tenth x.x

30.5

Answer: (3,520 + 1,360) / 160 = 30.5

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Participant Number _____ State Abbreviation _____

Part IX - Analyzing the Agricultural Business Part 1

On the answer sheet enter the answer for each question. For Multiple Choice, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each.

1. A farm business cannot be liquid and insolvent at the same time.

   A. True
   B. False

2. Profitability measures how effective the business is in generating revenue from production and management decisions.

   A. True
   B. False

3. A farm business can receive a high net farm income (NFI) and have a low rate of return (%) on total assets.

   A. True
   B. False

4. A complete farm business analysis is part of the _____function of management.

A. adjustment
B. transition
C. control
D. implementation

5. When experiencing years with low profits, such as 2014 and 2019, Triple E Farms should carefully check

A. economic inefficiencies including selling prices, physical efficiencies, and input prices.
B. volume of production (tons, bushels, hundred weights, etc.).
C. volume of resources used in the business (includes scope of enterprises, land, labor and capital).
D. All of the above

6. _____ is the practice of measuring the financial health and performance of the farming business compared to itsthe past performance and/or ~~of the business in the past and~~ to similar ~~or peer~~ farms.

A. Comparison analyses
B. Quantitative analyses
C. Whole farm business analysis
D. Benchmarking

~~7.~~ Measures of farm business size does **NOT** include~~s~~ the _____. ~~(Insert the letter(s) of the correct response(s) in the answer box).~~ (DOES NOT?)

A. value of farm production.
B. number of annual and monthly business meetings with laborers.
C. number of full-time equivalent employees.
D. total assets.
E. total crop acres and livestock numbers.

~~A, C, D, E~~

~~Answer: A, C, D, E~~

8. The _____ ratio measures the operational efficiency of the business by revealing the level of revenue generated per dollar of assets.

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Participant Number _____ State Abbreviation _____

A. end of year solvency
B. operating expense
C. net farm income
D. asset turnover

9. _____ represents a financial return to the operator's equity, labor, and management.

A. Net retirement balance
B. Working capital
C. Net farm income
D. Return on assets and equity

The balance sheet dated 1.1.2023 (R3) reveals that Triple E Farms started the year with $12,871,952 of Total Farm Assets and $3,676,660 of Total Farm Liabilities. They expended 6,250 hours (R10) of labor (2,083.33 hours/employee) to generate a net farm income of $790,487 (R6).

Using this information, calculate the responses to the nearest whole dollar for questions 10 and 11.

10. What were the ~~dollars of~~ total farm assets per employee on the beginning 2023 balance sheet~~?~~ Calculate to the nearest whole dollar.

$4,290,651

Answer: $12,871,952 / 3 = $4,290,650.66 = $4,290,651

11. What were the ~~dollars of~~ total farm liabilities per employee on the beginning 2023 balance sheet~~?~~ Calculate to the nearest whole dollar.

Participant Number _____ State Abbreviation _____

$1,225,553

Answer: $3,676,660 / 3 = $1,225,553.33 = $1,225,553

Participant Number _____ State Abbreviation _____

Part X - Analyzing the Agricultural Business Part 2 ~~REVIEW THE POINTS PER QUESTION IN THIS SECTION – We may need to drop more questions.~~

On the answer sheet enter the answer for each question. For Multiple Choice, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each.

Review the data in the 2023 Financial Analysis Executive Summary on R5 and R6 to answer the following five questions.

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1. The gross farm income (GFI) would have been $ _____ if the change in inventory was -$230,000 instead of -$430,005.

$3,127,705

Answer: 2,927,700 + 430,005 - 230,000 = 3,127,705

2. Instead of being $790,487, the net farm income (NFI) would have been $ _____ with a change in inventory value of -$230,000.

$990,493 or $990,492

Answer: 3,127,705 - 2,137,212 = $990,493 or $790,487 + $200,005

3. The total expenses per crop acre for Triple E Farms in 2023 was $_____. Round to the nearest whole dollar.

$721

Answer: $2,137,212 / 2,965 = ($720.81) = $721

4. Triple E Farms rated strong for **all** the measures in which category of the Financial Scorecard (R23) based upon the Financial Analysis Executive Summary on R5.

   A. Liquidity (ending)
   B. Profitability (cost)
   C. Repayment capacity
   D. Solvency (ending)
   E. Financial efficiency

5. The asset turnover rate for the Area Average (R20) is _____ the asset turnover rate (market) for Triple E Farms.

   A. weaker than
   B. equal to

C. stronger than

Answer: Answer: Area Average is 40.8, Triple E Farms is 24.1

Refer to the Income Statement on R6 for questions 6 and 7.

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6. _____ contributed the most dollars to the Net Farm Income (NFI).

   A. Capital sales
   B. Inventory changes
   C. Net cash income
   D. Depreciation

Answer: Inventory changes contributed $568,480, net cash income $374,589, and depreciation -$152,581

7. -Seed, fertilizer, crop chemicals, and repairs accounted for _____ % of the total _cash expenses in 2023. Round to the nearest tenth of a percent x.x.

56.3%

Answer: 322,742 (seed) + 161,237 (fertilizer) + 391,924 (crop chemicals) + 212,071 (repairs) = 1,087,974; 1,087,974 / 1,934,733 = 56.3%

Use the information on R7 to answer questions 8, 9 and 10.

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8. The change in market valuation for Triple E Farms was _____ in 2023. Indicate ____ + or -

-$112,488

Answer: -$112,488

9. The difference in average farm net worth between the cost and market values was $ _____.

$689,669 or -$689,669

Answer: $6,283,181 – $5,593,512 = $689,669

10. After making debt payments, Triple E Farms had a debt repayment margin of _____ to cover the cash replacement allowance and additional purchases.

    A. $498,771
    B. $732,337
    C. $860,958

D. $353,346

Refer to R8 and R9 (Triple E Farms), R22 (Area Average) Crop Enterprise Analysis, and R10 for information for questions 11 and 12.

11. _____ has a higher net return over labor and management for sugar beets ~~beets~~ owned shares.

A. ~~The area average~~ Triple E Farms
B. ~~Triple E Farms~~Area average
C. US Beet Association Farmers

Answer: Area Average = 992.85; Triple E Farms = 794.67

12. Improving the yield of sugar beets owned shares by 1 ton per acre would increase the Total Product Value (per acre) for Triple E Farms to _____ per acre.

A. $2,376.99
B. $2,512.57
C. $2,419.86
D. $2,393.81

Answer: 27.35 X $86.91 = $2376.99

13. The data on R10 reveal sugar beets provide _____% of the total contribution to overhead.

A. 21.0 ~~78.8~~
B. 68.3~~98.8~~
C. ~~21.0~~78.8
D. 98.8 ~~68.3~~

Answer: 848,707 / 1,076,910 = 78.8

14. Compared to 2023 Actuals, _____ will most influence the 2024 projected net income from operations value in the Plan on a Page, R24.

A. Working capital
B. Net cash income
~~**C. Inventory change**~~
~~C~~D. Total assets
D. Inventory change

Answer: GCFI-TCOE = $374,589 (net cash income); Inventory change was $568,480.

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Participant Number _____ State Abbreviation _____

15. The data on R24 indicate the amount of interest projected to be paid in 2024 is _____% more than the average interest paid the past three years. Round to the nearest whole percent (%).

225%

Answer: $275,088 / $122,522 = 225%

Compare the following farm size values of Triple E Farms with the group median data on R26. Choose a rating of “Greater”, “Less”, or “Equal” for each item.

16. Total crop acres

A. Greater
B. Less
C. Equal

17. Crop acres owned

A. Greater
B. Less
C. Equal

18. Net farm income

A. Greater
B. Less
C. Equal

Compare the following farm financial standards measure values of Triple E Farms with the group median data on R26. Place a rating of “Better”, “Worse”, or “Equal" for each item. ~~IF TOO MANY POINTS, Maybe remove 1 or 2 of these items.~~

19. Current ratio

A. Better
B. Worse
C. Equal

20. Operating profit margin (cost)

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Participant Number _____ State Abbreviation _____

A. Better
B. Worse
C. Equal

21. Rate of return on assets (mkt)

A. Better
B. Worse
C. Equal

22. Working capital to gross revenue

A. Better
B. Worse
C. Equal

~~23. Replacement coverage ratio~~

~~A. Better~~
~~B. Worse~~
~~C. Equal~~

234. Total debt to asset ratio

A. Better
B. Worse
C. Equal

245. Asset turnover rate (mkt)

A. Better
B. Worse
C. Equal

256. Of the three factors listed, Triple E Farms has the lowest percentile rank for which farm financial standard measure on R26?

A. farm debt to asset ratio
B. working capital to operating expense
C. rate of return on equity

Refer to R13 Comparative Balance Sheets for questions 267 and 278.

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Participant Number _____ State Abbreviation _____

267. Retained earnings contributed _____% of the net worth for 2023. Calculate to the nearest tenth (x.x) of a percentage point.

85.8%

Answer: 6,693,497 / 7,805,692 = 85.75 = 85.8%

278. The average annual net worth change for Triple E Farms for the four year period of 2020 to 2023 was_____.

$932,790

Answer: 306,398 + 581,408 + 2,142,709 + 700,646 = 3,731,161 / 4 = $932,790

Refer to R14 Comparative Trend for questions 289 and 2930.

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289. Triple E Farms had the lowest amount of working capital during _____.

A. 2019
B. 2017
C. 2018
D. 2023

Answer: R14 2019 was -$428, all other years it was positive.

2930. The sugar beet yield continued to improve every year since 2014.

A. True
B. False

Answer: S: R14 Crop and Livestock Summary. The yield vacillated from a high of 39 in 2016 to a low of 24.8 in 2020.

Participant Number _____ State Abbreviation _____

Part XI - Family Living

On the answer sheet enter the answer for each question. For Multiple Choice, shade the appropriate oval. For Calculations questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each.

Refer to R10 and R11 for the following questions.

1. The Olsgaard family spent _____on personal vehicle operating expenses. 1 point

$9,675

Answer: $9,675

2. How much did the Olsgaard family spend on gifts? 1 point

$20,000

Answer: $20,000

3. For Triple E Farms, the expense easiest to reduce would be

   A. medical care.
   B. household real estate.
   C. recreation.
   D. life insurance.

4. Compared to the area average, how much more did the Olsgaard family spend on total family living? Round to the nearest dollar.

$40,358

Answer: ($134,999 - $94,641) = $40,358

5. Excluding personal real estate purchased, what percentage of Total Personal Expenditures does the Olsgaard family put toward personal savings and investments? Round answer to the tenth of a percent.

13.4%

Answer: $42,080 / ($784,707 – $471,493) = .134 = 13.4%

6. The Olsgaard family's actual family living expenses were how many dollars higher than planned?

$46,999

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Participant Number _____ State Abbreviation _____

Answer: $134,999 - $88,000 = $46,999

7. What percent of total family living expense did Triple E Farms spend on clothing? Round to the nearest tenth of a percent.

2.2%

Answer: ($2,978 / $134,999) x 100 = 2.2%

~~Remove 8 and 9.~~

8. A family doctor bill for an injury caused by a farm accident is a family living expense.

   A. True
   B. False

9. What is the family's personal interest expense? 1 point

$3,835

Answer: $3,835

Participant Number _____ State Abbreviation _____

Part XII - Economic Principles

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations questions are two points each.

1. A tax levied on goods as they enter a country is known as

   A. a tariff.
   B. a quota.
   C. an excise tax.
   D. a sales tax.

2. As Triple E Farms produce more wheat, their cost per acre to produce wheat declines. This economic principle is known as economics of

   ~~**A. scale.**~~ A
   ~~B~~. value.
   B~~C~~. leverage.
   C~~D~~. margin.
   D~~A~~. **scale.**

3. _____ is **NOT** a function of the Federal Reserve System.

   A. Approving the federal budget
   B. Supervising member banks
   C. Supplying the economy with paper currency
   D. Lending to depository institutions

4. Most of the spending for the Farm Bill is allocated to _____ programs.

   A. conservation
   B. commodity
   C. crop insurance
   D. nutrition

5. _____ is **NOT** an input category in production economics.

   A. Labor
   B. Demand
   C. Capital
   D. Land

Participant Number _____ State Abbreviation _____

6. Triple E Farms can purchase electrical power from only one company. The competitive environment for this electrical company is best described as

   A. monopolistic competition.
   B. an oligopoly.
   C. perfect competition.
   D. a monopoly.

7. Demand for premium beef is elastic. If the price for premium beef increases, consumers' expenditures for premium beef will likely

   A. remain the same.
   B. increase.
   C. decrease.

8. _____ is **NOT** a characteristic of a perfectly competitive market.

   A. No barriers to entry or exit
   B. Differentiated products
   C. Producers with perfect information
   D. Large number of producers

9. As consumption of a good increases, the satisfaction one derives from consuming that good decreases. This is known as the Law of Diminishing

   A. Marginal Utility.
   B. Value.
   C. Efficiency.
   D. Consumption.

10. A change in _____ causes a change of quantity demanded along a demand curve.

    A. consumers' taste and preferences
    B. the price of the product
    C. the price of substitute products
    D. the price of complementary products

11. A shortage of a product exists when the price of the product is below the equilibrium price.

Participant Number _____ State Abbreviation _____

A. True
B. False

12. A company that _____ best describes a vertically integrated company.

    A. expands its operations into different geographic regions
    B. diversifies its product offerings to cater to different markets
    C. forms alliances with other firms to share resources
    D. controls various stages of production

13. The Federal Reserve's target rate of inflation is

    A. 6%.
    B. 2%.
    C. 4%.
    D. 0%.

14. Policies that _____ best characterize protectionist policies in agriculture.

    A. encourage agricultural exports and boost international competitiveness
    B. endorse the protection of agricultural technologies across borders
    C. limit imports of agricultural products to protect domestic farmers
    D. promote environmental conservation

15. The economics term "laissez-faire" refers to a

    A. hands-off approach where the government minimizes intervention.
    B. policy of protectionism aimed at shielding domestic industries.
    C. system where the government owns all means of production.
    D. government policy of strict regulation and control over the economy.

16. Four large conglomerates control most of the meat packing industry in the United States. The controlling of a market by a handful of firms results in _____ market.

    A. a concentrated
    B. a vertically integrated
    C. a competitive
    D. an oligopolistic

17. The concept of opportunity cost in agricultural economics is best defined as the

    A. total cost compared to the area benchmark.
    B. monetary cost of purchasing a specific input for agricultural production.

C. value of the next best alternative when a decision is made.
D. difference between total revenue and total cost in agricultural production.

18. In the context of agricultural production "marginal cost" is the

A. average total cost of producing each unit of output.
B. additional cost of producing one more unit of output.
C. cost incurred when production is halted.
D. difference between total revenue and total cost.

19. In a perfectly competitive agricultural market,

A. individual farmers have significant control over the market price of their products.
B. there are high barriers to entry, preventing new farmers from entering the market.
C. products from different farms are considered identical by consumers.
D. each farm can earn long-term economic profits due to customer loyalty.

20. A primary reason for government intervention in agricultural markets is to

A. ensure that only large farms are profitable.
B. stabilize food prices and support farm incomes.
C. increase the use of technology in farming.
D. promote international trade of agricultural products.