

## 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 Short Answer 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 and Short Answer questions are two points each.

1. Which financial statement lists the value of farm assets and liabilities on a specified date?
  - A. Balance sheet**
  - B. Income statement
  - C. Statement of owner equity
  - D. Statement of cash flows
2. This financial statement reports farm revenues minus farm operating and financial expenses over an accounting period.
  - A. Balance sheet
  - B. Income statement**
  - C. Statement of owner equity
  - D. Statement of cash flows
3. This financial statement expresses the relationship between the sources of cash and uses of cash over an accounting period.
  - A. Balance sheet
  - B. Income statement
  - C. Statement of owner equity
  - D. Statement of cash flows**
4. This financial statement explains changes in net worth.
  - A. Balance sheet
  - B. Income statement
  - C. Statement of owner equity**
  - D. Statement of cash flows
5. Which of the following is considered a farm revenue in an accrual-adjusted income statement?
  - A. Fertilizer expense during the accounting period.
  - B. Crop sales during the accounting period.
  - C. The increase in the value of crop inventory during the accounting period.
  - D. B & C**
  - E. A & C

6. The original cost basis of an asset plus the cost of any improvements or alterations that extends the life of the asset less accumulated depreciation or depletion on the asset is referred to as the
- A. net cost value of the asset.
  - B. net market value of the asset.
  - C. adjusted basis or cost value of the asset.**
  - D. total amortization value of the asset.
7. Net Farm Income from Operations for a sole proprietorship business refers to
- A. accrual adjusted revenues minus accrual adjusted expenses.**
  - B. total market value assets minus total liabilities.
  - C. current assets minus current liabilities.
  - D. cash income minus cash expenses.
8. 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.
9. The owner equity of a farm business is comprised of which three parts?
- A. Current assets, intermediate assets and long term assets.
  - B. Cost based asset values, market based asset values and inflation adjusted asset values.
  - C. Contributed or paid in capital, retained earnings and valuation equity.**
  - D. Change in asset values, change in liabilities and change in cash.
10. Net Farm Income for a farm business organized as a sole proprietorship represents a return to all the following except
- A. unpaid family labor.
  - B. owner's investment in the business.
  - C. equity capital.
  - D. borrowed capital.**
11. Which one of the following statements is true?
- A. The Statement of Cash Flows includes non-cash revenues while the Income Statement includes only cash revenue and cash expenses.
  - B. The Accrual Income Statement can have a gross revenue smaller than total cash income reported in the Statement of Cash Flows.**
  - C. Depreciation is included in the Statement of Cash Flows and the Income Statement.
  - D. The purpose of both the Income Statement and the Statement of Cash Flows is to measure profits of the farm business.

12. Which one of the following can increase the retained earnings of the farm business?
- A. Net farm income greater than business withdrawals for family living expenses and income taxes.**
  - B. Net farm income less than business withdrawals for family living expenses and income.
  - C. An operating loss for the accounting period.
  - D. An increase in the amount of money withdrawn from the business for family living expenses and income taxes.
13. On the beginning balance sheet of Valley View Farm, R1 & R2, crop inventory is valued at \$238,958. On the ending balance sheet of Valley View Farm, R3 & R4, crop inventory is valued at \$322,191. This indicates that crops sold
- A. correctly report accrual adjusted crop revenues.
  - B. understate the accrual adjusted crop revenues.**
  - C. overstates the accrual adjusted crop revenues.
  - D. play no part in calculating accrual adjusted crop revenues.
14. If the calculated ending owner equity equals the owner equity reported on the ending balance sheet,
- A. this would give you confidence your balance sheet and accrual-adjusted income and expense data are accurate.**
  - B. this would indicate there is an error in your balance sheet, income, and expense data.
  - C. this tells you nothing about the accuracy of your financial data.

**Use the data found in the financial statements for the Valley View Farm to answer the following questions.**

15. On the beginning balance sheet, current assets represent what percent of total market farm assets? Round to the nearest tenth of a percent xx.x%.

$$\text{\$640,838} / \text{\$5,745,929} = 11.2\%$$

16. On the ending balance sheet, what asset contributes the largest value to the total market value assets of Valley View Farm?
- A. Machinery
  - B. Inventory of stored grain and market livestock
  - C. Operating loan
  - D. Land**
17. On the beginning balance sheet, what is the valuation equity for the Valley View Farm?

$$\text{\$5,745,929} - \text{\$2,020,446} = \text{\$3,725,483}$$

**or if looked up \$3,725,482**

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

18. When Olaf purchased a farm in 2016, he decided to refinance the existing farm mortgage. The accrued interest from the existing mortgage was added to the new mortgage. The last payment on the existing mortgage was made on March 31, 2016. Interest on the mortgage accrues at the rate of \$88.28 per day. What was the amount of accrued interest added to the new mortgage on November 1, 2016? Calculate to the nearest cent.

$$(30+31+30+31+31+30+31) \times \$88.28 = \$18,891.92$$

19. Part of the farm purchased in 2016 was financed with a \$175,000 contract with the seller. The interest rate is 4.5%. Constant annual principal and interest payments will be made each November 1 for 10 years. Using the table of amortization factors in the resource material, R22, what is the annual principal and interest payment that must be made on this contract? Calculate to the nearest cent.

$$\$175,000 \times 0.12638 = \$22,116.50$$

20. The accrual adjustment for Prepaids and Supplies in the Income Statement, R5 & R6, indicates cash expenses overstate expenses for the accounting period by how much?

$$\$139,047 - \$41,895 = \$97,152$$

21. The statement of cash flows indicates \$\_\_\_\_\_ was borrowed during 2016.

$$\$2,671,984$$

## 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 Short Answer 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 and Short Answer questions are two points each.

1. A financial management tool showing the projected costs and returns associated with a single production process is a/an
  - A. cash flow projection.
  - B. enterprise budget.**
  - C. partial budget.
  - D. whole farm budget.
2. A management tool where a person compares two different production options or practices, and then compares estimated income and expenses to identify the better option or practice is a/an
  - A. partial budget.**
  - B. cash flow projection.
  - C. enterprise budget.
  - D. whole farm budget.
3. When determining the effect of growing more acres of a crop in an enterprise budget, the value least likely to change would be
  - A. total average costs.
  - B. total operating costs.
  - C. operating costs per acre.**
  - D. total variable costs.
4. 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.
5. A whole farm schedule of expected returns and expenses is a
  - A. balance sheet.
  - B. partial budget.
  - C. depreciation schedule.
  - D. budget.**

6. In a partial budget, to determine the effect of choosing one option over another, you would
- A. subtract additional costs plus reduced returns from additional revenue plus reduced costs.**
  - B. add additional revenue to reduced costs.
  - C. subtract additional revenue plus reduced returns from additional costs plus reduced costs.
  - D. subtract additional revenue from additional costs.
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**
  - C. Local market value plus 10%
  - D. Reported state average sale price
8. A cash flow projection is a form of budgeting that is used to
- A. determine living expenses.
  - B. determine a yearend balance.
  - C. determine operating credit needs.**
  - D. calculate total farm equity.

Use the Valley View Farm Enterprise Analysis pages to answer questions 9 and 10.

9. Which of the following contributes the largest amount of expense to the total farm overhead expenses?
- A. Interest on long term debt
  - B. Building depreciation
  - C. Utilities
  - D. Hired labor**
10. Based on the Enterprise Analysis, which enterprise would contribute the most to the total Net Farm Income?
- A. Corn cash rented
  - B. Corn silage owned
  - C. Soybeans cash rented**
  - D. Beef finishing

Valley View Farm would like to determine break-even prices and break-even yields on some of their enterprises in order to make some management decisions.

11. What is the break-even price per bushel to cover total direct and overhead expenses for owned corn? Round answer to the nearest cent.

<b>\$ 4.10</b>
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12. What is the break-even price per bushel to cover only the total direct expenses for the owned corn? Round answer to the nearest cent.

**\$ 2.29**

13. What is the break-even yield per acre necessary to cover all direct and overhead expenses for the owned corn? Round answer to the nearest whole bushel.

**\$738.18 / \$3.50 = 211**

14. What is the break-even price per bushel to cover all direct and overhead costs for soybeans on rented ground? Round answer to the nearest cent.

**\$7.80**

15. Over the long run, if Valley View Farm sees little or no change in the Enterprise Analysis, should they maintain corn grain production on their owned ground?

A. Yes

**B. No**

16. The beef enterprise anticipates that 510 tons of corn silage will be needed to feed the cattle. How many tons of corn silage does the farm expect to produce from its corn silage enterprise? Round the answer to the nearest ton.

**27.5 x 22.04 = 606 tons**

17. The beef enterprise budget anticipates that they will need 11,400 bushels of corn to feed the cattle. What is the expected production from the owned and rented corn enterprises? Round the answer to the nearest whole bushel.

**(181.4 x 179.99) + (300 x 179.99) = 86,647**

18. How many bushels of extra corn would the farm expect to have for sale? Round the answer to the nearest whole bushel.

**86,647 - 11,400 = 75,247**

### Part III – Cash Flow

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer 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 and Short Answer questions are two points each.

1. Which of the following is correct, concerning the 2017 Cash Flow Projections and the resulting Projected Income Statement?
  - A. When looking at the profitability of the projected year, the Cash Flow Projection portion estimates the various sources of and uses for cash on a monthly basis.
  - B. The Cash Flow Projection by itself does not give a true picture of Net Farm Income (profitability) for the coming year.
  - C. The projected changes in inventory of both income and expense items are important in projecting Net Farm Income.
  - D. None of the above is true.
  - E. A, B and C are all true.**
2. Without counting the “Beginning Cash Balance” for the month, which month is anticipated to have the largest inflow of cash from its various sources?

<b>October</b>
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3. Which month is anticipated to have the largest combined payments on intermediate and long-term loans?

<b>November</b>
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4. What is the Operating Loan (AO) balance projected to be at the end of the year 2017?

<b>\$236,331</b>
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5. What is the amount of the projected Net Farm Income for 2017?

<b>\$153,689</b>
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6. The amount spent for Family Living has no effect on the ability to service debt.
  - A. True
  - B. False**



7. A 10% decrease in 2017 revenue would cause the Term Debt Coverage Ratio to be less than adequate.
- A. True**  
B. False
8. The 2017 Cash Flow Projection indicates a cash surplus after paying operating expenses and servicing term debt.
- A. True  
**B. False**
9. In 2017, the projected ending operating loan balance is larger than the beginning operating loan balance.
- A. True**  
B. False
10. Holding all else constant, if less cash were retained in the checking account, the ending balance of the operating loan would be smaller.
- A. True**  
B. False
11. If the large seed bill that is anticipated to be paid in November of 2017 was postponed until January of 2018, the Operating Loan Balance at the end of the 2017 would be smaller, and the Net Farm Income for 2017 would be larger.
- A. True  
**B. False**
12. Solvency measures the ability of all assets, if sold at market value, to cover all debts.
- A. True**  
B. False
13. A good measure of Solvency is the Current Ratio.
- A. True  
**B. False**
14. Refinancing a portion of an operating loan as a longer-term debt would improve the Liquidity of the business.
- A. True**  
B. False

15. Refinancing a portion of an operating loan as a longer-term debt would improve the Solvency of the business.
- A. True  
**B. False**
16. Selling a piece of equipment that is no longer used would generate cash that could help meet the cash flow needs of the business.
- A. True**  
B. False
17. Increasing cash flow does not necessarily increase net profit.
- A. True**  
B. False
18. Comparing the Planned Income for 2017 with the Actual Income for 2016, in the 2016 Analysis, a major reason for the improvement in Net Cash Farm Income is because the producer was able to lower cash farm expenses.
- A. True  
**B. False**
19. Although family living for a sole proprietor farmer is not a “farm expense,” it is important to include it on a Cash Flow Projection because it has a definite effect on the finances of the operation.
- A. True**  
B. False
20. The Current Ratio is calculated by dividing the Current Assets by the \_\_\_\_\_ . (Complete the statement with the correct word or words.)

<b>Current Liabilities</b>
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21. What percent of the 2017 total inflow (cash) is corn sales?  
(Calculate to the nearest tenth of one percent, x.x%.)

<b>\$259,225 / \$1,492,962 = 17.7%</b>
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## 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 Short Answer 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 and Short Answer questions are two points each.

1. Which of the following are business marketing utilities?  
a) Form   b) Order   c) Place   d) Shape   e) Time   f) Possession  
A. a, b, d, e, and f  
**B. a, c, e and f**  
C. b, c, d and f  
D. b, c, d, e and f  
E. c and d
2. The law of demand says that a consumer will buy more at  
**A. lower prices.**  
B. higher prices.  
C. same prices.  
D. any price.
3. The most common element of federal government programs has been to  
A. lower production.  
B. have a food reserve.  
**C. provide price support.**  
D. fund research activities.
4. Price movement occurs over time because  
a. demand shifts.   b. supply shifts.   c. prices rise.   d. prices fall.  
**A. a and b**  
B. b and c  
C. c and d  
D. a and c
5. Producers can protect prices by the use of  
a. cash contracts.   b. basis contracts.   c. futures contracts.   d. option contracts  
A. a, b and c  
B. a, b and d  
**C. a, c and d**  
D. b, c and d

6. Producers have more corn than they can store. In looking at alternatives open to them, they found that the elevator will take corn at harvest for \$3.65 per bu. or they will let them store it. The storage charges are \$.25 for Oct., Nov., Dec. if it is there for one day or the 92 days. It is \$.05 per month after that charged on the first day of the month. They could sell out of the field **or** sell on the futures market.

Futures prices are:

Oct. \$3.65      Dec. \$3.75      Jan. \$3.85      Mar. \$4.00      May \$4.10      June \$4.15

What is the best alternative for selling this extra corn?

**Sell out of the field - October**

7. Valley View Farm is considering holding corn until March. What would be the minimum price needed to cover storage costs?

**\$4.05**  
 **$\$3.65 + .25 + .15 = \$4.05$**

8. A neighbor has a bin he will rent for \$.35 per bushel for the year. How much more could be made per bushel if the corn were sold in June?

**\$.15**  
 **$\$4.15 - 3.65 - .35 = \$.15$**

9. In the above case if a \$4.00 call option is purchased for June for \$.20, what price would the futures have to reach before any money would be made with this option?

**\$4.20**  
 **$\$4.00 + .20 = \$4.20$**

10. If he purchased the option and the corn price remained the same, what would the net price for his corn be?

**\$3.45**  
 **$\$3.65 - .20 = \$3.45$**

11. If corn rallied to \$4.50, what would his net corn price be?

**\$3.95**  
 **$\$4.50 - 4.20 = .30$**   
 **$\$3.65 + .30 = \$3.95$**

12. How many bushels are in a corn futures option contract?

**5000**

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13. If he uses futures contracts for his feeder cattle, how many pounds are in each contract?

<b>50,000</b>
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14. To protect the price of the cattle on feed, he should

- A. purchase a call option.
- B. purchase a put option.**
- C. sell a put option.
- D. sell a call option.

15. If the cattle were hedged, what would he do on the futures market when he sells the cattle?

- A. sell a futures contract
- B. sell call options
- C. buy a futures contract**
- D. purchase put options

## 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 Short Answer 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 and Short Answer questions are two points each.

1. Under the cash method of accounting, an expense becomes a deductible expense if the bill is owed but has not yet been paid.  
**A. True**  
**B. False**
2. Under the cash method of accounting, income that arrives in the mail at the end of the year does not have to be claimed as income for the year if it is not deposited into the bank account until the next business year.  
**A. True**  
**B. False**
3. Under the cash method of accounting, income is considered to be constructively received if it is available to you without restriction.  
**A. True**  
**B. False**
4. In order to figure gain or loss on the sale of a capital asset, you must often make adjustments to the original basis of the asset.  
**A. True**  
**B. False**
5. In the case of Commodity Credit Corporation (CCC) loans on grain, the farmer can choose to have them treated either as a sale of grain, or as a loan for tax purposes.  
**A. True**  
**B. False**
6. If you buy or make improvements to farm property that have a useful life of more than one year, you generally must spread the cost over several years. This is called  
**A. basis.**  
**B. deflation.**  
**C. depreciation.**  
**D. appreciation.**  
**E. inflation.**

7. Assuming that the farmer's purchases of all qualifying property is below the allowable Section 179 limit, which property(ies) would be eligible for a Section 179 deduction?
- A. A new grain bin costing \$48,000.**
  - B. A portion of the cost of a used tractor purchased from her father.
  - C. A portion of the new machine shed that could also double as a grain storage facility in certain years.
  - D. All of the above.
  - E. None of the above.

**In 2016, a "Special Depreciation Allowance" (additional 50% special depreciation allowance) was available to farmers in certain cases. The following are characteristics of the "Special Depreciation Allowance":**

8. It would allow you to receive a \$75,000 depreciation deduction over time on a \$50,000 new tractor.
- A. True
  - B. False**
9. It could be used on the construction cost of a new machine shed that could double as a hay storage facility.
- A. True**
  - B. False

A farmer purchased a used tractor several years ago for \$40,000. For tax purposes, she owned it long enough that it was fully depreciated. She decided it would make good business sense to have a newer and better tractor. The local dealer had a nice used tractor that he would sell for \$85,000, or he would offer a trade-in value of \$28,000 for the farmer's older one. The farmer decided to trade in the old tractor. The trade was made on September 15, 2016. She paid \$30,000 of her own cash and borrowed the rest on a three-year loan. Use this information to answer questions 10 – 13 . Round the answers to the nearest dollar.

10. What was the adjusted basis of the old tractor?

**-0- Zero**

11. What was the original tax basis of the newly purchased tractor?

**\$57,000**

12. How much of this tractor purchase could she write off using the Additional 50% Special Depreciation Allowance?

**-0- Zero**

13. If she did not use any Section 179 deduction, how much depreciation could she take in 2016 using MACRS GDS Straight Line Method? Round the answer to the nearest dollar.

**\$4,071**

A farmer had purchased a breeding bull several years ago for \$7,000. While he owned it, he took \$5,600 depreciation on it. He sold the bull and received \$1,800. Use this information to answer question 14. Round the answer to the nearest dollar.

14. What is the taxable gain (or loss) on the sale?

**\$400**

15. What is the self-employment tax rate?

**15.3%**

16. Which of the following sources of farm income would be subject to Self-Employment Tax for a self-employed farmer?

- A. Sale of raised crops**
- B. Sale of an old plow
- C. Sale of raised dairy cows
- D. All of the above
- E. None of the above

A farm business can be structured as one of several types of business entities. Answer questions 17 - 21 by using the letter by the business entity. Use each answer only once.

17. The entity itself is not taxed. The owner's share of income is taxable to the owner, subject to federal and state (if appropriate) income taxes, but not to self-employment tax.

- A. Sole-proprietor
- B. Partnership
- C. LLC
- D. S-Corporation**
- E. C-Corporation

18. The entity is taxed. The after-tax profits can be distributed to the owner as dividends and are subject to tax for a second time.

- A. Sole-proprietor
- B. Partnership
- C. LLC
- D. S-Corporation
- E. C-Corporation**



19. Simplest form of business structure. All farm income earned is subject to self-employment tax.
- A. Sole-proprietor**
  - B. Partnership
  - C. LLC
  - D. S-Corporation
  - E. C-Corporation
20. Owners are called members.
- A. Sole-proprietor
  - B. Partnership
  - C. LLC**
  - D. S-Corporation
  - E. C-Corporation
21. The entity itself is not taxed. The owner's share of income is taxable to the owner and is subject to self-employment tax as well as federal income taxes.
- A. Sole-proprietor
  - B. Partnership**
  - C. LLC
  - D. S-Corporation
  - E. C-Corporation

Farmer Mary has three employees. Michael works full-time, all year. Sheri works part-time during the summer months. Mary's son Steve (seventeen-years-old) works part-time all year on the farm. Total cash wages paid to the three employees totaled \$51,500 in 2016. In addition to cash wages, son Steve is paid a commodity wage of 500 bushels of corn, which he feeds to his FFA swine project.

22. Social Security and Medicare (FICA) taxes must be withheld from the cash wages paid to all three employees.
- A. True
  - B. False**
23. The value of Steve's commodity wage corn is subject to Federal taxes, but not to FICA taxes.
- A. True**
  - B. False

## 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 Short Answer 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 and Short Answer questions are two points each.

Valley View Farm wants to buy a lightly used 2014 John Deere JD1760 12 row corn planter. They want this newer planter to replace the JD7000 six row planter they currently own. The dealer will provide them a six-year loan with an interest rate of 6.5%. The price of the planter delivered is \$61,000. The local dealer will allow them \$10,000 trade-in for the newer one. The payments are due in annual installments. Because they are such great customers, the dealer allowed zero percent down and will carry the note in-house.

Year	Annual Payment	Interest	Principal	Balance
0	XXXX	XXXX	XXXX	\$51,000.00
1	\$10,534.98	\$3,315.00	\$7,219.98	\$43,780.02
2	\$10,534.98	\$2,845.70	\$7,689.28	\$36,090.74
3	\$10,534.98	\$2,345.90	\$8,189.08	\$27,901.66
4	\$10,534.98	\$1,813.61	\$8,721.37	\$19,180.29
5	\$10,534.98	\$1,246.72	\$9,288.26	\$9,892.03
6	\$10,535.01	\$642.98	\$9,892.03	\$0.00

1. The accumulated interest will be

**\$12,209.91**

2. The annual payment will always be the same.

A. True  
**B. False**

3. What is the beginning balance?

**\$51,000**

4. What will the balance be after the final payment is made?

**\$0**

5. What is the annual payment in year 6?

**\$10,535.01**

6. If quarterly payments were made instead of annual payments, the quarterly payment would be \$2,583.25. What would be the balance on the loan after the first quarterly payment? Calculate to the nearest cent. \$xx.xx

<b>\$49,245.50</b>
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7. What would the interest be for the second quarterly payment? Calculate to the nearest cent. \$xx.xx

<b>\$800.24</b>
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8. The principal amount in each of the payments on this note will always be the same.

A. True  
**B. False**

9. What is principal?

**A. The actual amount of money borrowed from the dealer.**  
B. The total amount of money you pay to the lender.  
C. The present value.  
D. The amount of money left over.

10. What is amortization?

A. The ability to get a loan from the bank.  
B. Paying off debt with a varying repayment schedule.  
**C. Paying off debt with a fixed repayment schedule.**  
D. The ability to repay a loan from the bank.

11. What is the usual length of time for the term on a loan?

A. 5 year property  
B. 7 year property  
C. 10 year property  
**D. It will match the useful life of the asset**

12. The annual payment generally consists of two things. What are they?

**A. Interest and Principal**  
B. Principal and Balance  
C. Balance and Interest

13. Interest is

A. the actual amount of money borrowed from the dealer.  
**B. the amount of money you pay to the lender for borrowing the money.**  
C. the present value.  
D. the amount of money left over.

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14. For all amortized loans the interest amount on each loan payment will always remain the same during the life of the loan.

A. True

**B. False**

15. Regardless of the loan type, all loans, except personal loans, are governed by state and federal guidelines to protect consumers.

**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 Short Answer 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 and Short Answer questions are two points each.

1. Which of the following is an example of market risk?
  - A. A change in corn prices
  - B. A change in corn production
  - C. A change in consumer's tastes and preferences that affect the willingness to pay for GMO products
  - D. Both A and C**
2. What is an example of human risk?
  - A. A drought reducing corn yields
  - B. A change in interest rates
  - C. Hired help injured by farm machinery**
  - D. A change in regulations regarding pesticide use
3. \_\_\_\_\_ is an example of risk transfer.
  - A. Crop insurance
  - B. Hedging with commodity futures
  - C. Fire alarms and fire sprinklers
  - D. Both A and B**
4. The current ratio is a measure of \_\_\_\_\_ risk.
  - A. production
  - B. market
  - C. financial**
  - D. human
  - E. legal
5. Forming an LLC can reduce the business owner's \_\_\_\_\_ risk.
  - A. production
  - B. market
  - C. financial
  - D. human
  - E. legal**
6. To establish a price ceiling for corn feed expense, a livestock producer should
  - A. buy a Put option.
  - B. sell a Put option.
  - C. buy a Call option.**
  - D. sell a Call option

7. Revenue protection crop insurance protects against
- A. a decline in price.
  - B. a decline in yield.
  - C. an increase in variable costs.
  - D. a decline in price or yield.**
8. It is June and the soybean futures market is trading at a profitable price. A farmer decides to hedge the price of soybeans that will be sold at harvest. What should the farmer do to hedge the soybeans?
- A. Buy futures contracts expecting to buy more contracts when selling soybeans at harvest.
  - B. Buy futures contracts expecting to sell those contracts when selling soybeans at harvest.
  - C. Sell futures contracts expecting to buy those contracts when selling soybeans at harvest.**
  - D. Sell futures contracts expecting to sell more contracts when selling soybeans at harvest.
9. Once a farmer is hedged in the futures market, 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 smaller than expected yield.
  - D. A change in the basis.**
10. Which of the following is not one of the steps of the risk management process?
- A. Identify
  - B. Monitor
  - C. Prioritize
  - D. Budget**
11. Which of the following risks should realistically be transferred?
- A. A low frequency and low severity risk.
  - B. A low frequency and high severity risk.**
  - C. A high frequency and low severity risk
  - D. All of these risks should be transferred.

Use the following information to answer questions 12 – 14. A farmer budgets corn production assuming an expected yield of 150 bushels per acre, total variable input costs of \$445 and cash rent of \$200 per acre.

12. What is the per bushel break-even price needed to cover total input costs and cash rent? Round to the nearest penny.

<b>\$4.30</b>
---------------

$$\text{Break-even Price} = (\$445 + \$200) / 150 = (\$645 / 150) = \$4.30 / \text{bushel}$$

13. What is the per bushel break-even price needed if the harvested yield is 125 bushels/acre? Round to the nearest penny.

<b>\$5.16</b>
---------------

**Break-even Price = (\$645 / 125) = \$5.16 / bushel**

The farmer could produce soybeans yielding 65 bushels/acre with production costs of \$350/acre and land cash rent of \$200 per acre.

14. What is the per bushel price of soybeans needed to have the same profit as 150 bushel corn sold at a price of \$4.50 / bushel? Round to the nearest penny.

<b>\$7.19</b>
---------------

**Soybean Price = (\$4.50 x 150 - \$445 + \$350) / 65 = \$7.19 / bushel**

15. A family just purchased a home with borrowed money. They should consider which risk management tool?
- A. Hedging with commodity futures
  - B. Enterprise diversification
  - C. Life insurance**
  - D. Liability insurance
16. Liability insurance protects against
- A. lost income due to family member's death.
  - B. crop loss due to inclement weather.
  - C. legal risk.**
  - D. lower commodity prices.
17. When a farmer hedges with commodity futures, the risk is passed to
- A. the purchaser of the contract (speculator).**
  - B. the commodity exchange.
  - C. the commodity broker.
  - D. all who share in the risk equally.
18. \_\_\_\_\_ is an economic device where an individual substitutes a certain cost (premium) for an uncertain financial risk.
- A. Insurance**
  - B. Hedging
  - C. Forward contracting
  - D. Diversification

19. \_\_\_\_\_ is the selling of a commodity futures contract to protect a farmer from lower prices at the time the product is sold.
- A. Insurance
  - B. Hedging**
  - C. Forward contracting
  - D. Diversification
20. \_\_\_\_\_ is the practice of producing several enterprises to protect against risk.
- A. Insurance
  - B. Hedging
  - C. Forward contracting
  - D. Diversification**
21. A neighbor sues because trees were killed by herbicide drift. This is an example of
- A. market risk.
  - B. financial risk.
  - C. production risk.
  - D. legal risk.**
  - E. human risk.
22. Increased fertilizer cost for producing corn is an example of
- A. market risk.**
  - B. financial risk.
  - C. production risk.
  - D. legal risk.
  - E. human risk.
23. What is an example of a direct loss to a corn farm prevented from planting?
- A. The value of corn not harvested and sold
  - B. The value of seed and inputs not applied to the crop
  - C. Cost of tillage and inputs applied prior to planting**
  - D. All of the above
24. An example of risk control
- A. is life insurance.
  - B. are fire extinguishers and eye goggles.**
  - C. is hedging.
  - D. All of the above
25. The deductible for an insurance policy is a form of \_\_\_\_\_
- A. risk avoidance.
  - B. risk control.
  - C. risk transfer.
  - D. risk retention.**



## 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 Short Answer 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 and Short Answer questions are two points each.

1. The business organizational structure should
  - a. be as simple as possible.
  - b. provide access to sufficient resource's.
  - c. have a credit card.
  - d. encourage planning ahead.
  - e. distribute benefits fairly on the basis of contribution.
  - f. decrease the efficiency of all capital resources.
  - A. a, b and c
  - B. d, e and f
  - C. a, b, d and e**
  - D. a, b, c and e
2. The appropriate business organization should involve combinations of factors related to the goals of the owners.
  - a. who owns the business
  - b. what is the ability to acquire resources
  - c. what county is the business located
  - d. what is the liability of the owners
  - e. what is the family living cost
  - f. who participates in management decisions
  - g. how easy is it to transfer business ownership
  - h. how long is the expected life of the business
  - A. a, b, c, d, f and g
  - B. d, e, f, g and h
  - C. a, b, d, e, g and h
  - D. a, b, d, f, g and h**
3. The most common form of farm/ranch business organization is a
  - A. sole proprietorship.**
  - B. partnership.
  - C. Limited Liability Company.
  - D. Corporation.

4. The business organization that limits individual liability.
- A. Partnership
  - B. Operating Agreements
  - C. Sole proprietorship
  - D. Corporation**
5. Which is **not** considered an advantage of sole proprietorship in most cases?
- A. Simplicity
  - B. Tax Savings**
  - C. Freedom
  - D. Flexibility
6. Which of the following is **not** a form of partnership?
- A. General
  - B. Corporate**
  - C. Limited
  - D. Limited Liability
7. The favorable characteristics of being incorporated are
- a. continuity of business life.
  - b. possible reduced tax burden.
  - c. possible access to more capital.
  - d. opportunities for estate planning.
- A. a, b and c
  - B. b, c and d
  - C. a, c and d
  - D. All of these**

Cooperatives can be classified by functions or activities. List any three of the five kinds of cooperatives.

8. 

<b>Marketing, Purchasing, Service, Credit, Processing</b>
---

**Answers can be in any order.**

9. 

<b>Marketing, Purchasing, Service, Credit, Processing</b>
---

10. 

<b>Marketing, Purchasing, Service, Credit, Processing</b>
---

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State Abbreviation \_\_\_\_\_

11. Trusts are a form of property ownership and they may be formed for many reasons. Which of the following is **not** true?

- A. Minimization of income tax
- B. Avoidance of probate
- C. Minimization of estate taxes
- D. Avoidance of real estate taxes**

List one way a partnership can be dissolved.

12.

<b>Withdrawal or death</b>
----------------------------

**Part IX, Section 1 - 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 Short Answer 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 and Short Answer questions are two points each.

Using the Resource Information for the Valley View Farm 1/1/2016 and the 1/1/2017 Balance Sheets, found on Pages R1 - R4, answer the following questions.

1. Which of the three major liability categories showed the largest reduction in value from the beginning to the end of the year?

**Current**

2. What was the total dollar reduction in that liability category?

**$(\$558,232 - \$369,760) = \$188,472$**

3. What is the change in Net Worth from the beginning to year's end?

**$(\$4,462,148 - \$4,477,685) =$   
 **$\$-15,537$****

4. What percentage change in beginning Net Worth is the amount in question 3? Calculate to the nearest xx.xx %.

**$\$-15,537 / \$4,462,148 = -.35\%$**

Using the Resource Information, answer the questions below from the Valley View Farm 2016 Executive Summary, found on Page R5, and the Area Average data, found on Page R16.

5. Term Debt Coverage Ratio is a ratio
- A. that shows the ability to pay off all debt.
  - B. showing the dollar amount available to pay off term debt.
  - C. that calculates the dollar comparison of current assets minus current debt.
  - D. showing the ability to pay all term debt payments.**
6. Did the ending Term Debt Coverage Ratio indicate that Valley View farm could cover all payments required to cover term debt?
- A. Yes
  - B. No**

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7. What is the minimum Term Debt Coverage Ratio that would enable the average farm to cover term debt?

**1.00**

8. Is the Ending Working Capital as a % of Gross Farm Income (Revenues) better or worse for Valley View Farm compared to the average?

- A. Better**  
B. Worse

9. What percentage would be a better Asset Turnover Rate (Cost) than what the average farm has?

**A percentage more than 42.4%**

10. What would be a better Operating Profit Margin (Cost) than what Valley View farm has?

**A percentage more than 7.8%**

11. What would be a better Operating Expense Ratio than what Valley View farm has?

**A percentage less than 83.2%**

The owners of Valley View Farm are interested in comparing financial information, Pages R5 and R6, with the average farms in their area, Page R16.

12. Valley View Farm has a larger gross farm income than the average farm.

- A. True**  
B. False

13. The Net Farm Income for Valley View Farm is greater than their Net Cash Income.

- A. True**  
B. False

14. What ratio provides a comparison of the Total Liabilities and Net Worth for a farm business?

**Debt to Equity Ratio  
Or Leverage Ratio**

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Net Farm Income is used to pay for family living, social security and income tax, retirement accounts, health and medical expenses, and loan principal payments. Calculate the balance remaining using the following items, rounded to whole numbers. NOTE: Your answer for items 15 through 19 **must include a + or – sign** in front of the numbers, to show whether they are added or subtracted in the calculation.

15. Net Farm Income	(+ or -)	<b>\$ +46,364</b>
Cash Family Living Expenses	(+ or -)	\$ <u>-46,952</u>
(excluding Health/Medical/Long Term Care)		
16. Social Security and Income Tax	(+ or -)	<b>\$ -7,402</b>
Health, Medical, Long Term Care Expense	(+ or -)	\$ <u>-12,285</u>
17. Other Nonfarm Expenditures, Excl Taxes	(+ or -)	<b>\$ -11,503</b>
18. Principal Payments	(+ or -)	<b>\$ -65,245</b>
19. Balance or Net:	(+ or -)	<b>\$ -97,023</b>

A positive balance indicates revenue for other uses, while a negative balance indicates a need for revenue from other sources.

**Part IX, Section 2 - 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 Short Answer 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 and Short Answer questions are two points each.

Answer the following questions that relate to the crop enterprises, found on Pages R9 and R17 in the Resource information.

1. For which crop enterprise was the net return per acre for Valley View Farm greater than the average?

**Rented Soybeans**

Cash revenues for the orchard on the Income Statement for the Valley View Farm, Page R6, include the Sale of Resale Items and Other Farm Income. Orchard cash expenses on the Income Statement are listed as Miscellaneous and Purchase of Resale Items. Using this information, and the fruit and vegetable enterprise data found on page R19 in the Resource Information, answer the following questions.

2. Based on the 2017 Valley View Apple Orchard Cash Flow plan, how much net cash income is planned for the Orchard?

**\$725,765**

3. Which Orchard enterprise is projected to have the highest level of gross income in 2017?

**Orchard Merchandise**

4. Which Orchard enterprise is projected to have the largest total expenses in 2017?

**Donuts**

Answer the following questions related to the Valley View Apple Orchard enterprise information for fruit and vegetable crops.

5. Which crop had the largest net return in 2016?

**Pumpkins**

6. Is the 2016 yield for that crop more or less than the average yield?
- A. More
  - B. Less**
7. Each crop on Valley View Apple Orchard had one year of negative returns in the past 4 years.
- A. True**
  - B. False
8. Over the past 4 years, which crop has produced the greatest amount of net income per acre?

<b>Apples</b>
---------------

Planning for the future is an important aspect of farm business management. Using the Projected balance sheet for 1/1/2018, found on page R15 in the Resource Information, answer the following questions.

9. The 1/1/2018 projected balance sheet indicates that there will be a decrease in assets, liabilities, and net worth, as compared to the 1/1/2017 balance sheet.
- A. True**
  - B. False
10. The 1/1/2018 projected balance sheet shows an improvement in the total debt to asset ratio, as compared to the 1/1/2017 balance sheet.
- A. True**
  - B. False

Comparing trend data is also an important aspect of farm business management. Using the Financial Trends, found on page R15 in the Resource Information, indicate whether each of these ratios/factors were projected to be better or worse in 2017 versus 2016.

11. Asset Turnover Rate
- A. Better**
  - B. Worse
12. Interest Expense Ratio
- A. Better
  - B. Worse**



Compare the Beef data for Valley View Farm, Page R10, with the Beef enterprise in the Area Averages, Page R18. Answer the following questions. Round dollar answers to cents.

13. Feed Costs per Head and per CWT were higher for Valley View Farm, compared to the Area Averages.

A. True  
**B. False**

14. Valley View Farm purchased their animals at a lower price per CWT and sold their animals at a lower price per CWT, compared to the Area Averages.

**A. True**  
B. False

15. How many pounds of growth were added to the average beef finishing animal in 2016 for the Area Average?

$$(1,296 - 537) = 759$$

16. How many pounds of growth were added to the average beef finishing animal in 2016 for Valley View Farm?

$$(1,283 - 469) = 814$$

Based on the pounds of growth added to each finishing animal, and the average daily gain, answer the following questions. Calculate to the nearest hundredth xx.xx.

17. How many days was the finishing animal on the average farm?

$$(759 / 1.87) = 405.88$$

18. How many days was the finishing animal on Valley View Farm?

$$(814 / 2.53) = 321.74$$

## Part X – 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 Short Answer 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 and Short Answer questions are two points each.

Review the farm and family information along with the 2016 Household and Personal Expense Summary (page XX in the Resource Information) before answering the following questions.

1. What is the total family living expense per family member for the Valley View Farm? Round answer to whole dollars.

<b>\$60,540 / 4 = \$15,135</b>
--------------------------------

2. In which category does the Valley View Farm have a larger per person cash expenditure than the Area Average?

A. Clothing  
B. Food and Meal Expense  
**C. Recreation**  
D. Medical care  
E. Gifts

3. What annual cash family living expense would the Valey View Farm find the easiest to reduce?

A. Health insurance  
**B. Cash donations**  
C. Utilities  
D. Life insurance payments  
E. Medical care

The Valley View Farm includes 4 family members instead of the 3.6 family members of the Area Average. For the following expense items, calculate whether Valley View Farm spends more or less than the Area Average on a per family member basis.

4. Cash donations

**A. Less**            **\$596 vs \$760**  
B. More

5. Disability/Long term care insurance

A. Less  
**B. More**            **\$154 vs \$100**

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State Abbreviation \_\_\_\_\_

6. Miscellaneous

A. Less

**B. More**      **\$1,716 vs \$1,688**

7. Utilities

**A. Less**      **\$542 vs \$658**

B. More

As the children of Valley View Farm buy their own homes and begin paying their own family living expenses, we assume the food and meals expense along with the clothing expense of Valley View Farm will decrease over time. What percent of total family living expense does each of these areas comprise for Valley View Farm? Round to the nearest whole percent.

8. Food and meals expense

$$\text{\$9,657} / \text{\$60,540} = 16\%$$

9. Clothing expense

$$\text{\$1,984} / \text{\$60,540} = 3\%$$

10. In the list below, indicate which expenses would be the most difficult to reduce?

A. Cash Donations

B. Miscellaneous

C. Recreation

**D. Health insurance**

E. Gifts

11. What is the total family living and investment and nonfarm capital purchase expense dollar amount per family member for the Area Average? Round answer to whole dollars.

$$\text{\$82,220} / 3.6 = \text{\$22,839}$$

12. What is the total family living and investment and nonfarm capital purchase expense dollar amount per family member for the Valley View Farm? Round answer to whole dollars.

$$\text{\$79,445} / 4 = \text{\$19,861}$$

## Part XI - 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 Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Each question is worth two points.

1. Economics is the science of
  - A. money.
  - B. planning.
  - C. allocation.**
  - D. capitalism.
  - E. All of the above
2. A production function is used to determine all of the following except
  - A. the optimal level of input to use.
  - B. the level of input at which profits are maximized.
  - C. the level of input at which total revenue diminishes.
  - D. the expected change in output for a given change in input.
  - E. the maximum price a consumer will pay for an output.**
3. If a freeze were to occur that killed much of an apple crop, which of the following statements would be true if the market equilibrated?
  - A. The demand curve would shift to the left.
  - B. The quantity demanded would decrease.
  - C. The supply would decrease.
  - D. The supply curve would shift to the right.
  - E. both B and C are true.**
4. The economic principle that states “when more units of a single input are used in a production process, output increases at a decreasing rate when all other factors are held equal” is called
  - A. the Law of Marginal Utility.
  - B. the Law of Diminishing Returns.**
  - C. the Law of Falling Profits.
  - D. the Principle of Marginal Reductions.
  - E. None of the above
5. The concept in economics that explains the magnitude of changes in the consumption of a product relative to changes in the price of the product is called
  - A. Price Elasticity of Demand**
  - B. Cross-Price Elasticity
  - C. Income Elasticity
  - D. Price Elasticity of Supply
  - E. None of the above

6. Which term describes all of the costs associated with producing an output on a per unit basis.
- Fixed Cost
  - Variable Cost
  - Average Fixed Cost
  - Average Variable Cost
  - Average Total Cost**
7. The gains forgone by choosing to use a resource for one use instead of another is called the
- Opportunity Cost**
  - Marginal Cost
  - Marginal Revenue
  - Alternative Cost
  - Production Cost
8. The decision rule for profit maximization is
- Marginal Revenue = Marginal Cost**
  - Marginal Revenue  $\geq$  Marginal Cost
  - Marginal Revenue  $\leq$  Marginal Cost
  - Marginal Revenue  $\neq$  Marginal Cost
  - None of the above

Use the table below to answer questions 10 through 15.

Fertilizer Units	Yield Per Acre	Marginal Product	Total Cost Per Acre	Marginal Cost per Unit of Output	Total Revenue Per Acre	Marginal Revenue Per Unit of Output
0	10	N/A	\$100	N/A	\$50	\$5
1	25	15	\$200	\$6.70	\$125	\$5
2	55	30	\$300	\$3.30	\$275	\$5
3	85	30	\$400	\$3.30	\$425	\$5
4	120	35	\$500	\$2.90	\$600	\$5
5	160	40	\$600	\$2.50	\$800	\$5
6	205	45	\$700	\$2.20	\$1,025	\$5
7	210	5	\$800	\$20.00	\$1,050	\$5

Assumptions:

- Fixed costs = \$100/acre.
- Fertilizer costs \$100/unit.
- Output is worth \$5/unit.

9. At which level of fertilizer input is total revenue per acre maximized?
- A. 4
  - B. 5
  - C. 6
  - D. 7**
10. Between which levels of fertilizer input is profit maximized?
- A. 3 & 4
  - B. 4 & 5
  - C. 5 & 6
  - D. 6 & 7**
11. What is the marginal revenue if 2 units of fertilizer are used?
- A. \$300
  - B. \$275
  - C. \$5**
  - D. \$3.30
12. What is the total revenue per acre if 2 units of fertilizer are used?
- A. \$300
  - B. \$275**
  - C. \$5
  - D. \$3.30
13. What is the marginal cost per unit of output if 5 units of fertilizer are used?
- A. \$600
  - B. \$2.50**
  - C. \$600
  - D. \$5

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*.

**2018 NATIONAL FFA  
FARM AND AGRIBUSINESS MANAGEMENT  
CAREER DEVELOPMENT EVENT**

Page Number	Part	Area	Possible Points
3	I	Financial Statements	31
7	II	Budgeting	28
11	III	Cash Flow Planning	33
16	IV	Marketing	33
21	V	Income Tax	32
26	VI	Investment Analysis	12
28	VII	Risk Management	31
33	VIII	Business Organization / Land Measurement	28
38	IX.1	Analyzing the Agricultural Business, Sec. 1	21
41	IX.2	Analyzing the Agricultural Business, Sec. 2	17
44	X	Family Living	16
46	XI	Economic Principles	18
<b>TOTAL POSSIBLE POINTS</b>			<b>300</b>

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

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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 two points each.

1. Which financial statement summarizes the sources and uses of cash to explain the change in the cash balance reported on the balance sheet?
  - A. Balance sheet
  - B. Income statement
  - C. Statement of owner equity
  - D. Statement of cash flows**
2. Which financial statement summarizes financial data for a specific date in time?
  - A. Balance sheet**
  - B. Income statement
  - C. Statement of owner equity
  - D. Statement of cash flows
3. This financial statement shows the relationship between revenues and expenses.
  - A. Balance sheet
  - B. Income statement**
  - C. Statement of owner equity
  - D. Statement of cash flows
4. This financial statement explains changes in net worth.
  - A. Balance sheet
  - B. Income statement
  - C. Statement of owner equity**
  - D. Statement of cash flows
5. The Cedar Creek Farms profit for 2017 was

**\$176,844**
6. The Cedar Creek Farms accrual adjusted gross farm income for 2017 is

**\$589,571**
7. The income statement includes
  - A. cash receipts, cash expenses, and accrual adjustments.**
  - B. cash receipts, cash expenses, and current inventory.
  - C. assets, liabilities, and accrued interest.
  - D. cash receipts, cash expenses, and machinery assets.

8. Which of the following is/are associated with farm revenue? Place the letter(s) in the box on the answer sheet.

A. Seed purchased during the accounting period.  
B. Interest payments during the accounting period.  
C. Cash received from the sale of grain produced during the accounting period.  
D. A change in the value of crop inventory.

<b>C, D</b>
-------------

9. Which of the following is/are likely found in a revenue ledger?

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

10. The Cedar Creek Farms' chart of accounts normally includes

A. income and expense accounts.  
B. inventory and current liability accounts  
C. depreciable business asset accounts with depreciation schedules.  
D. other accounts necessary to create financial reports needed for good management.  
**E. All of the above**

11. When using cash accounting records,

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

12. The net cash income generated by farm operation in 2017 was

<b>\$144,088</b>
------------------

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

**A. provides a more accurate calculation of profit.**  
B. provides more flexibility in managing taxable income.  
C. provides an easier method of recording financial transactions than cash accounting.  
D. does not require maintaining receipts and expenses.

14. The original cost basis of an asset plus the cost of any improvements extending the life of the asset less accumulated depreciation on the asset 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.
15. 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. remaining value.
  - C. capitalized value.
  - D. depreciation.**
16. In order to make accrual adjustments to cash income and cash expenses, it is necessary to have
- A. a balance sheet from each month of the accounting period.
  - B. a balance sheet at the beginning, middle and end of the accounting period.
  - C. a balance sheet from the beginning and ending of the accounting period.**
  - D. the most recent balance sheet provided to a lender.
17. Contributed or paid in capital plus retained earnings plus valuation equity is equal to
- A. change in owner equity.
  - B. total owner equity.**
  - C. net farm income from operations.
  - D. total assets.
18. The amount of net farm income that has accumulated in a business since it began is
- A. retained earnings.
  - B. total net farm income.
  - C. one source of owner equity.
  - D. Both A and C.**
19. In order for retained earnings of a sole proprietorship to increase,
- A. net farm income must be larger than money withdrawn from the business.**
  - 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. the cash balance on the ending balance sheet must be larger than the cash balance on the beginning balance sheet.

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State Abbreviation \_\_\_\_\_

20. How much of the change in owner equity from 2017 to 2018 came from the change in retained earnings? (Refer to **Pages R3 and R4**)

**\$195,381**

**$\$1,546,710 - \$1,351,329 = \$195,381$**

How much did items 21, 23, 25 and 27 contribute to the change in retained earnings? Indicate if the contribution was positive or negative. (Refer to **Page R7**)

21. Cash withdrawn from Cedar Creek Farms during 2017 for personal use was

**\$89,320**

**$\$61,641 + \$27,679 = \$89,320$**

22. Net farm income contribution is

**A. Positive**

B. Negative

23. Personal income is

**\$80,634**

24. Personal income contribution is

**A. Positive**

B. Negative

25. Family living expenses are

**\$61,641**

26. Family living expenses contribution is

A. Positive

**B. Negative**

27. Income taxes paid are

**\$27,679**

28. Income taxes paid contribution is

A. Positive

**B. Negative**

29. Net farm income for a farm business organized as a sole proprietorship represents a return to all the following except

A. unpaid operator and family labor.

B. owner's investment in the business.

C. equity capital.

**D. personal assets.**

## 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 two points each.

1. The farm has decided that renting land for cash rather than shares of production results in
  - A. more risk for both the landlord and the tenant.
  - B. less risk for both the landlord and the tenant.
  - C. more risk for the landlord and less risk for the tenant.
  - D. less risk for the landlord and more risk for the tenant.**
2. When considering the production information for the soybean enterprise, the farm is trying to get maximum returns above variable cost (direct expenses). You, as a farm management consultant, should recommend that managers add input until
  - A. marginal cost is equal to marginal revenue.**
  - B. marginal cost is equal to average total revenue.
  - C. marginal revenue is equal to average variable costs.
  - D. average total cost is equal to average total revenue.
3. If more acres of corn are planted, which of the following costs is least likely to change?
  - A. Total variable (direct) costs
  - B. Average fixed cost per acre
  - C. Average variable (direct) costs per acre**
  - D. Average total costs per acre
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. 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. complementary.
  - C. supplementary.
  - D. competitive.**

6. 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.

7. Budgeting is used to

A. allow for experimentation with possible outcomes before resources are committed.  
B. estimate the amount of credit needed.  
C. estimate the yields necessary to be profitable.  
**D. All of the above**

8. Partial budgets are used to evaluate

A. net income.  
B. the useful life of an asset.  
**C. expanding an enterprise.**  
D. owner equity.

Review the information in the **Corn Combined, Cash Rented enterprise, Page R9**, and the **Hogs, Weaning-to-Finish (Contract Grower) enterprise, Page R10**, when answering questions 9 through 12.

9. What price per bushel did the farm need to receive for the corn to cover direct expenses per acre?

**\$2.08 per bushel**

10. What was the rate of return on their assets for the Hogs, Weaning-to-Finish enterprise? Round to the nearest tenth (x.x) of a percent.

**12.7%**

11. What was the farm's biggest expense for their pig operation?

**Building depreciation**

12. If the 2018 interest on long term debt went up to \$4.66 per pig, what would the new estimate on net return over labor and management be? Round to the nearest cent.

**$\$17.24 - (\$4.66 - \$4.16) =$   
 $\$16.74$**

Review the information in the **crop budgets for owned corn, both irrigated and dryland, and soybeans, on Page R17** when answering the following questions.

13. What is the long-term expected yield per acre on the dryland corn?

**190 bu. per acre**

14. What long-range increase in yield per acre does the farm expect from irrigating?

**20 bu. per acre**

15. What is the estimated price for corn in year 2018?

**\$4.00 per bushel**

16. What is the estimated per acre fertilizer cost for dryland corn in 2018?

**\$127 per acre**

17. What does the farm expect for returns over direct expenses for the dryland corn in year 2018?

**\$425.50 per acre**

18. The list of expenses in the enterprise budget is a complete list of all expenses required for these enterprises.

A. True  
**B. False**

19. What yield would the farm need for the irrigated corn to break even to cover the cost of total direct expenses, if they receive the estimated price for the corn? Round to the nearest tenth (x.x) of a bushel.

**110.7 bu. per acre**  
 **$\$415 / \$3.75 = 110.7$**

20. The enterprise budget for soybeans does not include a cash rent expense. If you add a planned cash rent amount of \$225 per acre to the total direct expenses for year 2018, what would be the break even yield to cover direct expenses on rented land, if they received the estimated price for their crop? Round to the nearest hundredth (x.xx) of a bushel.

**42.31 bu. per acre**  
 **$(\$113.5 + \$225) / \$8 = 42.31$**

Participant Number \_\_\_\_\_

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21. What is the farm's long-term expected yield on the dryland soybeans?

**55 bu. per acre**

22. If the \$225 per acre rental cost is included, how much income would be available from soybeans to cover the overhead expense, based on the long range expected yield, 2018 expected price, and 2018 expected cost?

**$(55 - 42.31) \times \$8.00 = \$101.52$**



### 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 two points each.

**Refer to Pages R14, R15 and R16 for this section.**

1. The projected term debt coverage ratio indicates that the Net Farm Income should be sufficient to cover family living, taxes and debt service of existing term debt. What is the term debt coverage ratio?

**1.19**

2. What would the term debt coverage ratio be, if operating expenses increased by 10% over those planned?

**0.98**

3. Net Farm Income for 2018 is projected to be equal to or even greater than the actual Net Farm Income of 2017.

A. True

**B. False     2017 \$176,844 compared to 2018 \$106,337**

4. Cedar Creek Farms' liquidity is anticipated to improve in 2018.

**A. True     Beginning Current Ratio of 1.4 to Ending Current Ratio of 1.6**

B. False

5. Cedar Creek Farms' solvency is anticipated to improve in 2018.

**A. True     Debt - Asset Ratio improving from 45.2% at the Beginning of the Year to 36.3 at the End of the Year**

B. False

6. It is projected that Cedar Creek Farms will have Personal (non-farm) Income that will exceed Family Living Expenses in 2018.

**A. True     Compare personal income of \$85,000 with family living expenses of \$65,000.**

B. False

7. Which cash income item is expected to be the largest contributor to the farm's cash flow in 2018?

**Corn**

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

8. What is the largest projected cash operating expense in 2018?

**Seed**

9. Excluding the beginning cash balance from the Total Inflow of cash in 2018, what percentage of the inflow is contributed by Contract Livestock income? Round to the nearest tenth of one percent (x.x).

**25.6%**  
**154,865 / (643,053 - 37,000)**

10. What is the monthly payment amount for the BLDG PYMT loan?

**\$6,366**

11. How many dollars of Family living expense are anticipated for 2018?

**\$65,000**

12. What is the Annual Operating (AO) Loan balance projected to be at the end of 2018?

**\$84,647**

13. In which month will the farm borrow the largest amount on the AO Loan?

**December**

14. In which month is the Capital Purchase anticipated to happen?

**April**

15. The debt to asset ratio is a measure of

- A. liquidity.
- B. solvency.**
- C. profitability.
- D. repayment capacity.
- E. efficiency.

16. The ability of the farm's current assets to repay the farm's current liabilities is a measure of
- A. liquidity.**
  - B. solvency.
  - C. profitability.
  - D. repayment capacity.
  - E. efficiency.
17. \_\_\_\_\_ measures the relationship of the total assets, the total debt and the relationship of total debt to total equity (net worth).
- A. Liquidity
  - B. Solvency**
  - C. Profitability
  - D. Repayment capacity
  - E. Efficiency
18. \_\_\_\_\_ measurements show the distribution of the total revenue among operating expenses, depreciation, interest, and net farm income.
- A. Liquidity
  - B. Solvency
  - C. Profitability
  - D. Repayment capacity
  - E. Efficiency**
19. \_\_\_\_\_ measures whether there is sufficient adjusted revenue to cover family living expenses, income and FICA taxes, and total principle and interest on term debt
- A. Liquidity
  - B. Solvency
  - C. Profitability
  - D. Repayment capacity**
  - E. Efficiency
20. Net farm income is a measurement of
- A. liquidity.
  - B. solvency.
  - C. profitability.**
  - D. repayment capacity.
  - E. efficiency.

21. Working Capital is a measure of

- A. liquidity.**
- B. solvency.
- C. profitability.
- D. repayment capacity.
- E. efficiency.

22. Term debt coverage ratio is a measure of

- A. liquidity.
- B. solvency.
- C. profitability.
- D. repayment capacity.**
- E. efficiency.

23. Rate of Return on Assets is a measure of

- A. liquidity.
- B. solvency.
- C. profitability.**
- D. repayment capacity.
- E. efficiency.

24. A formula for Net Cash Flow is Beginning operating loan balance - Ending operating loan balance + Ending cash balance - Beginning cash balance. Using this formula, what is the 2018 Net Cash Flow? (If a negative number, indicate that.)

**- \$120,647**

25. How much is the Earned Net Worth estimated to change in 2018? (If a negative number, indicate that.)

**\$95,437**

26. What is the expected peak of the operating loan in 2018?

**\$84,647**

27. Before any capital purchases, capital sales, new borrowings, or loan payments are made, how many dollars are available on an annual basis as Operating Surplus? (If a negative number, indicate that.)

**\$273,042**

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28. In what month is the largest repair bill anticipated?

**October**

Use **Page R12** to answer question 29.

29. How many bushels of soybeans were planned to be sold in 2017?

**9,300**

### 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 two points each.

1. A \_\_\_\_\_ is the right to sell an underlying future contract at a specific price.  
**A. put option**  
B. call option  
C. long option  
D. short option
2. A \_\_\_\_\_ is a person who attempts to anticipate price changes and makes profits through market activities.  
A. hedger  
B. bull  
C. bear  
**D. speculator**
3. \_\_\_\_\_ is the difference in the future's price and the local price.  
A. Equilibrium  
B. Hedge  
**C. Basis**  
D. Margin
4. The right to buy an underlying futures contract at a specific price is a  
A. put option.  
**B. call option.**  
C. short option.  
D. long option.
5. Funds deposited with a broker to trade futures contracts are called a/an \_\_\_\_\_ account.  
A. deposit  
B. escrow  
**C. margin**  
D. loan

6. A farmer who sells futures contracts to protect production from price fluctuations is called a
- A. bear.
  - B. bull.
  - C. speculator.
  - D. hedger.**
7. An increase in the value of the dollar relative to the currency of other countries should
- A. increase exports to other countries.
  - B. decrease exports to other countries.**
  - C. have no impact on exports or imports.
  - D. decrease imports to the United States.
8. A producer who decides to use the futures market to hedge the price of corn to be sold at harvest would
- A. buy futures contracts expecting to sell contracts when the corn is sold.
  - B. buy futures contracts expecting to buy more contracts when corn is sold.
  - C. sell futures contracts expecting to sell more contracts when corn is sold.
  - D. sell futures contracts expecting to buy them back when corn is sold.**
9. When using options, the futures price you want to fix or lock in is called the
- A. option price.
  - B. strike price.**
  - C. buyer's price.
  - D. seller's price.
10. The price quote offered to the producer is a derived price that reflects the
- A. final use value.**
  - B. value added.
  - C. market-related challenges.
  - D. cost of production.
11. \_\_\_\_\_ prompts much of the short-run price variability of agricultural commodities.
- A. A demand shift
  - B. Supply variation**
  - C. The Farm Bill
  - D. The producer

12. The purchase of a put option by a producer sets a price
- A. ceiling.
  - B. target.
  - C. floor.**
  - D. wall.
13. Producers using hedging should always close out the cash position and futures position
- A. simultaneously.**
  - B. within a day.
  - C. within a week.
  - D. within a month.
14. What is specified in a forward corn contract?
- A. Number of bushels
  - B. Moisture content
  - C. Test weight
  - D. All the above**
15. Selling through a farmers' market or roadside market is called \_\_\_\_\_ marketing.
- A. wholesale
  - B. contract
  - C. direct**
  - D. drive-through
16. An increase in the quantity of corn exported by the United States will most likely
- A. decrease the price of corn in the U.S.
  - B. increase the price of corn in the U.S.**
  - C. cause ending stocks to increase in the U.S.
  - D. both answers A and C
17. This law indicates the rational consumer will purchase more at a lower price.
- A. Supply
  - B. Quality
  - C. Demand**
  - D. Quantity
18. How many futures contracts would be needed to sell 100,000 bushels of corn?
- A. 10
  - B. 20**
  - C. 40
  - D. 50



19. A price \_\_\_\_\_ is attached to those products that are not being accepted by consumers.
- A. increase
  - B. discount**
  - C. reference
  - D. pattern

A soybean farmer has the option to sell at harvest on October 1 or to store until February 1. Use the information in the table below to answer questions 21 through 26. Make all calculations on a per bushel basis.

Decision Date: October 1

November Futures (Harvest Contract Price)	\$9.85 / bushel
Harvest basis for November Contract on Oct 1	-\$0.35 / bushel
Storage costs	\$0.025 / bushel per month
Interest cost	\$0.04 / bushel per month
March Futures Price	\$10.40 / bushel
Normal Basis in February	-\$0.05 / bushel
March Put: \$10.40 strike premium	\$0.35 / bushel

20. What is the cash price for soybeans if the farmer sold on October 1?

<p style="text-align: center;"><b>\$9.50</b>  <math>\\$9.85 - \\$0.35 = \\$9.50</math></p>
--

21. What is the carrying cost for soybeans stored from October 1 and sold on February 1?

<p style="text-align: center;"><b>\$0.26</b>  <math>4(\\$0.025 + \\$0.04) = \\$0.26</math></p>
--

22. What is the expected net price for soybeans hedged with a March futures contract if the grain is stored until February 1?

<p style="text-align: center;"><b>\$10.09</b>  <math>\\$10.40 - \\$0.05 - \\$0.26 = \\$10.09</math></p>
---

23. If the farmer decided to buy a March put option, what would be the price floor established by the put if the grain is stored until February 1?

<p style="text-align: center;"><b>\$9.74</b>  <math>\\$10.40 - \\$0.35 - \\$0.05 - \\$0.26 = \\$9.74</math></p>
---

24. What alternative provides the largest net price?

- A. Sell at harvest
- B. Store and hedge with March futures**
- C. Store and buy a March put option

25. If the March soybean futures price is \$10.85 per bushel when the soybeans are sold on February 1, and the basis is -\$0.05, the price received by the farmer who purchased the put option would be

$\begin{array}{r} \$10.19 \\ \$10.85 - \$0.35 - \$0.05 - \$0.26 = \$10.19 \end{array}$
--

26. A cash contract fixes

- A. the futures price but not the basis.
- B. the basis but not the futures price.
- C. the futures price and the basis.**
- D. None of the above

27. Most grains have a marketing time frame of

- A. six months.
- B. twelve months.
- C. eighteen months.**
- D. twenty-four months.

28. Producers who use the futures market are able to

- A. shift price risk.**
- B. establish cost of production.
- C. set price.
- D. set basis.

## 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 two points each.

Answers in this section will be based upon the 2017 Farmer's Tax Guide.

Over the next several years Cedar Creek Farms 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 5, how many years would be required to depreciate the listed listed properties?

1. Drainage tile installed in crop land

**15 years**

2. Grain storage bin

**7 years**

3. A new tractor

**7 years**

4. A confinement hog finishing building

**10 years**

5. A machine shed that could double as a grain storage facility if needed

**20 years**

6. Most farmers keep records and pay their taxes using the cash method of accounting because they find it easier to use than the accrual method.

**A. True**  
B. False

7. Under the accrual method, income is counted as income when it is earned regardless of when you receive it.

**A. True**  
B. False

8. Under the cash method, a bill that is owed can be considered an expense this tax year even though you intend to pay it next year, because you intend to pay in cash.

- A. True  
**B. False**

9. Section 179 Expense Deduction allows you to recover a portion (or all) of the purchase cost of certain properties in the year of purchase, rather than depreciating the item over a specific number of years.

- A. True**  
B. False

10. In 2017, the Special Depreciation Allowance allowed the farmer to take 50% more depreciation deduction over the class life of the property, than if the item was depreciated over time using MACRS (GDS) depreciation.

- A. True  
**B. False**

Specific rules apply to depreciating purchased assets. Some are required to be depreciated over a number of years, while others can be depreciated more rapidly using the Section 179 Expense Deduction or by claiming the Special Depreciation Allowance. For questions 11 through 15, select the deduction or combination of deductions listed in A through E that best describes the deduction allowance for the listed items. Answers may be used more than once. **For questions 11 through 15 place the answers in the Answer column on the scoresheet not the A, B, C, D and E column.**

- A. Must depreciate the item slowly over the required number of years  
B. Could depreciate it slowly or could also utilize Section 179 but not the Special Depreciation Allowance  
C. Could depreciate it slowly or could also utilize the Special Depreciation Allowance but not Section 179  
D. Could depreciate it slowly or could use either or both Section 179 and the Special Depreciation allowance.  
E. Cannot be depreciated

11. Purchase of 80 acres of unimproved farm ground at an auction

**E**

12. Purchase of a used tractor from a neighbor

**B**

13. Construction of new machine shed that could also store hay

**C**

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

14. Purchase of a used chisel plow from their father

**A**

15. Purchase of new combine from the local John Deere dealer

**D**

On September 13, 2017, Thor traded his old ripper (a tillage tool) for a new J.D. 2700 ripper. His old ripper was fully depreciated. He traded his old ripper plus paid \$19,339 to boot for the new ripper. He financed \$9,750 over 5 years, and paid the rest in cash. Use this information to complete questions 16 through 20. Calculate to the nearest whole dollar.

16. What was the adjusted basis of his old ripper that he traded in?

**0 - Zero**

17. What is the basis of his new ripper?

**\$19,339**

18. What is the maximum amount that he could expense out in 2017, if he chose to utilize the Sec. 179 expense deduction but not the Special Depreciation?

**\$19,339**

19. What is the maximum amount of Special Depreciation Allowance he could take in 2017 if he was not taking any Sec. 179 expense deduction?

**\$9,670**

20. What is the amount of depreciation for the year 2017 if he used MACRS (GDS) Straight-line depreciation, but did not use any Sec. 179 expense deduction or Special Depreciation Allowance?

**\$1,381**

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

When Thor and Elsa filed their 2017 Income Tax Return, the financial information was reported on a number of IRS Forms and Schedules. The following is a partial list of forms and schedules that would be used to file a tax return for a sole-proprietor farm couple. Indicate the IRS Form or Schedule that the income or expense is reported on for questions 21 through 25. The Form or Schedule can be used more than once.

Schedule F  
Schedule J  
Schedule SE  
Form 1040  
Form 4797

21. The income from custom hog finishing

**Schedule F**

22. The sale of an old plow no longer used

**Form 4797**

23. The self-employment income is reported, and the self-employment tax is calculated using

**Schedule SE**

24. The amount spent on fertilizer

**Schedule F**

25. The summary form used by individuals to report federal taxable income, adjustments to income, the amount of tax assessed, and tax payments and credits are reported on

**Form 1040**

26. A sole-proprietor farmer who hires his 17-year-old daughter to work on the farm must withhold federal income tax, social security and Medicare tax.

- A. True
- B. False**

27. Self-Employment Tax is paid by self-employed individuals (who make over \$400 of self-employed income) at the rate of 15.3% which covers both social security tax and Medicare tax.

- A. True**
- B. False

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

28. A farmer must withhold FICA taxes on a person hired as an independent contractor to wire his machine shed.
- A. True  
**B. False**
29. A person hired by a farmer to run a machine owned by the farmer, when the farmer tells the person when to come and leave, and how to do the task, could be classified as an independent contractor for employment tax purposes, if the person agrees to that status.
- A. True  
**B. False**
30. A farmer who has two seasonal employees with a combined annual salary of approximately \$8,000 would not be required to pay Federal Unemployment (FUTA) Tax on them.
- A. True**  
B. False

## 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 two points each.

Cedar Creek Farms wants to purchase an 85,000 bu. grain bin from a dealer in the area. They want this particular structure because it fits in with the expansion of their current on-farm grain storage system. The dealer will provide them a seven-year loan with an interest rate of 4%. To purchase this bin, the farm will borrow \$14,500. The payments are due in annual installments. Because they are such great customers, the dealer will carry the note in-house.

Year	Annual Payment	Interest	Principal	Balance
0				\$14,500.00
1	2,415.84	580.00	1,835.84	12,664.16
2	2,415.84	506.57	1,909.27	10,754.89
3	2,415.84	430.20	1,985.64	8,769.25
4	2,415.84	350.77	2,065.07	6,704.18
5	2,415.84	268.17	2,147.67	4,556.61
6	2,415.84	182.26	2,233.58	2,322.93
7	2,415.85	92.92	2,322.93	0

1. The total interest paid over the term of the loan will be

**\$2,410.89**

2. The total annual payment for year 2 is

**\$2,415.84**

3. The loan balance after the payment in year 5 is

**\$4,556.61**

4. The loan balance after the final payment is made is

**0 - Zero**



5. What does the total interest paid on this grain bin loan represent?
- A. The actual amount of money borrowed from the dealer.
  - B. The total amount of money you pay to the lender.
  - C. The present value of money borrowed.
  - D. The amount of money left over
  - E. None of the above**
6. The promissory note, which a lender provides with the grain bin loan, will show
- A. the amount of money you borrowed.
  - B. the amount of principal and interest paid with each payment.
  - C. when repayment begins, frequency of repayment, and repayment amount.
  - D. the names of the parties involved.
  - E. All of the above**
7. If the grain bin loan is sold in the secondary market, this will increase the loanable funds available for use by the lender.
- A. True**
  - B. False
8. The principal amount in each loan payment on the grain bin will always be the same.
- A. True
  - B. False**
9. What is repossession?
- A. The recovery of collateral for non-payment.**
  - B. Paying off debt with a revised repayment schedule.
  - C. Paying off debt with a fixed repayment schedule.
  - D. The ability to repay a loan from the bank with a refinanced loan.
10. What is the usual length of time for the term on the machinery loan?
- A. 5 years
  - B. 10 years
  - C. 15 years
  - D. Match the useful life of the asset but typically not more than seven years**
11. An annual loan payment generally consists of
- A. interest.
  - B. principal.
  - C. balance.
  - D. Both A and B**

## 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 two points each.

1. Unexpected circumstances where the probability of an event occurring can be measured is called
  - A. certainty.
  - B. uncertainty.
  - C. risk.**
  - D. unknown.
2. \_\_\_\_\_ is the act of managing or controlling exposures to risk in order to meet preset objectives or risk exposure guidelines.
  - A. Speculation
  - B. Risk Management**
  - C. Financial Management
  - D. Uncertainty Management
3. When the probability of an event occurring cannot be measured, this situation is called
  - A. certainty.
  - B. uncertainty.**
  - C. risk.
  - D. an unknown.
4. A/an \_\_\_\_\_ is an economic device where an individual or business substitutes a certain cost for an uncertain financial loss.
  - A. government subsidy
  - B. premium payment
  - C. insurance policy**
  - D. futures contract
5. The payment to an insurance company by a policyholder to purchase and maintain an insurance policy is an insurance
  - A. premium.**
  - B. indemnity.
  - C. subsidy.
  - D. annuity.

6. Hedging with commodity futures is an example of risk
- A. avoidance.
  - B. control.
  - C. transfer.**
  - D. retention.

A farmer has the following total variable costs and cash rental rate to produce corn and soybeans. Use this information to answer questions 7 and 8.

	<b>Variable Costs (\$/acre)</b>	<b>Cash Rent (\$/acre)</b>	<b>Planned Yield (bushels/acre)</b>
Corn	\$531	\$180	180
Soybeans	\$351	\$180	65

7. What is the break even price per bushel for corn that covers variable costs plus cash rent? Round to the nearest cent.

$\frac{\$531 + \$180}{180} = \$3.95$
--------------------------------------

8. If the price of corn is \$4.50 per bushel, what soybean price provides the same return over variable costs and cash rent? Round to the nearest cent.

$\frac{(\$4.50 \times 180 - \$531 - \$180 + \$180 + \$351)}{65} = \$9.69$
---

9. Planting a combination of corn, soybeans, and winter wheat is an example of which risk management strategy?
- A. Specialization
  - B. Diversification**
  - C. Loss minimization
  - D. Risk transfer
10. Many corn farmers purchase crop revenue insurance to protect against adverse outcomes. This type of crop insurance helps to protect against which of the following?
- A. Low crop prices and yields**
  - B. High crop prices and yields
  - C. Increases in production costs
  - D. Failure of grain buyer to make a prompt payment upon delivery.

11. Insurance is an example of
- A. risk avoidance.
  - B. diversification.
  - C. risk control.
  - D. risk transfer.**
12. Forward contracting is usually considered a form of risk management. Under what circumstance would a forward contract be a liability to the business?
- A. The harvested yield is greater than the bushels contracted, and the market price at delivery is above the contract price.
  - B. The yield is less than the bushels contracted, and the market price at delivery is below the contract price.
  - C. The yield is less than the amount contracted, and the price has increased.**
13. A young family that just purchased a home with borrowed money should consider which risk management tool?
- A. Diversification
  - B. Life insurance**
  - C. Hedging with futures
  - D. None of the above
14. Liability insurance is used to protect against
- A. crop yield loss.
  - B. hail damage.
  - C. legal action.**
  - D. livestock price risk.
15. When a **soybean farmer** sells a futures contract, the farmer passes risk to the
- A. broker.
  - B. purchaser (speculator).**
  - C. Chicago Mercantile Exchange (CME).
  - D. Commodity Futures Trading Commission (CFTC).
16. A disability, employee work accidents, and an employee not reporting for work are examples of which type of risk?
- A. Human risk**
  - B. Price risk
  - C. Production risk
  - D. Financial Risk

17. Risk assessment requires managers to consider the
- A. ways to avoid a bad decision.
  - B. likelihood of a bad decision and what to do if you are wrong.
  - C. consequences and the probability of a bad outcome.**
18. A manager who is willing to take a bigger risk would expect to receive
- A. a smaller average net return.
  - B. the same average net return.
  - C. a larger average net return.**
19. Risk management is the process by which a business
- A. identifies potential risk exposure.
  - B. prioritizes the risk faced by the business.
  - C. develops a plan to mitigate the risk exposure.
  - D. All of the above**
20. Which of the following is **not** a market risk?
- A. Changes in input prices
  - B. Changes in product prices
  - C. Not being able to gain access to a market for a specific specialty crop
  - D. Changes in the cost of production per unit due to a reduced yield**
21. Lower than average yields are an example of \_\_\_\_\_ risk.
- A. production**
  - B. market
  - C. human
  - D. financial
22. A large amount of debt relative to the value of total assets is an example of \_\_\_\_\_ risk.
- A. production
  - B. market
  - C. human
  - D. financial**
23. What is an example of human risk?
- A. A drought reducing corn yields
  - B. A change in interest rates
  - C. Hired help injured by farm machinery**
  - D. A change in regulations regarding pesticide use

24. \_\_\_\_\_ is/are an example of risk control.
- |   |  |
|---|--|
| A. Crop insurance                         | Defined as a transferring risk         |
| B. Hedging with commodity futures         | Defined as a transferring risk         |
| <b>C. Fire alarms and fire sprinklers</b> | Would put out or <u>control</u> a fire |
| D. Both A and B                           |  |
25. The current ratio is a measure of \_\_\_\_\_ risk.
- A. financial**  
B. market  
C. production  
D. human  
E. legal
26. Forming an LLC can reduce the business owner's \_\_\_\_\_ risk.
- A. production  
B. market  
C. human  
**D. legal**
27. An insurance policy deductible is a form of risk
- A. avoidance.  
B. control.  
C. transfer.  
**D. retention.**
28. Which of the following risks should be realistically covered by insurance?
- A. A low frequency and low severity risk  
**B. A low frequency and high severity risk**  
C. A high frequency and low severity risk  
D. All of these risks should be transferred
29. What is an example of an incurred loss to a corn field prevented from planting?
- A. Cost of tillage and inputs applied prior to planting**  
B. The value of corn not harvested and sold  
C. The value of inputs not applied to the crop  
D. All of the above

## Part VIII - Business Organization / 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 two points each.

1. Which of the following is a type of cooperative?
  - A. Marketing
  - B. Credit
  - C. Processing
  - D. All of these are types of cooperatives.**
  
2. Which of the following statements about trusts is true?
  - A. A trust is a legal arrangement by which a person (settlor) transfers ownership of specific assets to a trust. A person or group (trustee) to manages the trust.
  - B. Trustees 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. The parents are planning for retirement. During their farming career, they have grown their farm to 2,000 acres of prime farmland. They are particularly concerned about leaving their family a legacy of farming by protecting and ensuring that their farmland stays in their family for many generations to come.

Which of the following entities would best suit their goal of leaving their farm for future generations of their family?

  - A. A trust**
  - B. A Sole-Proprietorship
  - C. A Cooperative
  - D. A partnership
  - E. None of these is appropriate.
  
4. Which of the following is **not** a benefit of a corporate business structure?
  - A. Corporate income is not subject to income taxes.**
  - B. Ownership is easily divided into shares.
  - C. A corporation does not dissolve with the death of an owner.
  - D. Benefits estate planning.
  - E. All of the above are benefits of organizing as a corporation.

5. If a person does not have a will at the time of their death, the disbursement of his or her assets will be guided by
- A. city statutes.
  - B. county statutes.
  - C. state statutes.**
  - D. federal statutes.
  - E. 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.
  - E. Cooperative.
7. Of the types of business organizations listed below, which would provide the least protection from tort liability to the owners?
- A. LLC
  - B. S-Corporation
  - C. C-Corporation
  - D. General Partnership**
8. An owner of a corporation is also called a(n)
- A. director.
  - B. stockholder.**
  - C. officer.
  - D. member.
  - E. trustor.
9. 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 written and reviewed by an attorney before they are signed.
  - C. The business structure that minimizes taxation the most is always the best choice.**
  - D. Future plans and aspirations of the business owner should be taken into account when deciding the optimal business structure.



10. An owner of an LLC is also called a
- A. director.
  - B. stockholder.
  - C. member.**
  - D. trustee.
11. Owners of an S-Corporation must be US citizens.
- A. True**
  - B. False
12. In limited partnerships, management duties and liabilities are shared equally by all partners.
- 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. Sole-Proprietorships persist after the death of the owner.
- A. True
  - B. False**
16. How many sections are usually in a township?
- A. 12
  - B. 24
  - C. 36**
  - D. 48
17. How many acres are in a section?
- A. 320
  - B. 640**
  - C. 80
  - D. 20

18. 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**
19. The range refers to columns of townships running north and south (quadrangle).
- A. True**
  - B. False
20. Some properties in the U.S. do not have some form of legal land description.
- A. True
  - B. False**
21. There are approximately \_\_\_\_\_ acres in a township.
- A. 23,040**
  - B. 22,050
  - C. 19,580
  - D. 64,000
22. An acre equals \_\_\_\_\_ square feet.
- A. 23,040
  - B. 43,560**
  - C. 64,000
  - D. 12,346
23. A tier refers to the townships running east and west in six-mile increments.
- A. True**
  - B. False
24. A typical township is six miles square.
- A. True**
  - B. False
25. 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
26. Residential property in towns and cities is generally described by using the recorded plat system.
- A. True**
  - B. False

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Use the chart below of section 9 to answer questions 27 and 28.

Section 9

<b>A.</b>			
		<b>C.</b>	
<b>B.</b>			<b>D.</b>

27. In the illustration above, what is the legal description of parcel **A**?

- A. NE 1/4 of the NW 1/2 of Section 9.
- B. NW 1/2 of the NW 1/2 of the NE 1/4 of Section 9
- C. NW 1/4 of the NW 1/4 of Section 9**
- D. NE 1/2 of the NW 1/8 of Section 9

28. How many acres are in parcel **C**?

- A. 80 acres
- B. 40 acres
- C. 20 acres
- D. 10 acres**

**Part IX, Section 1 - 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 two points each.

Using the Resource Information for the Cedar Creek Farms 1/1/2017 and the 1/1/2018 Balance Sheets, found on **Pages R3 and R4**, and the Executive Summary **Page R5**, answer questions 1 through 6.

1. What was the amount of the change in the total value of **farm assets** on the Cost Balance Sheet between 1/1/2017 and 1/1/2018?

$$(\$1,882,362 - \$1,809,334) = \$73,028$$

2. What was the increase in Total Current Assets?

$$\$459,698 - \$348,884 = \$110,814$$

3. In the Farm Overview, several goal areas were noted. One of those areas was Solvency, which includes the Debt to Asset Ratio. The stated goal was to improve the Debt to Asset Ratio by at least 2%. Did the farm Debt to Asset Ratio improve by 2% or more?

- A. Yes  
B. No

4. On the Market Balance Sheet, the difference between the Net Worth on 1/1/2018 and 1/1/2017 is the Net Worth Change. Calculate the Net Worth Change.

$$\$1,696,323 - \$1,509,900 = \$186,423$$

5. Is the Net Worth Change in question 5 better than the area average net worth change for **All Farms** on Market Balance Sheet, **Page R21**?

- A. Yes  
B. No

6. Of the major farm asset and farm liability categories listed below, which had greatest negative impact on the Net Worth Change?

- A. Current assets  
B. Long-term assets  
C. **Current liabilities**  
D. Long-term liabilities

7. Compare the ending working capital for Cedar Creek Farms, **Page R5** Executive Summary, to the working capital for the Area Average, **Page R19**. Is their working capital better than the average?
- A. Yes  
**B. No**
8. Is the ending working capital as a percentage of gross income better than the average?
- A. Yes  
**B. No**
9. A second goal area identified in the farm overview was repayment capacity. That includes Term Debt Coverage Ratio. The goal was to be better than the average. Is the farm's ratio better than the Area Average?
- A. Yes**  
B. No
10. For every dollar of term debt repayment required in 2017, how many dollars are available to pay on the term debt?

<b>\$1.75</b>
---------------

Net Farm Income is used to pay for family living, social security and income tax, retirement accounts, health and medical expenses, and loan principal payments. Calculate the "Balance or Net" of net farm income to determine if there is enough net farm income to cover the uses of net farm income. Use data on pages **R3, R5 and R11**, rounded to whole numbers. NOTE: Your answer for items 11-16 **must include a + or – sign** in front of the numbers, to show whether they are added or subtracted in the calculation.

11. <b>Net Farm Income</b>	(+ or -)	<b>+ \$176,844</b>
12. Total Family Living Expense (excluding furnishings and appliances personal savings and investments and income and social security taxes)	(+ or -)	<b>- \$61,641</b>
13. Social security and Income Tax	(+ or -)	<b>- \$27,679</b>
14. Other Nonfarm Expenditures, Excluding Taxes	(+ or -)	<b>- \$48,900</b>

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15. Principal Due on Term Loans in 2017	(+ or -)	<table border="1"><tr><td><b>- \$110,499</b></td></tr></table>	<b>- \$110,499</b>
<b>- \$110,499</b>			

16. <b>Balance or Net</b>	(+ or -)	<table border="1"><tr><td><b>- \$71,875</b></td></tr></table>	<b>- \$71,875</b>
<b>- \$71,875</b>			

A positive balance indicates sufficient net income for business investment or other uses, while a negative balance indicates a need for revenue from other sources.

17. Does this operation require outside revenue to ensure a positive balance?

**A. Yes**

B. No

## Part IX, Section 2 - 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 two points each.

Answer the following questions that relate to the Corn enterprises, found on **Pages R8 and R23** in the Resource information.

1. What is the primary reason that the gross return per acre for the farm's owned, dryland corn is greater than the average of all farms?

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

2. Of the Direct Expenses on the farm's owned, dryland corn, which two expenses are the greatest amount **below** the average for those expenses?

**Seed and Fertilizer**

3. What is their break even price per bushel for owned dryland corn with labor and management costs included?

**\$2.31**

Using the Percentile Rank Report for Owned Soybeans on **page R18**, answer the following questions.

(Note: The Percentile Rank Report provides a unique look at all the data by splitting the information into 10 columns with 10% of the data in each column. The weakest numbers are on the left (10%) and the best numbers to the right (100%) for each individual line. So, each line is unique to itself and is not connected to the line above or below it. The shaded areas are the percentiles where the farm data ranks.)

4. The majority of the factors for the farm appear to be weaker rather than stronger.

A. True  
B. False

5. Which factor on the farm is at the 50 percentile rank?

**Machinery Cost per Acre**

6. Which of the following direct expenses on the farm has the weakest percentile rank?
- A. Seed and plants
  - B. Fuel and Oil**
  - C. Repairs
  - D. Crop chemicals

The owners of Cedar Creek Farms are interested in comparing annual financial information. For questions 7-10 use the comparative trend for their business, **Page R13**.

7. Their 2017 net farm income is at the highest level since 2008.
- A. True
  - B. False**
8. For how many years has their net worth been increasing?
- A. 1
  - B. 4
  - C. 7
  - D. 9**
9. In which year did the gross farm income have the greatest reduction from the prior year?
- A. 2011
  - B. 2013**
  - C. 2015
  - D. 2016
10. Over each of the last 4 years, the operating profit margin or operating expense ratio has become
- A. better.
  - B. worse.**

The Planned vs. Actual Income Statement provides a look at the producer's ability to project income and expense for the upcoming year. Review this statement on **Page R12** and answer the following questions.

11. What income item generated a "pleasant surprise" because the actual was significantly greater than planned?

<b>Soybeans</b>
-----------------

12. Which non-income item had the greatest impact on the increase in the Actual Net Farm Income compared to the Planned Net Farm Income?

<b>Inventory Change</b>
-------------------------



13. The local lender prefers that the Actual Income Statement amounts to be within 10% of the Planned Income Statement. Which item listed below was within the 10% guideline?
- A. Gross cash farm income
  - B. Total cash farm expense
  - C. Net cash farm income**
  - D. Net farm income

Comparing trend data is also an important aspect of farm business management. Using the Comparative Trends, found on **Page R13** in the Resource Information, indicate whether each of these ratios/factors were better or worse in 2017 versus 2016.

14. Based on the Asset and Liability factors in the trends, did the farm meet its goal to make the overall balance sheet better or did it get worse?
- A. Better**
  - B. Worse
15. Did the farm meet its goal to make all their efficiency measures better?
- A. Yes
  - B. No**
16. Based on the yield information for the dryland corn enterprise, do we know that these enterprises were better in 2017, so they met their enterprise improvement goal?
- A. Yes
  - B. No**

## Part X – 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 two points each.

Review the **Family Living Expenses, Page R11**, and **Area Average, Page R22** to answer the following questions.

1. What is the total personal expenditure per family member for the Cedar Creek Farms? Round answer to whole dollar.

$\$138,220 / 5 = \$27,644$
----------------------------

2. Cedar Creek Farms spends how much per family member on education?
- A. \$1,025
  - B. \$610
  - C. \$1,770
  - D. \$205**
  - E. \$379
3. Which expense listed below would be the most difficult to reduce?
- A. Gifts
  - B. Clothing
  - C. Medical care**
  - D. Recreation
  - E. Cash donations
4. In which category does Cedar Creek Farms have a larger per person expenditure than the area average?
- A. Food and meals expense
  - B. Health insurance**
  - C. Clothing
  - D. Personal care
  - E. Medical care
5. Which annual cash family living expense would Cedar Creek Farms find the easiest to reduce?
- A. Recreation**
  - B. Utilities
  - C. Medical care
  - D. Health insurance
  - E. Life insurance

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State Abbreviation \_\_\_\_\_

For each expense category listed below, determine if Cedar Creek Farms is spending more or less than five percent of their total cash family living expense on that category.

- |                       |                        |                              |
|-----------------------|------------------------|------------------------------|
| 6. Medical care       | A. Less <b>B. More</b> | <b>\$3,641/61,641 = 5.9%</b> |
| 7. Household supplies | A. Less <b>B. More</b> | <b>\$4,396/61,641 = 7.1%</b> |
| 8. Personal care      | <b>A. Less</b> B. More | <b>\$2,850/61,641 = 4.6%</b> |
| 9. Clothing           | <b>A. Less</b> B. More | <b>\$2,379/61,641 = 3.9%</b> |
10. What is the area average total family living dollar amount spent per family member? Round answer to whole dollar.
- A. \$60,829
  - B. \$61,641
  - C. \$12,128
  - D. \$20,825
  - E. \$20,976**
11. Cedar Creek Farms is saving for future college education and retirement expenses. What is the amount being saved per person?

<b><math>\\$38,900 / 5 = \\$7,780</math></b>
--

12. The area average per person expenditure on recreation is
- A. \$4,060
  - B. \$1,620
  - C. \$1,400**
  - D. \$8,100
  - E. \$979
13. What percent of the Total Cash Family Living Expense is Health Insurance for Cedar Creek Farms? Round to the nearest tenth of a percent (x.x)

<b><math>\\$12,038 / \\$61,641 = 19.5\%</math></b>
--

## Part XI - 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 two points each.

1. The concept in economics that explains the magnitude of changes in the production of a product relative to changes in the price of the product is called
  - A. Price Elasticity of Demand.
  - B. Cross-Price Elasticity.
  - C. Income Elasticity.
  - D. Price Elasticity of Supply.**
2. For a hog production operation, the cost of feed can best be described as
  - A. fixed cost.
  - B. variable cost.**
  - C. marginal cost.
  - D. total cost.
  - E. average total cost.
3. The decision rule for profit maximization is
  - A. Marginal Revenue = Marginal Cost.**
  - B. Marginal Revenue > Marginal Cost.
  - C. Marginal Revenue < Marginal Cost.
  - D. Marginal Revenue  $\neq$  Marginal Cost.
4. The principle of \_\_\_\_\_ implies that due to the finite availability of resources, economic decision-makers must make decisions to deploy their resources in an efficient manner.
  - A. Opportunity Cost
  - B. Scarcity**
  - C. Comparative Advantage
  - D. Economies of Size
  - E. The Production Function
5. The branch of economics that studies a business' resource allocation decisions is
  - A. Macroeconomics.
  - B. Market Economics.
  - C. Capitalism Economics.
  - D. Microeconomics.**

6. The principle of \_\_\_\_\_ states that producers should produce the products that they are best able to produce and purchase products that they produce less efficiently.
- A. Opportunity Cost
  - B. Scarcity
  - C. Comparative Advantage**
  - D. Economies of Size
  - E. The Production Function
7. The Federal Reserve raising interest rates is an example of \_\_\_\_\_ policy that affects agricultural businesses.
- A. monetary**
  - B. fiscal
  - C. farm
  - D. trade
  - E. foreign
8. If the supply of corn were to increase while demand remained constant, what would happen to the price?
- A. The price would increase.
  - B. The price would decrease.**
  - C. There would be no change in the price.
  - D. The effects of supply and demand on the price are indeterminable.
9. Congress lowering taxes is an example of a change in \_\_\_\_\_ policy that affects agricultural businesses.
- A. monetary
  - B. fiscal**
  - C. farm
  - D. trade
  - E. foreign
10. Of the following descriptions, which best describes a perfectly competitive market?
- A. A market with four major firms that control 85% of all sales.
  - B. A market in which all firms are price takers.**
  - C. A market in which firms sell similar, but differentiated products.
  - D. A market in which the government allows a single producer to market goods.
11. This stage of production is characterized by negative marginal product.
- A. Stage One
  - B. Stage Two
  - C. Stage Three**
  - D. Stage Four

12. This stage of production is characterized by increasing marginal product.

- A. Stage One**
- B. Stage Two
- C. Stage Three
- D. Stage Four

13. This stage of production is characterized by decreasing marginal product.

- A. Stage One
- B. Stage Two**
- C. Stage Three
- D. Stage Four

Use the table below to complete questions 14 through 16.

Lbs of Fertilizer Applied per acre	Yield of Feed Grain in bushels per acre	Cost of Fertilizer per acre	Marginal Cost	Marginal Revenue
60	43	30	\$1.43	\$8.60
80	47	40	\$2.50	\$8.60
100	50	50	\$3.33	\$8.60
120	53	60	\$3.33	\$8.60
140	54	70	\$10.00	\$8.60

14. At (or between) which level(s) of fertilizer input is total revenue maximized?

**140**

15. At (or between) which level(s) of fertilizer input is profit maximized?

**120 and 140**

16. At (or between) which level(s) of fertilizer input does the farmer begin to see a decline in profit?

**120 and 140**

17. If a producer can gain 2 additional bushels per acre by applying a fungicide that costs \$18 per acre to apply, what is the increase or decrease in profit per acre if the crop can be sold for \$10.30 per bushel?

**\$2.60**

# 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 9<sup>th</sup> 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**

[illegible]

**Volkstad Pecan Company**  
**1/1/2019 Ending Balance Sheet**

[illegible]

### 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
<b>Net cash flow</b>	<b>(=)</b>	<b>88,099</b>
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

	Beginning	Ending
<b>Liquidity</b>		
Current ratio	2.0	3.1
Working capital	64,392	139,222
Working capital to gross revenue	8.0 %	17.3 %
<b>Solvency (market)</b>		
Debt to asset ratio	33.0 %	30.8 %
Debt to equity ratio	0.5	0.4
<b>Profitability (market)</b>		
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
<b>Repayment Capacity</b>		
Term debt coverage ratio (farm)		2.49
Replacement margin coverage ratio		1.44
<b>Efficiency</b>		
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 %
<b>Other</b>		
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
<b>CASH INFLOWS</b>													
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
<b>CASH OUTFLOWS</b>													
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
<b>LOAN PAYMENTS</b>													
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	-	
<b>Gross farm income</b>		<b>798,451</b>
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
<b>Total expenses</b>		<b>458,302</b>
<b>Net farm income</b>		<b>340,149</b>

### 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

<b>Liquidity</b>	<b>Beg</b>	<b>End</b>
Current ratio	1.61	1.97
Working capital	46,362	64,392
Working capital to gross revenues	5.8 %	8.1 %
<b>Solvency (market)</b>	<b>Beg</b>	<b>End</b>
Debt to asset ratio	34 %	33 %
Debt to equity ratio	0.52	0.49
<b>Profitability</b>	<b>Cost</b>	<b>Market</b>
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 %
<b>Repayment Capacity</b>		
Term debt coverage ratio (farm only)		4.17
Replacement margin coverage ratio		3.11
<b>Efficiency</b>	<b>Cost</b>	<b>Market</b>
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 %
<b>Other</b>		
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**

<b>Income</b>	Quantity	Price	Amount	<b>Expense</b>	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
<b>Inventory Changes</b>	Beginning Inventory	Purchases	Sales	Ending Inventory	Inventory Change
Prepays 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
<b>Depreciation</b>	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
<b>Net farm income</b>					<b>340,149</b>

<b>Profitability Measures</b>		<b>Cost</b>	<b>Market</b>
(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

<b>Liquidity Measures</b>		<b>Begin</b>	<b>End</b>
(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 %

<b>Solvency Measures (Market)</b>		<b>Begin</b>	<b>End</b>
(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 %

<b>Repayment Capacity</b>			
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	

<b>Statement of Owner's Equity</b>			
(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	

<b>Statement of Cash Flows</b>			
(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**

	<b><i>Pecans Irrigated Owned</i></b>	<b><i>Int. Pasture Dryland Owned</i></b>
<b>Returns</b>		
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
<b>Direct Expenses</b>		
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
<b>Overhead Expenses</b>		
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
<b>Cost of Production Per Unit</b>		
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
<b>Returns</b>						
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
<b>Direct Expenses</b>						
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
<b>Overhead Expenses</b>						
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
<b>Labor &amp; Management</b>						
Labor & management charge		1.82		10.00		1000
Net return over lbr & mgt		48.29		265.66		26566
<b>Estimate of Labor</b>						
Est. labor hours per unit		0.61		3.35		335
<b>Cost of Prod Per Cwt. Produced</b>						
Total direct expenses	100.45	<b>Other Information</b>				
Total dir & ovhd expenses	104.32	Number of cows	100.0	Cows per FTE		835.8
With other revenue adjustments	106.09	Pregnancy percentage	97.0	Average weaning weight		585
With labor & management	107.91	Calving percentage	97.0	Lb. weaned/exposed female		562
		Weaning percentage	96.0	Feed cost per cow		419.00
		Calves sold per cow	0.96	Avg wgt/ Beef Calves sold		585
		Calf death loss percent	1.0	Avg price / cwt.		153.00
		Cow death loss percent	1.0			

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)**

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

**Comparative Balance Sheets (market)**

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

## 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		-
<b>Gross farm income</b>		<b>471,286</b>

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
<b>Total expenses</b>		<b>355,320</b>
<b>Net farm income</b>		<b>115,966</b>

### 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

<b>Liquidity</b>	<b>Beg</b>	<b>End</b>
Current ratio	5.05	6.77
Working capital	82,911	146,889
Working capital to gross revenues	17.6 %	31.2 %

<b>Solvency (market)</b>	<b>Beg</b>	<b>End</b>
Debt to asset ratio	33 %	33 %
Debt to equity ratio	0.50	0.49

<b>Profitability</b>	<b>Cost</b>	<b>Market</b>
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 %

<b>Repayment Capacity</b>		
Term debt coverage ratio (farm only)		4.47
Replacement margin coverage ratio		2.08

<b>Efficiency</b>	<b>Cost</b>	<b>Market</b>
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 %

<b>Other</b>		
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
Prepays 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	Statement of Owner's Equity		
(A)	Net farm income from operations	115,966	150,157	(a)	Beginning net worth	1,171,585
	Rate of return on assets (E/F)	18.1 %	15.5 %			
	Rate of return on equity (G/H)	19.6 %	18.5 %		Net farm income	115,966
	Operating profit margin (E/I)	32.8 %	40.1 %		Personal income	(+) -
	Asset turnover rate (I/F)	55.1 %	38.7 %		Family living expense	(-) 58,082
	EBITDA	253,281	287,472		Income taxes accrued	(-) 17,514
					Change in personal assets	(+) -5,732
(B)	Change in market valuation	-	34,191		Change in nonfarm accounts payable	(+) 905
(C)	Interest expense	38,840	38,840	(b)	Total change in retained earnings	(=) 35,543
(D)	Value of unpaid oper labor & mgmt	-	-			
(E)	Return on farm assets (A+C-D)	154,806	188,997		Change in market value of capital assets	43,178
(F)	Average farm assets	855,468	1,217,521		Change in deferred liabilities	- 13,206
(G)	Return on farm equity (A-D)	115,966	150,157	(d)	Total change in market valuation	= 29,972
(H)	Average farm net worth	592,757	812,963			
(I)	Value of farm production	471,286	471,286	(e)	Total change in net worth (b+d)	65,515
					Ending net worth	1,237,100
Liquidity Measures		Begin	End	Statement of Cash Flows		
(J)	Current assets	103,387	172,344	(f)	Beginning cash balance (farm & personal)	100,499
(K)	Current liabilities	20,476	25,455		Gross cash farm income	464,099
	Current ratio (J/K)	5.05	6.77		Cash farm expenses	(-) 246,498
	Working capital (J-K)	82,911	146,889	(g)	Cash provided by operating activities	(=) 217,601
	Change in working capital	63,978			Sale of capital assets	-
	Working capital to gross revenues	17.6 %	31.2 %		Purchase of machinery and equipment	(-) 48,500
Solvency Measures (Market)		Begin	End		Purchase of personal assets	(-) 18,879
(L)	Total assets	1,588,874	1,668,044	(h)	Cash provided by investing activities	(=) -67,379
(M)	Total liabilities	417,289	430,944		Money borrowed	-
	Net worth (L-M)	1,171,585	1,237,100		Principal payments	(-) 17,721
	Net worth change	65,515			Personal income	(+) -
	Current debt to assets (K/J)	20 %	15 %		Family living expense	(-) 58,082
	Intermediate debt to assets	34 %	33 %		Income taxes paid	(-) 17,514
	Long term debt to assets	12 %	12 %	(i)	Cash provided by financing activities	(=) -93,317
	Personal debt to assets	1 %	1 %		Net change in cash (g+h+i)	56,905
	Total debt to assets ratio (M/L)	26 %	26 %		Ending cash balance (farm and personal)	157,404
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			

**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

<b>Crop Enterprise Analysis</b> <b>Area Average Data - Owned Acres</b> <b>(Farms Sorted By Return to Overhead)</b>			<b>Livestock Enterprise Analysis</b> <b>Area Average Data</b> <b>(Farms Sorted By Return to Overhead)</b>		
	<u>Improved Pecans</u>	<u>Intensive Pasture</u>		<u>Beef Cow Calf</u>	
Acres	160	120	Beef Calves sold (lb)	303.2	448.22
Yield per acre	1000.00	1.00	Cull Cow sales (lb)	98.4	123.17
Operators share of yield %	100.00	100.00	Purchased (lb)	-44.8	-118.15
Value	2.72	25.25	Other income/Inv Chg		251.21
Gross return per acre	2720.00	25.25	Gross margin		704.45
<b>Direct Expenses</b>			<b>Direct Expenses</b>		
Seed		-	Pasture		258.12
Fertilizer	77.00	47.50	Hay	2,384.70	78.97
Weed Control	88.00	3.00	Protein Vit Mineral (lb.)	572.3	73.73
Disease Control	121.00	-	Veterinary		33.25
Insect Control	112.50	-	Supplies		51.91
Fuel & oil	125.00	-	Fuel & oil		29.64
Repairs	41.12	-	Repairs		46.09
Hired Labor	259.00	1.00	Operating interest		15.96
Hired Labor - other	199.75	-	Total direct expenses		587.67
Irrigation	97.50		Return over direct expense		116.78
Marketing	150.10	-	<b>Overhead Expenses</b>		
Operating interest	20.25	2.35	Farm insurance		14.06
Miscellaneous	27.16	-	Utilities		14.83
Total direct expenses per acre	1318.38	53.85	Interest		47.39
Return over direct exp per acre	1401.62	-28.60	Mach & bldg depreciation		41.87
<b>Overhead Expenses</b>			Miscellaneous		30.97
Hired labor/Custom Hire	157.95	17.50	Total overhead expenses		149.12
RE & pers. property taxes	25.98	3.66	Total dir & ovhd expenses		736.79
Farm insurance	21.85	6.96	Net return		-32.34
Utilities	21.75	3.87			
Dues & professional fees	2.03	1.29	Labor & management charge		68.29
Interest	42.30	7.37	Net return over lbr & mgt		-100.63
Mach & bldg depreciation	204.65	4.85	<b>Other Information</b>		
Miscellaneous	4.51	1.80	Number of cows		102.5
Total overhead expenses / acre	481.02	47.30	Pregnancy percentage		95
Total dir & ovhd expenses / acre	1799.40	101.15	Pregnancy loss percentage		1.6
Net return per acre	920.60	-75.90	Culling percentage		11.3
			Calving percentage		93.5
Labor & management charge	145.30	8.50	Weaning percentage		86.4
Net return over lbr & mgt	775.30	-84.40	Calves sold per cow		0.8
<b>Cost of Production</b>			Calf death loss percent		7.6
Total direct expense per unit	1.32	53.85	Cow death loss percent		3.2
Total dir & ovhd exp per unit	1.80	101.15	Average weaning weight		550
With labor & management	1.94	109.65	Lb. weaned/exposed female		475
			Feed cost per cow		410.82
Net value per unit	2.72	25.25	Avg wgt/ Beef Calves sold		636
Machinery cost per acre			Avg price / cwt.		147.81

# 2019 Beef Cow Calf Budget

<b>PRODUCTION</b>	<b>Weight</b>	<b>Units</b>	<b>Price/cwt</b>	<b>\$/Head</b>
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	\$ -	\$ -
<b>Total Receipts</b>			<b>\$</b>	<b>812.95</b>
<b>OPERATING COSTS</b>				
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
<b>Total Operating Costs</b>			<b>\$</b>	<b>602.16</b>
<b>Returns Above Total Operating Costs</b>			<b>\$</b>	<b>210.79</b>
<b>FIXED COSTS</b>				
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			\$	-
<b>Total Fixed Costs</b>			<b>\$</b>	<b>116.13</b>
<b>Total Costs (Operating + Fixed)</b>			<b>\$</b>	<b>718.29</b>
<b>Returns Above All Specified Costs</b>			<b>\$</b>	<b>94.66</b>

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**

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30	IX	Land Measurement	15
33	X	Analyzing the Agricultural Business	59
38	XI	Family Living	18
40	XII	Economic Principles	26
<b>TOTAL POSSIBLE POINTS</b>			<b>300</b>

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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  $\pm$  Total Inventory Change  $\pm$  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.

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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

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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.

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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	<b>Answer 29.</b>
Family Living Expenses	<b>Answer 30.</b>

## 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.

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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?

### 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



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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?

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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

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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.
-



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

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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				\$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	<b>Answer 1</b>	<b>Answer 2</b>	<b>Answer 3</b>
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



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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.

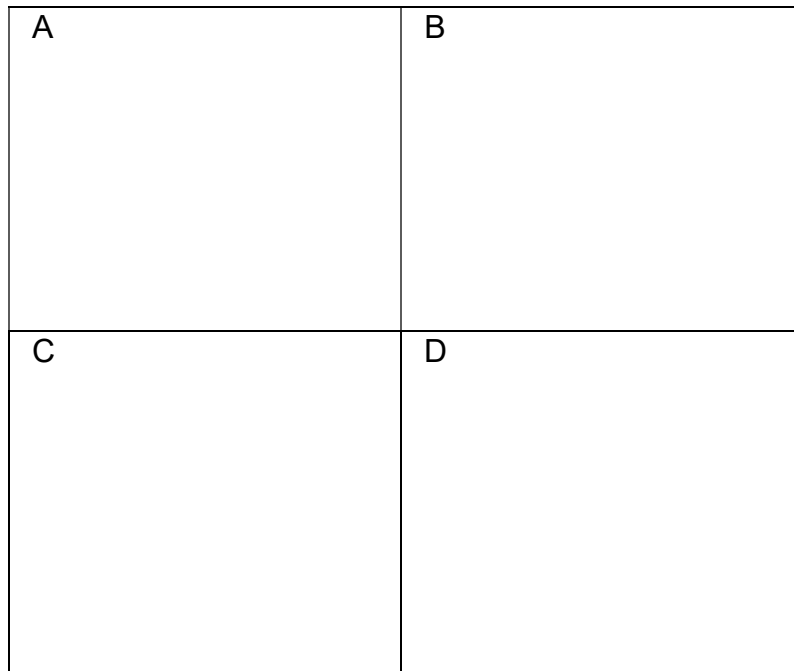
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8. A tier refers to the townships running east and west in six-mile increments.
- A. True
  - B. False
9. The curvature of the earth causes a need to include correctional sections in legal descriptions.
- A. True
  - B. False
10. Generally, parcels 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

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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.

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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?

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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.



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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%?

X	X	X	X	X		X		X	
X	X	X	X	X			X		X
X	X	X	X	X		X		X	
X	X	X	X	X			X		X

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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

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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).
-

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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 <sub>1</sub> Cottonseed Meal (lb.)	X <sub>2</sub> Corn (lb.)	Marginal Rate of Substitution
1	10	325.0	xxxxxxxxxxxxxxxxxxxx
2	15	253.4	14.32
3	20	216.7	7.34
4	25	192.2	4.90
5	30	174.7	3.50
6	35	160.6	2.82
7	40	149.3	2.26
8	45	140.1	<b>Answer 11</b>
9	50	132.6	<b>Answer 12</b>
			xxxxxxxxxxxxxxxxxxxx

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.

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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 \_\_\_\_\_

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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
8	II	Budgeting	25
11	III	Cash Flow Planning	24
14	IV	Marketing	23
18	V	Income Tax	18
21	VI	Investment Analysis	22
23	VII	Risk Management	21
27	VIII	Business Organization	15
30	IX	Land Measurement	15
33	X	Analyzing the Agricultural Business	59
38	XI	Family Living	18
40	XII	Economic Principles	26
<b>TOTAL POSSIBLE POINTS</b>			<b>300</b>

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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.

<b>A &amp; C</b>
------------------

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

<b>A &amp; B</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
<b>21. Total Farm Assets</b>	<b>23. \$2,082,489</b>
<b>22. Total Farm Liabilities</b>	<b>24. \$414,287</b>
<b>Net Worth (Farm Only)</b>	<b>25. \$1,668,202</b>

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

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?

$$\text{\$88,315} + \text{\$414,346} - \text{\$261,050} - \text{\$176,597} = \text{\$65,014}$$

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	<b>29. -\$2,350</b>
Family Living Expenses	<b>30. \$92,300</b>

## 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.

<b>713.1 lbs</b>
------------------

**\$1,825.60 divided by \$2.56**

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

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?

<b>Land, Labor, Capital, Management</b>
---

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

<b>\$36,146</b>
-----------------

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

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

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**

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

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)

<b>A, B and C</b>
-------------------

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

<b>D, F and H</b>
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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.

<b>1099</b>
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Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

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

<b>W2</b>
-----------

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				\$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	<b>2,311.78</b>	<b>18,514.42</b>	<b>39,280.19</b>
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?

<b>\$6,250</b>
----------------

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

<b>Interest and principal</b>
-------------------------------

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

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

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.

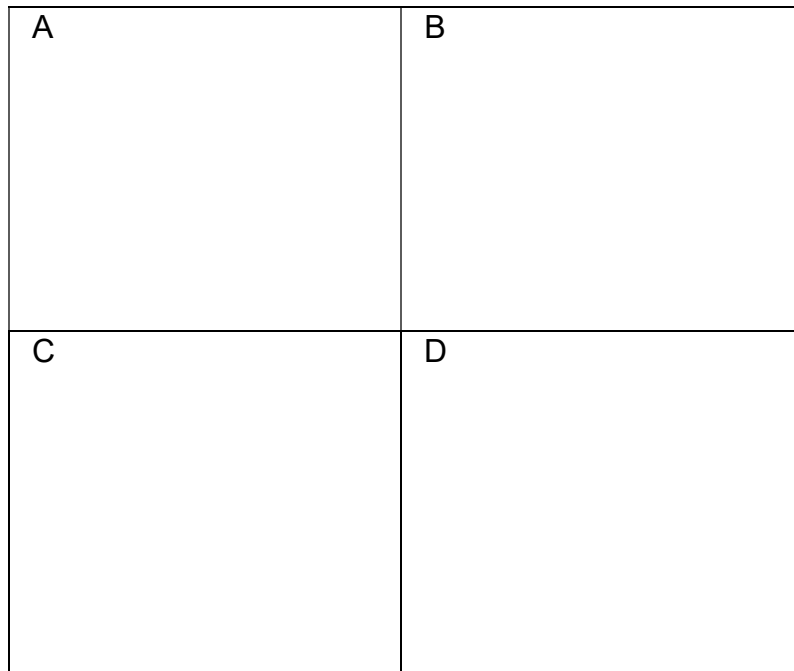
<b>43,560</b>
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8. A tier refers to the townships running east and west in six-mile increments.
- A. True**
  - B. False
9. The curvature of the earth causes a need to include correctional sections in legal descriptions.
- A. True**
  - B. False
10. 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

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State Abbreviation \_\_\_\_\_

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?

<b>46% or .46</b>
-------------------

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)**

<b>\$396,825.40</b>
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Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

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**

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

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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**

<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

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**

<b>50</b>
-----------

**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**

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.

$$\text{\$92,300} / 3 = \text{\$30,767 per person}$$

<b>\$30,767</b>
-----------------

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

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

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

$$\$1,476 / 3.6 = \$410 \text{ per person}$$

**\$410**

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

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

**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.

<b>632</b>
------------

**\$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).

<b>\$3.60</b>
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**\$1,800/acre divided by 500 lbs/ac = \$3.60/lb**

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

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)?
- |             |
|-------------|
| <b>7.34</b> |
|-------------|
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.

Please put your state and team number in the blanks in the upper right corner of each page

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.

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

Please put your state and team number in the blanks in the upper right corner of each page

**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**

Please put your state and team number in the blanks in the upper right corner of each page

- 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 advantages of grazing cattle under the pecan trees?**

**What are two disadvantages 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**

Please put your state and team number in the blanks in the upper right corner of each page

**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**

Please put your state and team number in the blanks in the upper right corner of each page

**15. List 6 possible natural production hazards to pecan operations. 12 pts total**

**16. List 6 possible man-made production hazards to pecan operations. 12 points**

**17. What are four possible ways they could potentially increase their income?  
(2 pts. each = 8 points)**

Please put your state and team number in the blanks in the upper right corner of each page

**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**

**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.

Please put your state and team number in the blanks in the upper right corner of each page

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.

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

**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 vendors
- 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 to 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 =  $\$1500 = \$3 \times 500$  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?  
 $210 \text{ acres} \times 50 \text{ lbs} = 10,500 \text{ lbs}$

What would be the income loss to the pecan operation from grazing the cattle?  
 $10,500 \times 3 = \$ 31,500$

How much weight in total must the cattle gain from grazing under the pecan trees to offset the losses to the pecan operation?  
 $\$31,500 / \$1.50 = 21,000 \text{ lbs}$

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 advantages 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 disadvantages 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.**

Please put your state and team number in the blanks in the upper right corner of each page

**What is the total expense per acre? \$1,825.60 2 pts.****What is the total expense for the orchard?  $\$383,376 = \$1,825.60 \times 210$  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**

$$\$4 = \$10 - \$6 (\$3 \times 2 \text{ pounds unshelled pecans})$$

**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**

$$\$0.80 \times 125,000 (250,000 / 2) = \$100,000$$

Please put your state and team number in the blanks in the upper right corner of each page

**11. How much debt would the Volkstads be able to support with this income? 8 pts**

$$(\$100,000 / \$182.37) \times \$1,000 = \$548,335.80$$

**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

Please put your state and team number in the blanks in the upper right corner of each page

**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 natural production hazards to pecan operations. 12 pts total**

- Ice Storms
- Windstorms
- Birds
- Rodents
- Diseases
- Feral hogs
- Scab
- Tornadoes
- Coyotes
- Floods
- Drought
- Freezes

Please put your state and team number in the blanks in the upper right corner of each page

**16. List 6 possible man-made 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



Please put your state and team number in the blanks in the upper right corner of each page

**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

## 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**

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

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	-	24,543
Change in personal Assets	+	959
Change in nonfarm accounts payable	+	0
<b>Total change in retained earnings</b>	<b>=</b>	<b>122,770</b>
Change in market value of capital assets	+	-166,314
Change in deferred liabilities	-	-24,803
<b>Total change in market valuation</b>	<b>=</b>	<b>-141,511</b>
<b>Total Change in Net Worth</b>		<b>-18,741</b>
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 not 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.



**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 not 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**

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

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

**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 than 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**

$$\text{\$68,800} / \text{\$207,470} = 33.2\%$$

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 not 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.



**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 Country 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.

$$\text{\$2,740} \times 0.025 = \text{\$68.50/acre}$$

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

$$\text{\$2,740} + 68.50 = \text{\$2,808.50/acre}$$

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**

$$\text{\$25.25/ton} \times 8 \text{ tons} = \text{\$202.00/ton}$$

$$\text{\$27.25/ton} \times 7.5 \text{ tons} = \text{\$204.38/ton}$$

**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 the 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

## 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 not 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

$$\text{\$53,800/\$7,000} = 8 \text{ years}$$

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

**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

## Scan Sheet 1, Exam H - Farm Business Organization and Land Measurement

**On Scan Sheet 1, Exam H, enter the correct answer for each question.** 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

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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 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 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

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Use the chart below of section 9 to answer questions 24 and 25.

Section 9

<b>A.</b>			
		<b>C.</b>	
<b>B.</b>			<b>D.</b>

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

**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**

<b>\$204,355</b>
------------------

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**

<b>3.57</b>
-------------

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
  - C. 127
  - D. **148**
- (28+18+12+81+9=148)
15. What is the total value per acre of all timber sold, from planting through final harvest?
- A. \$548
  - B. \$644
  - C. \$2,573
  - D. **\$2,741**
- (224+324+96+2,025+72=2,741)
16. What was the annual average value of protection per acre, from planting through final harvest?
- A. \$15.57
  - B. \$49.53
  - C. **\$97.89**
  - D. \$122.52
- (2,741 / 28 = 97.89)

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
  - C. **50.94**
- (29+13+8.94=50.94)

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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

**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**

$$((43,560 / 495) / 8) = 11 \text{ feet}$$

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**

$$((43,560 / 455) / 8) = 11.97 \text{ feet}$$

C. 14

D. 91

## Scan Sheet 2, Exam A – Family Living

**On Scan Sheet 2, 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.

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%**  $(\$14,387 / \$63,598) \times 100 = 22.6\%$
  - 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**  $\$2,337 / 3 = \$779 \text{ per person}$
  - 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



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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%**

C. 36.9%

D. 66.8%

$$(\$42,506/\$130,647) \times 100 = 32.5\%$$

**Scan Sheet 2, Exam B – Economic Principles**

**On Scan Sheet 2, 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. 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

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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

**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 depreciation 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.



**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.

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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

**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

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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

**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

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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



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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

**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

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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

**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

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Use the chart below of section 9 to answer questions 13 and 14.

Section 9

<b>A.</b>			
		<b>C.</b>	
<b>B.</b>			<b>D.</b>

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.

**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