

2024 Louisiana State FFA Farm Business Management Career Development Event

Name (Print)

Home Address (Print)

Phone Number

High School

Team (Blue or Gold)

FFA Advisor

Grade

**2024 LOUISIANA STATE FFA FARM BUSINESS
MANAGEMENT CAREER DEVELOPMENT EVENT**

Administered by

**Department of Agricultural Economics and Agribusiness
Louisiana State University Agricultural Center**

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250	TOTAL	

**LOUISIANA STATE FFA FARM BUSINESS MANAGEMENT
CAREER DEVELOPMENT EVENT
2024**

**Part I – Short Multiple Choice Section
(100 Total Possible Points)**

Select Best Answer Only

- 1) Which of the following would NOT be considered a fixed cost of owning a piece of farm equipment?
 - a. Taxes
 - b. Insurance
 - c. Shelter
 - d. Fuel

- 2) The value of an asset at the end of its useful life is:
 - a. Actual value.
 - b. Salvage value.
 - c. Absolute value.
 - d. Appraised value.

- 3) Assets that are consumable or will be used up within one year are called:
 - a. Near-term assets.
 - b. Current assets.
 - c. Market assets.
 - d. Revolving assets.

- 4) A liability is a(n):
 - a. Obligation or debt owed to someone else.
 - b. Asset that will pay for itself.
 - c. Business asset.
 - d. Money someone owes you.

- 5) Fighting Tiger Farms raises 2 million broilers annually. In addition, it owns a feed mill which provides feed for the birds, owns the processing facility, and markets the dressed birds to retail grocery stores. This type of business is known as:
 - a. Horizontal integration.
 - b. Marketing cooperative.
 - c. Vertical integration.
 - d. Supply cooperation.

- 6) An agreement between a producer and a landowner where the producer gives the landowner a portion of the crop produced in payment for the land is called a:
 - a. Cash rental arrangement.
 - b. Cash sale.
 - c. Share rental arrangement.
 - d. Amortization.

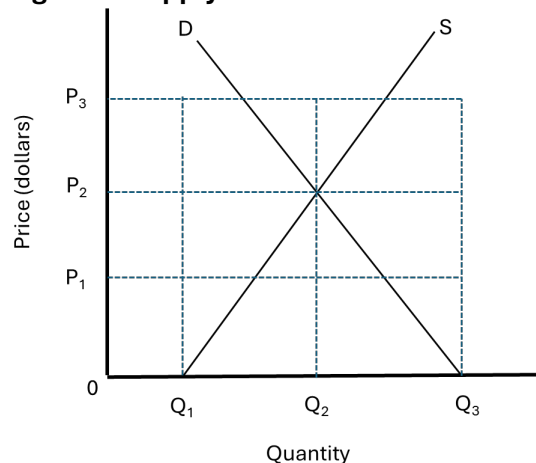
- 7) A line of credit loan to purchase farm inputs, like fertilizer, is called a(n):
- Consumer loan.
 - Long-term loan.
 - Mortgage.
 - Operating loan.
- 8) To account for the time value of money, which of the following should be the deciding factor when choosing between different investment opportunities?
- The one with the lowest costs.
 - The one with the highest net present value.
 - The one with the highest average profits over the lifetime of the investment.
 - The one with the highest revenue over the lifetime of the investment.
- 9) The demand for food is usually considered inelastic. This means that if price changes by 10 percent,
- The percentage change in quantity demanded will be less than 10 percent.
 - The percentage change in quantity demanded will be more than 10 percent.
 - The percentage change in quantity demanded will be equal to 10 percent.
 - There is no change in quantity demanded.
- 10) Someone who is bullish on market prices thinks that prices will:
- Stay steady.
 - Go lower.
 - Go higher.
 - None of the above.
- 11) The cost of machinery, equipment and farm buildings can be deducted each year over their expected life. This is called:
- Depreciation.
 - Appreciation.
 - Operating costs.
 - Integration.
- 12) A producer is leasing property from a landowner on a 1/5th share. The producer grows corn on this property and averages 200 bushels per acre. If corn prices are \$5.00 per bushel, what will be the value of the rent received by the landowner?
- \$5.00 per acre
 - \$200 per acre
 - \$1,000 per acre
 - Not enough information
- 13) Which of the following would NOT be a variable cost in the production of cotton?
- Fertilizer costs.
 - Seed costs.
 - Fuel costs.
 - Property taxes.
- 14) A demand curve shows:
- The quantities people will purchase at various possible prices.
 - The prices people will have to pay for various possible quantities.
 - The quantities people would like to buy at various possible prices.
 - Both a. and b.

- 15) An enterprise budget is:
- A physical and financial plan for the entire farm business for a specific period of time.
 - A statement of the projected costs and returns associated with one production process, usually for one production period.
 - The tool used in analyzing only changes in the farm operations and the potential change in net income.
 - A record of past production performance.
- 16) Chemicals should only be applied to a crop as long as:
- The chemicals used increases crop yields per acre.
 - The chemicals used maintain soil productivity.
 - The added production resulting from using the chemicals increases gross farm revenue.
 - The added production resulting from using the chemicals increases revenue more than the cost of the chemicals.
- 17) The two annual cost components of owning a capital asset are:
- Gasoline and repairs.
 - Depreciation and interest.
 - Upkeep and maintenance.
 - Maintenance and labor.
- 18) The price difference between the local cash price and the futures price of corn is called:
- Basis.
 - Ceiling.
 - Floor.
 - Strike.
- 19) A producer is looking to purchase a half section of farmland. How many acres would the producer be purchasing?
- 640 acres.
 - 160 acres.
 - 320 acres.
 - 500 acres.
- 20) If a farmer's total revenue is greater than the total of variable and fixed costs, the farmer has:
- Been operating at a loss.
 - Shown a positive return to production.
 - Minimized losses.
 - Maximized profits.
- 21) The point where Marginal Costs equal Marginal Revenue is:
- Where production reaches its maximum point.
 - Where all of your resources are used.
 - Where profits are at a maximum.
 - All of the above.
- 22) When a farmer increases the amount of fertilizer used by 10%, the farmer's corn yields increase by 4% and the farmer's cotton yields increase by 6%. Which of the following statements is TRUE about elasticity with respect to fertilizer?
- Corn has a higher elasticity than cotton.
 - Cotton has a higher elasticity than corn.
 - Cotton and corn have the same elasticity.
 - Cotton and corn are unit elastic.

- 23) The production of rice is referenced in the number of bushels produced or in the number of barrels produced. If a producer has a yield of 6,850 pounds per acre, what is his yield per acre in bushels and barrels if there are 45 pounds of rice in a bushel and 162 pounds in a barrel?
- 100.4 bushels, 35.2 barrels
 - 152.2 bushels, 43.3 barrels
 - 210.1 bushels, 54.6 barrels
 - 685 bushels, 68.5 barrels
- 24) At 200 units of output, total costs are \$36,000 and total variable costs are \$25,000. What are the total fixed costs at 200 units?
- \$61,000
 - \$38,000
 - \$11,000
 - \$55
- 25) If the quantity demanded of a product increases by 20 percent as the price of that same product decreases by 10 percent, the price elasticity of demand for that product is:
- 2.0
 - 0.5
 - 1.0
 - 10.0
- 26) A partial budget is designed to analyze the effect of a proposed management change on:
- Revenue only.
 - Expenses only.
 - Crop yields only.
 - Profit.
- 27) If cash price for soybeans falls by \$0.15 per bushel while the futures price for soybeans falls by \$0.05 per bushel, this is known as:
- A strengthening basis.
 - A weakening basis.
 - Basis risk.
 - A margin call.
- 28) A sugarcane farmer has a debt-to-equity ratio of 0.5:1. Current liabilities total \$500,000 and noncurrent liabilities total \$100,000. What is the value of the farmer's assets?
- \$600,000
 - \$500,000
 - \$1,200,000
 - \$1,000,000
- 29) A cattle producer has determined that his total costs are \$50,000. If he has 40 calves to sell with each calf weighing 600 pounds, what is his breakeven price for those calves?
- \$2.08 per pound.
 - \$1.54 per pound
 - \$2.52 per pound
 - \$.1.75 per pound

- 30) A producer thinks the price of corn will fall in the future and sells corn futures contracts is:
- Forward contracting.
 - Hedging.
 - Brokering.
 - Short selling.
- 31) The principle that states that as inputs are added to production that output will first increase at an increasing rate then at a decreasing rate and finally decline is called:
- Point of no return.
 - Diminishing returns.
 - Profit maximization.
 - Cost minimization.
- 32) Price movement across months within the year is known as:
- Derived demand.
 - Seasonal variability.
 - Trend analysis.
 - An increasing market.
- 33) What does marginal cost measure?
- The change in cost from one enterprise to another.
 - The output cost from production at different levels of input.
 - The change in the cost by adding another unit of input.
 - The change in cost by producing another unit of output.
- 34) Using Figure 1, suppose the government imposes a price ceiling at $P = \$0$. There will be:
- A shortage of drones equal to $(Q_3 - Q_1)$
 - A surplus of drones equal to $(Q_3 - Q_1)$
 - A shortage of drones equal to $(Q_2 - Q_1)$
 - A surplus of drones equal to $(Q_2 - Q_1)$

Figure 1. Supply and Demand for Drones



- 35) Using Figure 1, If the free market were allowed in the drone market, the equilibrium price would be at P_2 . How would the number of drones purchased increase compared to the number at $P = \$0$?
- $(Q_3 - Q_1)$
 - $(Q_3 - Q_2)$
 - $(Q_2 - Q_1)$
 - Q_2

- 36) The key difference between accrual and the cash method of accounting is:
- How income comes in and goes out of a business.
 - When revenue and expense are recognized.
 - How revenue is recorded from a transaction.
 - All of the above.
- 37) Depreciation is a cost associated with which of the following assets?
- Livestock feed.
 - Nitrogen fertilizer
 - A machinery storage shed.
 - Rice stored in a storage bin.
- 38) The average repair costs of a forage harvester are 6 percent of the new list price for every 100 hours of use. If a new harvester is purchased at \$20,000 and used for 75 hours per year for 8 years before being replaced, how much would the total repair costs expected to be?
- \$1,200
 - \$900
 - \$7,200
 - \$9,500
- 39) At the beginning of the year, a producer has a loan for the amount of \$1,250,000. The interest rate on this debt is 7 percent APR. If the producer makes a loan payment at the end of the year for \$178,000, what would the loan balance be at the start of the new year?
- \$178,000
 - \$1,159,500
 - \$1,162,500
 - \$90,500
- 40) A soybean farmer who has hedged future soybean sales is attempting to protect against future:
- Soybean price increases.
 - Soybean production cost increases.
 - Soybean price decreases.
 - Soybean production cost decreases.
- 41) In March a farmer sells November soybean futures at \$11.25 per bushel. At harvest, the farmer buys back the contract for \$11.10 and sells soybeans in the cash market for \$11.30. What is the net price of soybeans received by the farmer (ignoring all commission fees)?
- \$11.30 per bushel.
 - \$11.10 per bushel.
 - \$11.25 per bushel.
 - \$11.45 per bushel.
- 42) At any point in time, the net worth of a farm business is best represented by:
- Cash flow.
 - Total assets.
 - Net income.
 - Total assets less total liabilities.
- 43) The process of converting physical units of an input into physical units of an output is called:
- Production.
 - Consumption.
 - Supply.
 - Profit Maximization.

- 44) A liquidity measure of a farm business is an indicator of the firm's ability to:
- Produce more output.
 - Make a profit.
 - Pay its bills in the short run.
 - Increase its net worth.
- 45) A combine can be purchased for \$550,000. Total annual fixed costs are \$60,000 and variable costs per acre are \$35. If a custom operator expects to custom harvest 3,000 acres, what would he/she have to charge per acre in order to break even?
- \$20 per acre.
 - \$35 per acre.
 - \$55 per acre.
 - \$183.33 per acre.
- 46) What has increased for a firm whose current assets increased in value more than its current liabilities?
- Total assets.
 - Solvency.
 - Working capital.
 - Debt to equity ratio.
- 47) Renting land for cash versus shares of production results in:
- Less risk for both the landlord and the tenant.
 - More risk for both the landlord and the tenant.
 - Less risk for the landlord and more risk for the tenant.
 - More risk for the landlord and less risk for the tenant.
- 48) An annuity is:
- A series of equal annual payments.
 - A contract that needs to be renewed every year.
 - A tax-sheltered retirement plan.
 - A fee paid to an investment counselor.
- 49) Assume the break-even for soybeans is \$10.50 per bushel when the yield is 40 bushels per acre. This implies that:
- Total fixed costs are \$10.50 per acre.
 - Total costs are \$420 per acre.
 - Total fixed costs are \$420 per acre.
 - Total variable costs are \$420 per acre.
- 50) Average fixed costs are total fixed costs:
- Per year.
 - Per unit of output.
 - Minus total variable costs.
 - Divided by total costs.

PART II

PROBLEM SOLVING MULTIPLE CHOICE

(150 Total Possible Points)

**Complete all computations to two decimal places.
Please read questions carefully.**

A. BUDGET ANALYSIS (45 Points)

A farmer in Southwest Louisiana has an operation that includes 2,500 acres of rice and 700 acres of soybeans. Used the attached rice and soybean enterprise budgets to answer questions 1 through 15.

1. What are the producer's total estimated costs for all rice and soybean acres?
 - a. \$2,235,575
 - b. \$2,193,006
 - c. \$330,582
 - d. \$2,566,157
2. How much is the producer spending per acre on fertilizer for the rice crop?
 - a. \$76.70 per acre
 - b. \$132.50 per acre
 - c. \$55.80 per acre
 - d. \$191.50 per acre
3. What is the producer's total fertilizer costs across all rice and soybean acres?
 - a. \$372,550
 - b. \$41,300
 - c. \$331,250
 - d. \$191,750
4. Which of the following makes up the largest portion of the producers total fertilizer costs?
 - a. Phosphate fertilizer.
 - b. Potash fertilizer.
 - c. Nitrogen fertilizer.
 - d. Not enough information.
5. What is the producer's total fuel cost per acre for rice production?
 - a. \$25.23 per acre
 - b. \$34.27 per acre
 - c. \$17.08 per acre
 - d. \$158.40 per acre
6. What percentage of the producer's total fuel cost per acre for rice production is associated with irrigation?
 - a. 50.50%
 - b. 77.21%
 - c. 78.36%
 - d. 30.54%
7. What is the producers total insecticide costs across all soybean acres?
 - a. \$37,345
 - b. \$58,800
 - c. 36,092
 - d. \$41,300
8. How many total hours of labor is needed per acre for rice production?
 - a. .0942 hours per acre
 - b. 1.2837 hours per acre
 - c. 0.6518 hours per acre
 - d. 0.3303 hours per acre
9. What would it cost a producer per acre to apply 16 ounces of Newpath 2SL per acre on rice?
 - a. \$34.24 per acre
 - b. \$13.01 per acre
 - c. \$47.25 per acre
 - d. \$68.48 per acre
10. If a producer decided to reduce the amount of Phosphate and Potash fertilizer applied to the soybean crop by 20 percent, how much would the total per acre fertilizer cost be reduced?
 - a. \$59.00 per acre
 - b. \$11.08 per acre
 - c. \$47.20 per acre
 - d. \$7.50 per acre
11. Of the following cost categories, which one costs the most for rice production?
 - a. Herbicides
 - b. Insecticides
 - c. Fungicides
 - d. Seed

12. What percentage of total per acre direct (variable) costs is seed costs for soybean production?
- | | |
|-----------|-----------|
| a. 12.23% | c. 19.93% |
| b. 12.65% | d. 13.99% |
13. What is the breakeven price to cover total specified costs for the producer's soybean crop with a soybean yield of 35 bushels per acre?
- | | |
|-----------------------|-----------------------|
| a. \$13.49 per bushel | c. \$12.05 per bushel |
| b. \$1.45 per bushel | d. \$11.57 per bushel |
14. How many pounds of rice per acre would the producer need to produce if he wanted to have revenue that was 10 percent above his total specified costs with rice prices at \$0.17 per pound?
- | | |
|----------------------------|----------------------------|
| a. 5,260.2 pounds per acre | c. 6,102.5 pounds per acre |
| b. 5,786.2 pounds per acer | d. 4,953.1 pounds per acre |
15. Assume that for all of the producer's rice and soybean acres, he must give 20% of each crop produced to a landowner for rent. If the producer made 6,800 pounds of rice per acre and 40 bushels of soybeans per acre and rice prices were \$0.20 per pound and soybean prices were \$14.00 per bushel, what would be the producer's returns above total specified costs across all of his rice and soybean acres?
- | | |
|----------------|----------------|
| a. \$3,792,000 | c. \$3,033,600 |
| b. \$1,225,843 | d. \$467,443 |

B. LIVESTOCK RETAINED OWNERSHIP ANALYSIS (21 Points)

Mr. Smith is a cattle producer and has 100 steers that he just weaned. Mr. Smith could sell those 100 steers now as feeder steers or he could send them to a feedlot for finishing and sell them later as fat steers. If he sells them now as feeder steers, they will have an average weight of 600 pounds and he could a price of \$2.60 per pound for them. He has calculated that his total costs if he sold him as feeder steers would be \$950 per steer. If he retains ownership in the steers through the feedlot, the feedlot has quoted him a cost of gain of \$1.25 per pound. This \$1.15 per pound would be the price the feedlot would charge Mr. Smith for every pound the steers gained from the time they got to the feedlot to when they were sold. The steers would weigh 600 pounds when they got to the feedlot and would be sold at 1,300 pounds. Mr. Smith projects that he could sell the fat steers at a price of \$1.85 per pound. Use this information to help Mr. Smith make his decision and answer questions 16 through 22.

16. How much revenue would Mr. Smith generate per steer if he sold the steers as feeder steers?
- | | |
|-------------------------|-------------------------|
| a. \$750.00 per steer | c. \$1,110.00 per steer |
| b. \$1,560.00 per steer | d. \$1,250.00 per steer |
17. What would be Mr. Smith's profit per steer if he sold the steers as feeder steers?
- | | |
|--|--|
| a. Negative profit of \$200.00 per steer | c. Positive profit of \$610.00 per steer |
| b. Positive profit of \$160.00 per steer | d. Negative profit of \$610.00 per steer |
18. What would be Mr. Smith's feedlot costs per steer (what would it cost for Mr. Smith to feed the steers in the feedlot)?
- | | |
|----------------------|--------------------|
| a. \$700 per steer | c. \$750 per steer |
| b. \$1,625 per steer | d. \$805 per steer |
19. How much revenue would Mr. Smith generate per steer if he sold the steers as fat steers?
- | | |
|----------------------|----------------------|
| a. \$2,405 per steer | c. \$3,380 per steer |
| b. \$1,625 per steer | d. \$2.670 per steer |

20. What would be Mr. Smith's returns per steer above his feedlot costs?
- | | |
|----------------------|----------------------|
| a. \$2,680 per steer | c. \$1,600 per steer |
| b. \$875 per steer | d. \$1,655 per steer |
21. What would be Mr. Smith's profit per steer if he sold them as feeder steers or as fat steers?
- | | |
|------------------------------------|------------------------------------|
| a. \$610 as feeder; \$1,600 as fat | c. \$160 as feeder; \$875 as fat |
| b. \$610 as feeder; \$650 as fat | d. \$160 as feeder; \$1,600 as fat |
22. What would be Mr. Smith's total profit across all steers sold if he sold them as feeder steers or as fat steers and if he had 2 steers die while in the feedlot (assuming that total feedlot costs would remain the same).
- | | |
|---|--|
| a. \$61,000 as feeder, \$1,600,000 as fat | c. \$16,000 as feeder, \$60,190 as fat |
| b. \$61,000 as feeder, \$65,000 as fat | d. \$61,000 as feeder, \$60,190 as fat |

C. PRE-HARVEST MARKETING HEDGE (12 points)

Mr. Johnson is a corn producer and is concerned that corn prices will decline prior to harvesting and marketing his corn in August and is considering using a pre-harvest marketing strategy. Mr. Johnson is thinking about hedging by either selling a September 2024 corn futures contract or buying a September 2024 corn put option. Currently, the September 2024 corn futures contract is trading for \$4.79 per bushel and the September 2020 call put option with a \$4.70 per bushel strike price is trading at \$0.31 per bushel. Mr. Johnson expects the basis in late August/early September to be \$0.10 per bushel above the futures price. Use this information to help Mr. Johnson decide what to do and answer questions 23 through 26.

23. What is Mr. Johnson's expected target price (expected selling price) for his corn if he sells the September 2024 corn futures contract?
- | | |
|----------------------|----------------------|
| a. \$4.89 per bushel | c. \$4.79 per bushel |
| b. \$4.79 per bushel | d. \$4.70 per bushel |
24. What is Mr. Johnson's expected price floor he will set for his corn if he buys the September 2024 corn put option?
- | | |
|----------------------|----------------------|
| a. \$4.39 per bushel | c. \$4.70 per bushel |
| b. \$4.48 per bushel | d. \$4.49 per bushel |
25. Assume that in August, Mr. Johnson sells his corn crop at the local elevator for \$5.25 per bushel. On the day he sold the crop, the September 2024 corn futures contract was trading at \$5.00 per bushel. What is Mr. Johnson's net selling price for his corn if he hedged by selling the September 2024 corn futures contract?
- | | |
|----------------------|----------------------|
| a. \$5.25 per bushel | c. \$5.00 per bushel |
| b. \$5.04 per bushel | d. \$5.10 per bushel |
26. Assume that in August, Mr. Johnson sells his corn crop at the local elevator for \$5.25 per bushel. On the day he sold the crop, the September 2024 corn futures contract was trading at \$5.00 per bushel and the September 2024 corn put option with a \$4.70 strike price was trading at \$0.02 per bushel. What is Mr. Johnson's net selling price for his corn if he hedged by purchasing the September 2024 corn put option with at \$4.70 per bushel strike price?
- | | |
|----------------------|----------------------|
| a. \$5.25 per bushel | c. \$4.96 per bushel |
| b. \$5.00 per bushel | d. \$5.27 per bushel |

D. EQUIPMENT COST ANALYSIS (15 points)

Mr. Thibodeaux is a sugarcane producer but is planning on planting 500 acres of soybeans on his fallow sugarcane acres. Mr. Thibodeaux doesn't have a combine to harvest the soybeans he is planning to plant. He has three options. He can purchase a combine, he can lease a combine, or he can hire someone to harvest the soybeans for him. He has found a good used combine. Based on what it would cost to purchase the combine, he estimates his annual ownership (fixed) costs of the combine will be \$45,000. Also, using LSU AgCenter Enterprise Budgets, he estimates that his variable harvest costs with the combine would be \$35 per acre or \$17,500 for the 500 acres. He can lease a combine at a cost of \$250 per hour of use. He estimates that he can harvest 4.8 acres per hour. If he leases the combine, he will still have labor costs and fuel costs. His labor costs are \$14.53 per hour and the leased combine uses 8.6 gallons per hour and his fuel cost is \$3.50 per gallon. Finally, he called around and found someone that would harvest the soybeans for him at \$65.00 per acre. Use this information to help Mr. Thibodeaux make a decision and answer questions 27 through 31.

27. What would Mr. Thibodeaux's harvest cost per acre be if he purchased a combine to harvest his soybeans?
- a. \$90.00 per acre
 - b. \$34.00 per acre
 - c. \$125.00 per acre
 - d. \$70.00 per acre
28. What would Mr. Thibodeaux's harvest cost per acre be if he leased a combine to harvest his soybeans?
- a. \$61.39 per acre
 - b. \$52.08 per acre
 - c. \$70.00 per acre
 - d. \$9.30 per acre
29. Which alternative should Mr. Thibodeaux choose if all he is concerned about is cost per acre?
- a. Lease a combine
 - b. Custom harvest
 - c. Purchase a combine
 - d. None of the above
30. What would Mr. Thibodeaux's harvest cost per acre be if he purchased a combine to harvest his soybeans but had 1,000 acres of soybeans instead of 500?
- a. \$90.00 per acre
 - b. \$80.00 per acre
 - c. \$125.00 per acre
 - d. \$70.00 per acre
31. What would Mr. Thibodeaux's harvest cost per acre be if he leased a combine to harvest his 500 acres of soybeans but could cut 6 acres per hour instead of 4.8 acres?
- a. \$61.39 per acre
 - b. \$70.00 per acre
 - c. \$52.08 per acre
 - d. \$49.11 per acre

E. FINANCIAL ANALYSIS (12 points)

Use Mr. Boudreaux’s Net Worth Statement provided to answer questions 32 through 35.

Mr. Boudreaux's Net Worth Statement			
FARM ASSETS		FARM LIABILITIES	
Current Assets		Current Liabilities	
Checking, savings accounts	\$70,000	Accounts payable	\$95,000
Hedging accounts	\$25,000	Farm taxes due	\$10,750
Crop held for sale/feed	\$280,000	Current notes and credit lines	\$200,000
Prepaid expenses	\$40,000	Accrued interest	\$35,000
Accounts receivable	\$10,000	Principal due on notes and contracts	\$75,000
<hr/>		<hr/>	
Total Current Assets	\$425,000	Total Current Liabilities	\$415,750
<hr/>		<hr/>	
Non-Current Assets		Non-Current Liabilities	
Breeding livestock	\$40,000	Principal due on notes and contracts	\$600,000
Machinery & Equipment	\$1,250,000	Other non-current liabilities	\$115,500
Farmland	\$575,000		
Buildings/Improvements	\$450,000		
Farm securities, certificates	\$20,000		
<hr/>		<hr/>	
Total Non-Current Assets	\$2,335,000		\$715,500
<hr/>		<hr/>	
TOTAL FARM ASSETS		TOTAL FARM LIABILITIES	
<hr/>			
Farm Net Worth			
Working Capital			
Current Asset to Debt Ratio			
Total Debt to Asset Ratio			
<hr/>			

32. What is Mr. Boudreaux’s net worth?
- | | |
|----------------|----------------|
| a. \$2,335,000 | c. \$715,500 |
| b. \$1,628,750 | d. \$2,760,000 |
33. What is Mr. Boudreaux’s working capital?
- | | |
|--------------|--------------|
| a. \$415,750 | c. \$9,250 |
| b. \$425,000 | d. \$280,000 |
34. What is Mr. Boudreaux’s current asset to debt ratio?
- | | |
|---------|---------|
| a. 1.02 | c. 0.98 |
| b. 1.58 | d. 0.56 |
35. What is Mr. Boudreaux’s debt to asset ratio?
- | | |
|---------|---------|
| a. 0.41 | c. 0.60 |
| b. 1.15 | d. 0.15 |

F. INCOME STATEMENT ANALYSIS (15 points)

You have been asked to prepare an income statement for Mr. Trahan’s Nursery and Landscape Company. Mr. Trahan has provided you with the following table to answer questions 36 through 40.

Plant Sales	\$374,459	Fuel Expenses	\$55,772
Income Tax Expense	\$34,432	Equipment Depreciation Expenses	\$41,700
Cost of Goods Sold	\$80,202	Accessories Sales	\$10,765
Lawn Care Fee Income	\$71,686	Rent	\$8,342
Hourly Labor Expense	\$48,659	Insurance	\$7,263
Advertising Expense	\$14,440	Landscape Fee Income	\$93,416
Soil Sales	\$17,658	Fertilizer Sales	\$32,299

36. What is the total income for the revenue section of the income statement?

- a. \$500,000
- b. \$374,459
- c. \$520,079
- d. \$71,686

37. What are the total operating (variable) expenses?

- a. \$120,154
- b. \$93,416
- c. \$118,869
- d. \$80,202

38. What are the total fixed expenses?

- a. \$48,659
- b. \$57,303
- c. \$61,147
- d. \$55,149

39. What is the net income (after taxes)?

- a. \$374,459
- b. \$421,472
- c. \$310,473
- d. \$309,476

40. What is the depreciation expense ratio (depreciation divided by gross revenue)?

- a. 0.10
- b. 0.08
- c. 0.47
- d. 1.14

G. LOAN AMORTIZATION SCHEDULE (15 points)

An agricultural producer is going to purchase a piece of equipment. The agreed upon sell price for the equipment is \$250,000 but the producer is going to receive \$25,000 for his trade-in and he has another \$75,000 in cash for a down payment. The dealership is going to allow him to borrow the money he needs to purchase the piece of equipment for an APR (annual percentage rate) of 7.5% for 10 years. Complete the following loan amortization schedule to answer questions 41 through 45.

Year	Beginning Balance	Annual Payment	Interest Payment	Principal Payment	Ending Balance
1	???	???	\$11,250	\$10,603	\$139,397
2	\$139,397	\$21,853	\$10,455	\$11,398	\$127,999
3	\$127,999	\$21,853	\$9,600	\$12,253	\$115,746
4	\$115,746	\$21,853	???	???	\$102,574
5	\$102,574	\$21,853	\$7,693	\$14,160	\$88,414
6	\$88,414	\$21,853	\$6,631	\$15,222	???
7	???	\$21,853	\$5,489	\$16,363	\$56,829
8	\$56,829	\$21,853	\$4,262	\$17,591	\$39,238
9	\$39,238	\$21,853	\$2,943	\$18,910	\$20,328
10	\$20,328	\$21,853	\$1,525	\$20,328	\$0

41. How much money did the producer originally borrow to purchase the equipment?
- a. \$150,000
 - b. \$225,000
 - c. \$250,000
 - d. \$175,000
42. What is the amount of the total payment in year 1?
- a. \$21,853
 - b. \$10,603
 - c. \$11,250
 - d. \$139,397
43. In which year does the portion of the payment applied to the principal first exceed the interest payment?
- a. Year 1
 - b. Year 3
 - c. Year 2
 - d. Year 4
44. What is the amount of interest paid in year 4?
- a. \$13,172
 - b. \$9,600
 - c. \$8,681
 - d. \$7,369
45. What is the ending balance at the end of year 6?
- a. \$73,057
 - b. \$60,487
 - c. \$88,414
 - d. \$73,192

H. MARGINAL ANALYSIS (15 points)

The data in the following table relate to the effect of units of inputs on the production of an agricultural product. Please use the table below to answer 46 through 50.

	Total	Average	Marginal
Input	Physical	Physical	Physical
	Product	Product	Product
0	0		
			4.00
10	40	4.00	
20	100		
30	180		
40	280		
50	300		
60	310		

46. What is the average physical product when 30 units of input are used?
- 4
 - 6
 - 5
 - 7
47. How many units of input would be needed to produce a marginal physical product value of 8?
- 10
 - 30
 - 20
 - 40
48. How many units of input would it take to produce an average physical product value of 7.
- 40
 - 20
 - 30
 - 60
49. What is the marginal physical product value if we increase inputs from 50 to 60?
- 5.50
 - 7.15
 - 6.25
 - 5.17
50. At what level of input does the marginal physical product value start to decline?
- 50
 - 30
 - 60
 - 40

Table 4.A Estimated costs per acre,
Rice, Clearfield Variety, Drill Planted, Conventional Tillage,
Southwest Louisiana, 2024.

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
CUSTOM SPRAY					
LARice GPS Charge-SW	acre	0.35	8.0000	2.80	_____
App by Air (5 gal)	appl	8.11	5.0000	40.55	_____
GIN/DRY					
LARice Dry	cwt	0.90	77.7000	69.93	_____
FERTILIZERS					
LA Nitrogen	lb	0.59	130.0000	76.70	_____
LA Phosphate	lb	0.75	40.0000	30.00	_____
LA Potash	lb	0.43	60.0000	25.80	_____
FUNGICIDES					
Quadris	oz	6.25	10.0000	62.50	_____
HERBICIDES					
Newpath 2SL	oz	4.28	8.0000	34.24	_____
Aim 2EC	oz	8.13	1.6000	13.01	_____
INSECTICIDES					
Karate Z	oz	1.41	4.0000	5.64	_____
IRRIGATION SUPPLIES					
Rice Gates	each	3.65	1.0000	3.65	_____
SEED/PLANTS					
Rice Clearfield 161	lb	1.30	75.0000	97.50	_____
Seed Tmt	oz	0.30	13.5000	4.05	_____
SERVICE FEE					
Digital Ag Fee	acre	10.00	1.0000	10.00	_____
CUSTOM FERT/LIME					
App Fert by Air	cwt	7.50	3.8000	28.50	_____
CUSTOM HARVEST/HAUL					
LARice Haul	cwt	0.30	70.0000	21.00	_____
HAND LABOR					
Implements	hour	14.53	0.0942	1.37	_____
LA OPERATOR LABOR					
Self-Propelled	hour	17.94	0.3303	5.93	_____
LA Hired Labor					
Tractors	hour	14.53	0.6518	9.47	_____
LA Irrigation Labor					
Irrigation System 2	hour	14.53	0.2074	3.01	_____
DIESEL FUEL					
Tractors	gal	3.50	7.2104	25.23	_____
Self-Propelled	gal	3.50	2.5825	9.04	_____
Irrigation System 2	gal	3.50	35.4660	124.13	_____
REPAIR & MAINTENANCE					
Implements	acre	6.57	1.0000	6.57	_____
Tractors	acre	5.78	1.0000	5.78	_____
Self-Propelled	acre	14.53	1.0000	14.53	_____
Irrigation System 2	acre	3.61	1.0000	3.61	_____
INTEREST ON OP. CAP.	acre	24.62	1.0000	24.62	_____
TOTAL DIRECT EXPENSES				759.16	_____
FIXED EXPENSES					
Implements	acre	17.98	1.0000	17.98	_____
Tractors	acre	44.25	1.0000	44.25	_____
Self-Propelled	acre	26.46	1.0000	26.46	_____
Irrigation System 2	acre	46.38	1.0000	46.38	_____
TOTAL FIXED EXPENSES				135.07	_____
TOTAL SPECIFIED EXPENSES				894.23	_____

Table 6.A Estimated costs and returns per acre,
Soybeans, RR, drill planted, conventional tillage, in rotation,
Southwest Louisiana, 2024.

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
CUSTOM SPRAY					
App by Air (5 gal)	appl	8.11	3.0000	24.33	_____
LARice GPS Charge-SW	acre	0.35	3.0000	1.05	_____
App by Air (3 gal)	appl	6.87	4.0000	27.48	_____
HARVEST AIDS					
Gramoxone Max	pt	5.28	1.0000	5.28	_____
FERTILIZERS					
LA Phosphate	lb	0.75	50.0000	37.50	_____
LA Potash	lb	0.43	50.0000	21.50	_____
FUNGICIDES					
Quadris	oz	6.25	6.0000	37.50	_____
Stratego	pt	22.50	0.6250	14.06	_____
HERBICIDES					
Roundup Ultra MAX	pt	5.97	3.5000	20.90	_____
Classic	oz	16.67	0.2500	4.17	_____
INSECTICIDES					
Dimilin 2L	oz	1.63	2.0000	3.26	_____
Besiege	oz	2.75	10.0000	27.50	_____
Prevathon	oz	1.05	16.0000	16.80	_____
Methyl Parathion	pt	5.79	1.0000	5.79	_____
SEED/PLANTS					
Soybean Seed RR	lb	1.12	75.0000	84.00	_____
SERVICE FEE					
Digital Ag Fee	acre	10.00	1.0000	10.00	_____
Soil Test	acre	10.00	0.3300	3.30	_____
ADJUVANTS					
Surfactant	pt	3.30	0.5000	1.65	_____
CUSTOM FERT/LIME					
Custom Spread(Truc	appl	5.00	1.0000	5.00	_____
CUSTOM HARVEST/HAUL					
Haul Soybeans	bu	0.27	35.0000	9.45	_____
HAND LABOR					
Implements	hour	14.53	0.0942	1.37	_____
LA OPERATOR LABOR					
Self-Propelled	hour	17.94	0.2310	4.15	_____
LA Hired Labor					
Tractors	hour	14.53	0.3772	5.47	_____
LA Other Labor					
Special Labor	hour	14.53	0.1250	1.82	_____
DIESEL FUEL					
Tractors	gal	3.50	3.3869	11.86	_____
Self-Propelled	gal	3.50	1.4915	5.22	_____
REPAIR & MAINTENANCE					
Implements	acre	5.77	1.0000	5.77	_____
Tractors	acre	2.32	1.0000	2.32	_____
Self-Propelled	acre	9.24	1.0000	9.24	_____
INTEREST ON OP. CAP.	acre	13.84	1.0000	13.84	_____
TOTAL DIRECT EXPENSES				421.58	_____
FIXED EXPENSES					
Implements	acre	16.33	1.0000	16.33	_____
Tractors	acre	17.52	1.0000	17.52	_____
Self-Propelled	acre	16.83	1.0000	16.83	_____
TOTAL FIXED EXPENSES				50.68	_____
TOTAL SPECIFIED EXPENSES				472.26	_____

2024 FFA Farm Business Management CDE - Answer Key

Short Multiple Choice Section

Question	Answer	Question	Answer	Question	Answer	Question	Answer	Question	Answer
1	D	11	A	21	C	31	B	41	D
2	B	12	B	22	B	32	B	42	D
3	B	13	D	23	B	33	C	43	A
4	A	14	D	24	C	34	A	44	C
5	C	15	B	25	A	35	C	45	C
6	C	16	D	26	D	36	B	46	C
7	D	17	B	27	B	37	C	47	C
8	B	18	A	28	C	38	C	48	A
9	A	19	C	29	A	39	B	49	B
10	C	20	B	30	B	40	C	50	B

Problem Solving Multiple Choice Section

Question	Answer	Question	Answer	Question	Answer	Question	Answer	Question	Answer
1	D	11	D	21	B	31	D	41	A
2	B	12	C	22	D	32	B	42	A
3	A	13	A	23	A	33	C	43	C
4	C	14	B	24	D	34	A	44	C
5	D	15	D	25	B	35	A	45	D
6	C	16	B	26	C	36	C	46	B
7	A	17	C	27	C	37	C	47	C
8	B	18	D	28	A	38	B	48	A
9	D	19	A	29	A	39	D	49	D
10	B	20	C	30	B	40	B	50	A