FBM 2006 ALL Exams and KEYS

Team Participation Event (100 pts.)

2006 Iowa Vo-Ag/FFA
Farm Business Management Career Development Event

As a group (or team), you are to collectively select the best answer to each question below (10 pts. each). Code your answers on the answer sheet provided (one answer sheet per team). Be sure to erase completely any answers that your team changes.

This activity is designed to test your ability as a group to 1) apply your knowledge of economic and business concepts to actual firm decisions, and 2) generalize and summarize the basic content and implications of economic articles and reports. The applications will focus on information summarized in selected publications previously cited as reference materials for this event.

In particular, this activity focuses on a sub topic of farm management called tax management which is important to many Iowa farmers if they want to improve the returns to their agricultural operations.

1. A taxable capital 'gain' occurs if the selling price of an asset exceeds:
   a. its purchase price
   b. the current basis of the asset
   c. its current market value
   d. the amount of previously claimed depreciation

2. Progressive (or graduated) income tax rates usually mean income tax rates are greater for:
   a. greater taxable income levels
   b. smaller families
   c. income resulting from progressive capital improvements versus income from commodity sales
   d. farms that use more progressive technology

3. Suppose Farmer Jones, for tax purposes, has decided to pay a child cash wages for the farm work they do. Which of the following is most likely to be an economic advantage of doing this?
   a. Farmer Jones is more likely to be able to claim the child as a dependent.
   b. The child will have to file an income tax return.
   c. Farmer Jones can deduct the wages paid as a farm business expense from his/her taxable income.
   d. Reduced life insurance premiums on the child.

4. An income tax table provides an individual with instructions on how to calculate their federal income tax obligation on taxable income of $88,500. The table indicates their tax obligation is $8,180 + 25% of their taxable income over $59,400. What is the value of income taxes owed by this person?
   a. $22,125
   b. $7,275
   c. $15,455
   d. $23,030

5. What does the Modified Accelerated Cost Recovery System (MACRS) establish?
   a. amounts of allowable annual depreciation for different classes of assets
   b. guidelines for which expenses are tax deductible
   c. rates at which a farmer can accelerate expense claims based on taxable income levels
   d. rules for using the cash and accrual accounting methods

6. Tax management decisions that impact the transfer of property between generations is generally called:
   a. capital gains analyses
   b. income averaging
   c. retirement planning
   d. estate planning

7. Which of the following is usually the best or most recommended income-tax-related goal of managers of farms and small businesses?
   a. minimize taxes paid to the government
   b. maximize before-tax income
   c. maximize after-tax income
   d. maximize tax-deductible expenses

8. Suppose a farmer sells an asset for $20,000. This asset was previously purchased for $10,000. From the time of purchase to the time of sale, the farmer made $4,000 worth of improvements on the asset and claimed $5,000 worth of depreciation. What is the amount of taxable gain (or taxable income) to this farmer as a result of these actions?
   a. $20,000
   b. $10,000
   c. $11,000
   d. $9,000

9. Assume it is December 2005. A farmer is deciding whether or not to prepay $40,000 of 2006 tax deductible purchases of seed and fertilizer. Furthermore, it is estimated without this prepayment, the farmer's taxable income for 2005 would be $150,000 and tax bracket would be 28%. Meanwhile for 2006, the farmer's taxable income would be $50,000 and tax bracket would be 15% without the prepayment. What is the best estimate of the amount of taxes this farmer would save over the two years combined with prepayment?
   a. $0
   b. $11,200
   c. $6,000
   d. $5,200

10. A farmer, who is in a 28% income tax bracket, has just purchased a tractor for $100,000. Assume this farmer is deciding whether to claim an additional 25% depreciation this year on the tractor which is allowed under current tax laws. Which of the following is the most likely impact of claiming the extra depreciation this year for this farmer if he will still have a profit to report to the Internal Revenue Service?
   a. the farmer's cash flow will go down by $25,000
   b. the farmer's cash flow will go up by $7,000
   c. the farmer's reported profit will go up $25,000
   d. the farmer's reported profit will go down $7,000

KEY – TEAM PARTICIPATION EVENT

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1. B

2. A

3. C

4. C 8,180 + (.25) (88,500 – 59,400) = 15,455

5. A

6. D

7. C

8. D taxable amount = (sale price – purchase price + improvements – depreciation) =

(sale price – basis)

9. D Taxes w/o prepaid expenses:

2005	=	150,000 x .28	=	42,000
2006	=	50,000 x .15	=	7,500
Total	=			49,500

Taxes w/ prepaid expenses:

2005	=	110,000 x .28	=	30,800
2006	=	90,000 x .15	=	13,500
				44,300

10. B The extra $25,000 depreciation will lower the farmer's profit by the same amount.

This will save the farmer $7,000 (= .28 x 25,000) in taxes which will increase his/her cash flow by this amount as a result because depreciation is not a cash expense.

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MULTIPLE CHOICE SECTION (100 pts.)

Select the best answer (2 pts ea). Code your answers on the answer sheet provided. Be sure to erase completely any answers that you change.

1. At any point in time, if a farm business has a negative net worth, which of the following is also true:
   a. net income < 0
   b. cash flow < 0
   c. farm debt exceeds farm assets
   d. (current assets – current liabilities) < 0

2. Retirement payments at old age (and to survivors) along with disability benefits and medical benefits are available mainly due to:
   a. the capital gains tax
   b. the social security tax
   c. Roth IRA's
   d. gift taxes

3. A demand curve connects paired observations on quantity demanded of a product and:
   a. quantity supplied
   b. consumer income
   c. the product's price
   d. population

4. Costs that have already been incurred and cannot now be avoided are called:
   a. opportunity costs
   b. marginal costs
   c. sunk costs
   d. variable costs

5. A straight line has the equation $y = 20 + 2x$, where x is the horizontal axis variable. The slope of this line is:
   a. +20
   b. 2x
   c. +2
   d. + 22

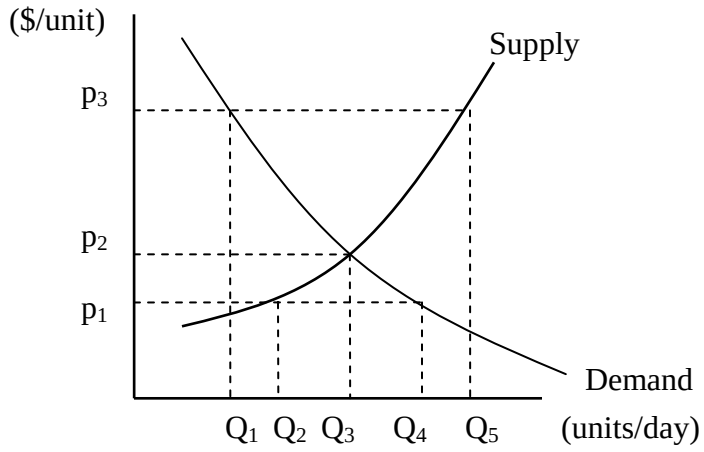
6. The value of assets owned by a person at the time of their death is also known as the value of their:
   a. will
   b. probate
   c basis
   d. estate

7. Which of the following would cause a shift to the left of the market demand curve for a normal good?
   a. an increase in the price of that good
   b. a decrease in the price of a substitute product
   c. an increase in supply
   d. an increase in population (i.e. number of consumers)

8. What word is most similar to 'marginal' in marginal analysis in economics?
   a. inferior
   b. incremental
   c. average
   d. inefficient

9. Suppose the demand for eggs is given by the equation $Q_d = 100 - 2.5P$. What is price if quantity demanded = 90?
   a. $4.00
   b. $2.00
   c. $4.80
   d. $48.00

For questions 10 through 12 refer to the following graph of supply and demand curves in a hypothetical market.



10. Equilibrium in this market is:
    a. price = P_3, quantity = Q_3
    b. price = P_2, quantity = Q_2
    c. price = P_2, quantity = Q_3
    d. price = P_1, quantity = Q_2

11. If the price in this market were temporarily at a level of p_3, there would be:
    a. excess demand in the amount $Q_5 - Q_1$
    b. excess supply in the amount Q_5
    c. excess supply in the amount $Q_5 - Q_3$
    d. excess supply in the amount of $Q_5 - Q_1$

12. A change in the equilibrium point to price p_2 and quantity Q_4 would require:
    a. an increase in demand and an increase in supply
    b. an increase in demand and a decrease in supply
    c. a decrease in demand and an increase in supply
    d. a decrease in demand and a decrease in supply

13. Which of the following is the economic meaning of an ‘average’ cost?
    a. typical cost in the past
    b. typical cost for a typical producer
    c. cost per unit of output
    d. cost of an average quality product

14. A person who <u>buys</u> a futures contract has this futures market <u>position</u> and <u>obligation</u>

respectively:
a. long, take delivery
b. long, make delivery
c. short, make delivery
d. short, take delivery

15. Total revenue divided by quantity of output is:
a. marginal revenue
b. per unit of output
c. price of the output
d. average output

16. A greater difference between futures and cash prices for corn is known as:
a. a wider basis
b. a greater premium
c. a bull market
d. an invested market

17. If a farmer has a 30% marginal tax rate and a <u>before-tax</u> cost of $1.50, what is the farmer's after-tax cost?
a. $1.50
b. $1.95
c. $1.05
d. $1.20

18. A business is most likely to borrow money or reduce savings for a given time period if:
a. cash flow < 0
b. current ratio < 1
c. net income < 0
d. interest rates decline

19. A farmer has $100,000 in equipment used exclusively for wheat. The equipment will last five years and have a salvage value of $0. The farmer plants 1000 acres of wheat per year. If the interest rate is 8% on average annual investment, what will be the fixed costs per year (depreciation and average interest) for this machinery per acre of wheat?
a. $16
b. $20
c. $24
d. $28

20. The financial statement which is used to list assets, liabilities, and owner's equity of a farm business is the:
a. balance sheet

b. income statement
c. partial budget
d. cash flow statement

21. A used combine can be purchased for $190,000. Total annual fixed costs are $12,000, and variable cost per acre is $10. If a custom operator charges $25 per acre, what is the minimum number of acres needed to justify buying the combine?
a. 480
b. 800
c. 1200
d. 3600

22. A feedlot operator purchased 100 feeder steers with an average weight of 700 pounds and sells them at an average weight of 1,050 pounds. The total feed cost is $21,000. Feed cost per pound of gain is:
a. $0.20
b. $0.30
c. $0.60
d. $0.70

23. A farm's wheat yield has averaged 35 bushels per acre while the sunflower yield has averaged 1500 pounds per acre. Production costs for wheat are $116.00 per acre and for sunflowers are $121.00 per acre. If the price for wheat is $3.65 per bushel, what price per hundredweight for sunflowers would equal the net return for wheat?
a. $7.73
b. $8.07
c. $8.85
d. $9.10

24. Which of the following is most likely to increase the breakeven rate to charge by a custom combine operator?
a. interest rates decrease
b. grain prices decrease
d. fuel costs increase
e. repair costs decrease

25. Suppose a farmer's electricity expenses this year are $4,320, while the same costs last year were $4,000. What is the percentage increase in the cost of the electricity this year versus last year?
a. 7.4%
b. 9.5%
c. 8%
d. 10%

26. The process of combining inputs and converting them into products/services by a farm business is called:
a. investing
b. production
c. exchange
d. supply

27. Which of the following is generally recognized as a main advantage of incorporating a family farm business?
    a. limited liability for the owners
    b. expanded markets
    c. lower production costs
    d. greater borrowing ability

28. For a farm business firm, total revenue – total costs = :
    a. total production
    b. depreciation
    c. marginal income
    d. profit

29. A long-run production period for a farm business is defined as one that:
    a. is one year or longer
    b. is five years or longer
    c. a firm is stuck with a fixed amount of at least one input
    d. a firm has all variable inputs

30. Which of the following farm firm decisions is more likely to impact the firm's total costs, rather than the firm's total revenues?
    a. what inputs to use
    b. what price to charge for the product
    c. how to market the product
    d. who to sell the product to

31. The number of futures contracts outstanding at a given point in time is called:
    a. volume
    b. open interest
    c. options
    d. speculative interest

32. For farm business income taxation purposes which of the following, in addition to the selling price, is the main determinant of taxes owed on the sale of an asset:
    a. the asset's basis
    b. the fair market value of the asset
    c. the depreciable class of the asset
    d. income level of the person buying the asset

33. When is a corn farmer hedger most likely to receive a 'margin' call?
    a. cash corn prices decrease
    b. corn futures prices increase
    c. corn futures prices decrease
    d. corn production costs increase

34. Which of the following would most likely warrant an increase in production by a firm?

a. the firm is making money
b. the firm's cash flow is positive
c. the firm has low fixed costs
d. the firm's marginal revenue exceeds the firm's marginal cost

35. If a sweet corn farmer is marketing his/her product 'direct', which of the following is most likely to be the farmer's customer(s)?
a. produce wholesaler(s)
b. local farmers markets, restaurants, and grocery stores
c. sweet corn processor(s)
d. the local cooperative

36. Which of the following refers to a farm firm's ability to pay its bills in the short run?
a. solvency
b. liquidity
c. net worth
d. debt

37. What is the economic term used to describe product sales to a foreign country?
a. imports
b. currency
c. exports
d. tariffs

38. If you want the right to sell a futures contract, you should:
a. buy a put option
b. buy a call option
c. sell a call option
d. sell a put option

39. The law of diminishing returns in wheat production occurs when:
a. total yield starts to decline
b. total input usage starts to increase
c. marginal yield starts to decrease
d. average yield starts to decrease

40. Crop share and cash are alternative:
a. rental agreements
b. depreciation calculation methods
c. inventory valuation methods
d. loan repayment methods

41. A cooperative business usually returns most of its earnings to its members in the form of:
a. stock dividends
b. patronage refunds
c. retained earnings
d. shares of stock

42. Financial, opportunity, cash, and economic are terms used to describe different types of the following for a farm firm:

a. revenues
b. assets
c. liabilities
d. costs

43. If a farm firm leases machinery, it:
a. buys machinery on contract
b. borrows money to repair machinery
c. loans machinery to another producer
d. rents machinery

44. In July a farmer sells November futures at $5.35 to hedge new crop soybeans. At harvest, the farmer buys back the contract for $4.85 and sells soybeans in the cash market for $4.75. What is the net price of soybeans received by the farmer (ignoring all commission fees).
a. $5.35
b. $5.05
c. $5.25
d. $5.75

45. Producers who do <u>not</u> hedge face this type of risk:
a. basis
b. cash price
c. fixed cost
d. all of the above

46. What is the appropriate 'discount factor' to apply to money to be received two years from now to determine its present value if the relevant interest rate is 5%?
a. .8900
b. .9433
c. .9070
d. 1.05

47. A grain farmer who rents land and does so with a crop-share lease agreement agrees to pay the land owner which of the following?
a. a fixed cash payment per acre
b. a variable cash payment per acre
c. a percentage of the harvested crop
d. a percentage of the profits per acre

48. Which of the following is usually assumed to be <u>scarce</u> according to the science of Economics?
a. wants

b. alternatives
c. resources
d. consumer tastes and preferences

49. Which of the following economic terms is most closely associated with declining average costs as output increases?
a. economies of size
b. law of supply
c. law of diminishing returns
d. specialization

50. If a farmer pays off a loan in full, the following are paid:
a. collateral and principal
b. principal and interest
c. down payment and amount borrowed
d. present value plus future value of the loan

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MULTIPLE CHOICE SECTION KEY

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

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PROBLEM SECTION (200 pts.)

Select the best answer (5 pts. each). Code your answers on the answer sheet provided. Be sure to erase completely any answers that you change.

Section A: **Financial Statement Analysis (50 pts.)** Using the attached ending net worth statement (balance sheet) and net farm income statement, answer the following questions.

1. What was this farm's cost value net worth on Jan. 1, 2006?
   a. $1,031,756
   b. $1,146,952
   c. $506,371
   d. $489,531

2. What was the farm's market value net worth?
   a. $1,031,756
   b. $506,371
   c. $1,672,337
   d. $640,581

3. The difference between market value net worth and cost value net worth is:
   a. due to assets appreciating in value after purchase
   b. cost values are not adjusted for depreciation
   c. market values are not adjusted for depreciation
   d. Zero – they are the same

4. Using market values, the farm's debt to asset ratio is:
   a. 62%
   b. 2.61
   c. 56%
   d. 38%

5. This farm's market value net worth increased by _____ over the previous year.
   a. 0%
   b. 86%
   c. 3.4%
   d. 16%

6. How much is this farm's 'working capital'?
   a. $259,637
   b. $126,063
   c. $1,412,700
   d. $1,031,756

7. From the Net Farm Income statement, how much did the value of this farm's inventory of crops change from the beginning of the year to the end of the year?

e. $120,828 increase
f. $131,628 increase
g. $10,800 increase
h. $10,800 decrease

8. From the Net Farm Income Statement, what percent of their gross farm revenue did they keep as net farm income?
   a. 18%
   b. 17%
   c. 78%
   d. 22%

9. What is the purpose of the section in the Net Farm Income Statement called "Income Adjustments"?
   a. to make net farm income higher
   b. to allocate the value of crops and livestock produced to the year they were produced rather than the year they were sold
   c. to allocate expenses to the year they were incurred rather than the year they were sold
   d. to take into account 'depreciation'

10. How much was this farm's cash net farm income?
   a. $278,228
   b. $60,945
   c. $53,403
   d. $48,093

Section B. Cash Flow Analysis (50 pts.)

Use the attached cash flow budget projection to answer the questions below.

11. How much cash does this farm expect to take in from crop sales during the coming year?
   a. $265,284
   b. $155,620
   c. $39,720
   d. $311,240

12. In how many bi-monthly periods is this farm projected to show a positive net cash flow in the coming year?
   a. one
   b. two
   c. three
   d. four

13. In which period does this farm project the most negative net cash flow?
   a. January-February
   b. March-April
   c. May-June

d. November-December

14. Approximately, how many dollars of operating loans does this farm expect to borrow for the whole year?
    a. none
    b. $56,000
    c. $59,500
    d. $85,000

15. This farm plans to trade for a new pickup this year. How much have they budgeted for this?
    a. $12,000
    b. $5,000
    c. $30,000
    d. $14,300

16. How much is this farm's projected cash net operating income for 2006?
    a. $265,284
    b. $21,517
    c. $260,284
    d. $91,878

17. What is the largest operating loan balance this farm expects to have at the end of any period?
    a. $56,000
    b. $109,500
    c. $115,500
    d. $30,500

18. Which of the following expenditures is included in a cash flow budget but not in a net farm income statement?
    a. wages paid to hired labor
    b. USDA payments
    c. principal payments on long-term loans
    d. depreciation

19. This farm projects that it can pay _____ of its new operating loan to be received this year.
    a. only part
    b. all
    c. all and more
    d. none

20. A cash flow budget summarizes:
    a. projected cash inflows and outflows for the coming year
    b. actual cash inflows and outflows from the past year
    c. average cash inflows and outflows over the past 5 years
    d. only projected cash expenses for the coming year

Section C: Budgeting and Investment Analysis (50 pts.)

Refer to the attached "Freestall Dairy" budget to answer questions 21 through 25.

9. How much profit per cow is projected?
   a. $3,831.12
   b. $3,949.16
   c. -$118.04
   d. -$.49

22. How much income do they need from milk sales to just pay for all costs?
   a. $3,949.16
   b. $3,242.16
   c. $3,360.20
   d. $14.00

23. In this budget a cow is assumed to be culled and sold after approximately _____ years of production.
   a. 3
   b. 4
   c. 5
   d. 6

24. How much is the projected feed cost per pound of milk for this cow?
   a. $4.64 per lb.
   b. $.0464 per lb.
   c. $16.45 per lb.
   d. $.1645 per lb.

25. Without any government MILC payment, what milk price per cwt. would generate a profit of $1.00 per cwt.?
   a. $15.40
   b. $17.45
   c. $14.51
   d. $16.96

Refer to the attached "Continuous Wheat" budget to answer questions 26 through 30.

26. How much is the estimated profit per acre for a 55-bushel per acre yield in this budget?
    a. $191.69
    b. $195.72
    c. -$4.03
    d. -$23.86

27. What is the approximate breakeven yield needed to cover all costs if the crop can be sold for $3.75 per bushel?
    a. 39 bu. per acre
    b. 48 bu. per acre
    c. 52 bu per acre
    d. 55 bu. per acre

28. If the farmer receives $16.79 per acre from the government for an expected yield of 55 bu. per acre, what is the approximate breakeven price?
    a. $3.56
    b. $3.86
    c. $3.25
    d. $3.18

29. If the farmer owned the land instead of renting it, what should be included in the budget as a 'land charge'?
    a. $0
    b. property taxes
    c. ½ the current rent payment
    d. all cash and non cash costs associated with owning land

30. Why is interest charged on only half of the nonland costs (line 13)?
    a. only half of the non-land costs need to be paid
    b. the money to pay non-land expenses is borrowed for only 6 months
    c. the money to pay non-land expenses is borrowed at half the normal interest rate
    d. the non-land costs are only half of the land costs

Section D: Marketing (50 pts.)

The information attached contains price information for cattle futures and options for March 21, 2006. Use this information (if needed) to answer questions 31-40. In addition to this information, assume 1) the expected nearby basis on the first day of each delivery month is 1 cent/lb. and 2) the commission fee for one round turn (buying and selling combined) for both futures and options is 2 cents/lb.

31. The trading range in price (¢/lb.) for April cattle futures on this day, March 21 was:
    a. .125

b. .075
c. .25
d. .70

32. Suppose you bought one June '06 cattle futures contract (40,000 lbs.) on the March 21 open. How much money or profit after (i.e. including) commissions would you make if you were to sell this contract later at a price = 84.25?
a. +$1,600
b. +$1,200
c. +$800
d. +$400

33. What was the cash cattle price ($ per cwt.) in your local market on March 21 if the basis was 3¢ per lb. based on the settle of the June futures?
a. $81.20
b. $75.20
c. $79.20
d. $73.20

34. Which of the following would have been the least expensive cattle options contract to buy on the close for March 21?
a. June call, strike price = 82
b. June call, strike price = 80
c. Apr put, strike price = 84
d. Apr put, strike price = 82

35. A cattle farmer can expect to receive what net price (¢/lb. after commission fees) as a result of hedging some future (Aug. 1, 2006) cattle marketings on the open on March 21 using the Aug. 2006 futures contract?
a. 77.25
b. 78.25
c. 79.25
d. 80.25

36. If a cattle farmer is required to put up margin money equal to 20 percent of the March 21 settle value of the June 2006 futures contract (40,000 lbs.) before he/she can hedge with that contract, how much money will he/she have to deposit per contract?
a. $31,280
b. $6,256
c. $1,564
d. $25,024

37. The June cattle option premiums on March 21 (compared to the same options' prices on March 20) are most likely to have:
a. increased for the put options
b. seen increases in the strike prices

c. increased for the call options
d. not changed

38. The right to sell June cattle futures at a price = 80 on the March 21 settlement would have cost (¢ per lb., excluding commissions):
a. 1.40
b. 0.22
c. 3.20
d. 78.20

39. Which of the following marketing options if implemented on March 21 would most likely result in a cattle farmer receiving the highest net price for June 1 cattle marketings if cattle prices increase 10¢/lb. between March 14 and June 1?
a. hedge with the June futures contract
b. hedge with the June put option
c. do not hedge with either futures or options (i.e. take the June cash price)
d. cash forward contract for delivery at the current cash price

40. Assume a cattle feeder buys feeder steers at 700 pounds, and finishes/sells them at 1100 pounds. Based on available pricing information, this producer has established a selling price of $80 per cwt. and has estimated it will cost $250 per head to finish each steer. What is the breakeven price per cwt. that this cattle feeder can pay for the 700-pound steers?
a. $90.00
b. $57.27
c. $35.71
d. $22.72

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Career Development Event

Problem Section Key

1. C Cost value net worth = total farm assets (cost value) – total farm liabilities = $1,146,952 - $640,581 = $506,371

2. A Market value net worth = total farm assets (market value) – total farm liabilities = $1,672,337 - $640,581 = $1,031,756

3. A Cost values are equal to original costs minus accumulated depreciation. Market values are what asset could be sold for.

4. D Debt-to-asset ratio = total farm liabilities divided by total farm assets (market value)
= $640,581 / $1,672,337 = 38%

5. D Change in market value net worth =
$1,031,756 - $892,021 = $139,735
Percent change = $139,735 / $892,021 = 16%

6. B Working capital = current assets minus current liabilities = $259,637 - $133,574 = $126,063

7. C Change in crop inventory = ending crops held for sale or feed minus beginning crops held for sale or feed = $131,628 - $120,828 = $10,800 increase

8. A Percent of gross farm revenue retained as net = Net Farm Income / Gross Farm Revenue
= $53,403 / $291,675 = 18%

9. B Adding the value of ending inventories of crops and livestock and accounts receivable, and subtracting beginning value, counts income in the year it was produced rather than the year it was sold.

10. B Cash net farm income = total cash income minus total cash expenses
= $278,228 - $217,283 = $60,945

Section B

11. B Sales of crops, total for year, is $155,620.

12. B A positive net cash flow is projected for May-June and November-December.

13. B The most negative net cash flow projected is in March-April, -$36,125.

14. C "New operating loan received," total for the year, is $59,500.

15. A Under Cash Outflow, Purchases of Capital Assets, the amount budgeted is $12,000.

16. D Cash net operating income = total operating income – total operating expenses
= $260,284 - $168,406 = $91,878

17. C The largest projected ending balance for the operating loan is $115,500 in September-October.

18. C Principal payments are a cash outflow, but not an expense.

19. C Projected new operating loan received is $59,500 and projected repayment of operating loan is
$85,000, so part of the beginning operating loan balance ($56,000) can be repaid, as well.

20. A A cash flow budget is a projection for the coming year.

Section C

21. C Profit per head = gross returns – total costs = $3,831.12 - $3,949.16 = -$118.04

22. C Income needed from milk sales = total costs – income from other sources
= $3,949.16 - $97.80 - $285.00 - $206.16 = $3,360.20

23. B 27% of a cull cow is assumed to be sold per year, per lactating cow, so the average years in
production is 1/.27, or approximately 4 years.

24. B Projected feed cost per pound of milk = projected feed cost per cwt. / 100 = $4.64 / 100 = $.0464

25. A Price per cwt
= total costs per cwt + 1.00 per cwt. profit – other income per cwt.
= 16.45 + 1.00 – 1.19 – 0.86
= 17.45 – 2.05 = 15.40

26. C Estimated profit = returns/acre – total costs per acre = $191.69 - $195.72 = -

$4.03.

27. C Breakeven yield = total costs divided by selling price per bushel = $195.72 / $3.75 = 52.19
bu./acre

28. C Breakeven price = (total costs – government payments) divided by expected yield = ($195.72 - $16.79) / 55 bu/acre = $3.25/bushel.

29. D Cash costs and opportunity costs (noncash) should be included.

30. B Interest is changed on only half of the nonland costs because the money is assumed to be
borrowed from planting to harvest time, about half a year.

31. D The trading range in prices for April cattle futures on March 21
= the 'high' – the 'low' for March 21
= 83.725 – 83.025
= .70

32. A Sold at 84.25
Bought at 78.25
= 6¢/lb. profit before commission
= 4¢/lb. profit after commission
= $1600 (= $.04 x 40,000 lb.)

33. B Basis of 3¢
= Mar. 21 cash price is 3¢ under or below the settle June futures price
= 78.20 – 3.00 = 75.20
= (cents per lb. or $ per hundred weight)

34. D The least expensive option to buy
= the one with the smallest premium
= the Apr put option with a strike price of 82 (its premium = 0.55)

35. A The expected net price = futures price sold at
- expected basis
- commission fee

= 80.25 – 1.00 – 2.00
= 77.25

36. B Deposit = value of contract x .20
= 40,000 lb x 78.20¢/lb x .20

= $6,256

37. C Note on Mar. 21, June cattle futures prices closed higher from the previous day's settle price.
This generally increases the value or the cost of call options and decreases the value or the cost of put options.

38. C The cost of the right to sell June cattle futures at 80
= the premium paid by a buyer of a June put option with a strike price = 80
= 3.20¢/lb.

39. C Generally, the best marketing strategy to have implemented if prices increase is to have waited to
take advantage of cash price increases in the cash market.

40. A Breakeven = finished steer value – feeder value – finishing cost = 0
= (11 cwt x $80.00/cwt) – (7 cwt x P_f) – 250 = 0
= $880 – 7P_f – 250 = 0$

= $P_f = 630 / 7 = \$90.00$

Where P_f = feeder price per cwt

CME Live Cattle Futures
Settlement prices, 03/21/06, cents per lb.

	Daily					Prior Day			Lifetime	
Month	**Open**	**High**	**Low**	**Settle**	**Est Vol**	**Settle**	**Vol**	**Interest**	**High**	**Low**
APR06	83.550	83.725	83.025	83.475	10K	83.350	11298	47384	95.55	82.35
JUN06	78.250	78.425	77.875	78.200	10K	78.125	11303	104911	88.00	77.53
AUG06	80.250	80.550	79.950	80.275	3936	80.200	4578	37667	86.75	78.70

CME Live Cattle Options
Settlement prices, 3/21/06, cents per lb.

	Calls		Puts	
Strike Price	**Apr**	**June**	**Apr**	**June**
78	--	--	0.13	2.00
80	--	1.40	0.22	3.20
82	--	0.70	0.55	4.47
84	0.93	0.40	1.45	6.20

Problem Section Attachments (see separate PDF file)

Ending Net Worth Statement

Name **FFA FARM** Date **1/1/2006**

Farm Assets	Cost Value	Market Value	Farm Liabilities	Market Value
Current Assets			***Current Liabilities***	
Checking and savings accounts	$15,000	$15,000	Accounts payable (Sched. N)	
Crops held for sale/feed (Sched. A)	$131,628	$131,628	Farm taxes due (Sched. O)	$9,500
Investment in growing crops(Sch. B)	$3,000	$3,000	Current notes and credit lines	$56,000
Commercial feed on hand (Sch. C)			(Schedule P)	
Prepaid expenses (Sched. D)	$21,500	$21,500	Accrued interest - short (Sched. P)	$1,600
Market livestock (Sched. E)	$78,609	$78,609	- fixed (Sched. Q)	$47,584
Supplies on hand (Sched. F)			Due in 12 months - fixed (Sched. Q)	$18,890
Accounts receivable (Sched. G)	$9,900	$9,900		
Other current assets			Other current liabilities	
Total Current Assets	$259,637	$259,637	Total Current Liabilities	$133,574
Fixed Assets			***Fixed Liabilities***	
Unpaid coop. distributions (Sch. H)			Notes and contracts remainder (Sched. Q)	$507,007
Breeding livestock (Sched. I)	$119,600	$119,600	Machinery	
Machinery & equipment (Sched. J)	$75,600	$102,000	Land	
Buildings/improvements (Sched. K)	$34,115	$65,500		
Farmland (Sched. L)	$658,000	$1,125,600		
Farm securities, certificates (Sch. M)				
Other fixed assets			Other fixed liabilities	
Total Fixed Assets	$887,315	$1,412,700	Total Fixed Liabilities	$507,007
A) Total Farm Assets	**$1,146,952**	**$1,672,337**	**B) Total Farm Liabilities**	**$640,581**
C) Farm Net Worth (A - B)			**Working Capital**	
D) Farm Net Worth Last Year	**$489,531**	**$892,021**	**Current Asset-to-Debt Ratio**	
E) Change in Farm Net Worth (C-D)			**Total Debt-to-Asset Ratio**	

Net Farm Income Statement

Name	FFA FARM			Year	2005
Income					
Cash Income		***Income Adjustments***		Ending	Beginning
Sales of livestock bought for resale		Crops held for sale or feed (Sched. A)		$131,628	$120,828
Sales of market livestock, grain, etc.	$249,379	Market livestock (Sched. E)		$78,609	$75,962
Cooperative distributions paid		Accounts receivable (Sched. G) and		$9,900	$9,900
Agricultural program payments	$9,900	other current assets			
Crop insurance proceeds		Unpaid coop. distributions (Sched. H)			
Custom hire income		Breeding livestock (Sched. I)		$119,600	$119,600
Other cash income	$4,588	Subtotal of Adjustments		$339,737	$326,290
Sales of breeding livestock	$14,361	Value of Home Used Production (d)			
Total Cash Income (a)	$278,228	**Gross Farm Revenue (e) (a + b - c + d)**			**$291,675**

Expenses				
Cash Expenses		***Expense Adjustments***	**Beginning**	**Ending**
Car and truck expenses		Investment in growing crops (Sched. B)	$3,000	$3,000
Chemicals	$13,750	Commercial feed on hand (Sched. C)		
Conservation expenses		Prepaid expenses (Sched. D)	$21,500	$21,500
Custom hire	$14,300	Supplies on hand (Sched. F)		
Employee benefits			**Ending**	**Beginning**
Feed purchased	$1,503	Accounts payable (Sched. N)		
Fertilizer and lime	$42,030	Farm taxes due (Sched. O)	$9,500	$9,500
Freight, trucking		Accrued interest (Sched. P, Q)	$49,184	$33,891
Gasoline, fuel, oil	$17,258	Subtotal of Adjustments	$83,184	$67,891
Insurance	$7,265		g	h
Interest paid	$32,912	Depreciation (i) (Sched. J, K)		$10,196
Labor hired	$1,500	Gross Farm Expenses (j) (f + g - h + i)		$242,772
Pension and profit-share plans				
Rent or lease payments	$30,000	**Net Farm Income From Operations (k) (e - j)**		**$48,903**
Repairs, maintenance	$12,000			
Seeds, plants	$16,885	Sales of Farm Capital Assets (l)		$12,500
Storage, warehousing		Cost Value of Items Sold (m) (Sched. J, K, L)		$8,000
Supplies purchased		Capital Gains or Losses (n) (l - m)		$4,500
Taxes (farm)	$9,500			
Utilities		**Net Farm Income (o) (k + n)**		**$53,403**
Vet. fees, medicine, breeding	$4,175			
Other cash expenses	$14,205			
Livestock purchased				
Total Cash Expenses (f)	$217,283			

CASH FLOW BUDGET

Name: FFA FARM

Year: 2006

CASH INFLOWS	Total for Year	January February	March April	May June	July August	September October	November December
Operating							
Livestock income	90,176	0	0	18,937	0	0	71,239
Sales of crops	155,620	39,720	33,600	18,000	0	0	64,300
Other crop income	0	0	0	0	0	0	0
USDA payments	9,900	1,650	1,650	1,650	1,650	1,650	1,650
Custom hire income	0	0	0	0	0	0	0
Farm rents, interest	0	0	0	0	0	0	0
Other	4,588	0	1,147	1,147	1,147	1,147	0
Total operating income	260,284						
Sales of Capital Assets	5,000	0	0	5,000	0	0	0
Financing							
Total new short-term loans to receive	0	0	0	0	0	0	0
New term loans to receive	0	0	0	0	0	0	0
Nonfarm Income	0	0	0	0	0	0	0
Total Cash Inflows	**525,567**	**41,370**	**36,397**	**44,734**	**2,797**	**2,797**	**137,189**

	Total for Year	January February	March April	May June	July August	September October	November December
Operating							
Seed	16,885	0	8,443	8,443	0	0	0
Fertilizer and lime	42,030	0	16,812	16,812	8,406	0	0
Pesticides	13,750	0	0	5,500	5,500	2,750	0
Crop insurance	3,300	0	3,300	0	0	0	0
Drying fuel	0	0	0	0	0	0	0
Custom hire or machine rental	14,300	0	0	0	0	0	14,300
Other cash costs per acre	0	0	0	0	0	0	0
Purchased crops	0	0	0	0	0	0	0
Purchased livestock	0	0	0	0	0	0	0
Purchased feed	1,503	251	251	251	251	251	251
Health and veterinary	4,175	0	1,044	1,044	0	1,044	1,044
Marketing	2,205	0	0	463	0	0	1,742
Other cash costs per head	0	0	0	0	0	0	0
Real estate taxes	9,500	0	4,750	0	0	0	4,750
Cash rent	30,000	0	15,000	0	0	0	15,000
Hired labor	1,500	0	500	500	500	0	0
Repairs and upkeep	12,000	1,200	2,400	2,400	2,400	2,400	1,200
Fuel and lubrication	17,258	2,876	2,876	2,876	2,876	2,876	2,876
Other fixed expenses	0	0	0	0	0	0	0
Equipment lease payments	0	0	0	0	0	0	0
Total operating expenses	168,406						
Purchases of Capital Assets	12,000	12,000	0	0	0	0	0
Financing							
Accounts payable	0	0	0	0	0	0	0
Short term notes due	0	0	0	0	0	0	0
Term loan payments	63,361	46,214	17,147	0	0	0	0
Nonfarm Expenditures							
Family living expenses	0	0	0	0	0	0	0
Nonfarm investments	0	0	0	0	0	0	0
Total Cash Outflows	**243,767**	**62,541**	**72,522**	**38,288**	**19,933**	**9,321**	**41,163**

SUMMARY	Total for Year	January February	March April	May June	July August	September October	November December
Net Cash Flow	**21,517**	**(21,171)**	**(36,125)**	**6,446**	**(17,136)**	**(6,524)**	**96,026**
Beginning cash balance	15,000	15,000	1,354	1,231	7,679	556	34
Interest earned on cash balance	43	25	2	2	13	1	0
New operating loan received	59,500	7,500	36,000		10,000	6,000	
Repayment of operating loan	85,000						85,000
Interest paid on oper. loan balance	6,341	0	0	0	0	0	6,341
Ending cash balance	4,719	1,354	1,231	7,679	556	34	4,719
Operating Loan Balance							
Beginning Balance	56,000	56,000	63,500	99,500	99,500	109,500	115,500
Ending Balance	30,500	63,500	99,500	99,500	109,500	115,500	30,500

COST-RETURN PROJECTION — 100 LACTATING COW FREESTALL DAIRY (REPLACEMENTS PURCHASED[1])

	Production Level (lbs milk sold) 24,000	
	Per cow	Per cwt
RETURNS PER COW:		
1. Milk sales @$13.51/cwt.	$ 3,242.16	$ 13.51
2. Volume premium		
3. Government payment (MILC)	97.80	0.41
4. Calves sold: 95% × $300/head	285.00	1.19
5. Cull cows sold: 1,350 lbs × 27% × $56.56/cwt.	206.16	0.86
A. GROSS RETURNS	$ 3,831.12	$ 15.96
COSTS PER COW:		
6. Feed	$ 1,113.57	$ 4.64
7. Labor	494.35	2.06
8. Veterinary, drugs, and supplies	140.00	0.58
9. Somatotropin (rbST)	104.80	0.44
10. Utilities and water	119.98	0.50
11. Fuel, oil, and auto expense	50.00	0.21
12. Milk hauling and promotion cost	312.00	1.30
13. Building and equipment repairs	116.53	0.49
14. Breeding/genetic charge:		
a. Capital replacement: 30% × $2,000/head	600.00	2.50
b. Semen, A.I. services, and supplies	52.50	0.22
c. Interest	160.00	0.67
d. Insurance	20.00	0.08
15. Professional fees (legal, accounting, etc..)	20.34	0.08
16. Miscellaneous	30.42	0.13
17. Depreciation on buildings and equipment	234.92	0.98
18. Interest on land, buildings, and equipment	218.64	0.91
19. Insurance & taxes on land, buildings, & equipment	70.61	0.29
B. SUB TOTAL	$ 3,858.66	$ 16.08
20. Interest on ½ operating costs @ 8%	90.50	0.38
C. TOTAL COSTS PER COW	$ 3,949.16	$ 16.45

COST-RETURN PROJECTION — CONTINUOUS WHEAT — NORTH CENTRAL KANSAS

	Yield Level (bu) 55
INCOME PER ACRE	
A. Yield per acre	55
B. Price per bushel	$ 3.18
C. Net government payment	$ 16.79
D. Indemnity payments	$
E. Miscellaneous income	$
F. Returns/acre ((A × B) + C + D + E)	$191.69
COSTS PER ACRE	
1. Seed	$ 7.20
2. Herbicide	5.23
3. Insecticide / Fungicide	
4. Fertilizer and Lime	41.58
5. Crop Consulting	
6. Crop Insurance	
7. Drying	
8. Miscellaneous	6.25
9. Custom Hire / Machinery Expense	70.84
10. Non-machinery Labor	8.01
11. Irrigation	
a. Labor	
b. Fuel and Oil	
c. Repairs and Maintenance	
d. Depreciation on Equipment and Well	
e. Interest on Equipment	
12. Land Charge / Rent	51.05
G. SUB TOTAL	$190.16
13. Interest on ½ Nonland Costs	5.56
H. TOTAL COSTS	$195.72

CME Live Cattle Futures
Settlement prices, 03/21/06, cents per lb.

	Daily					Prior Day			Lifetime	
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CME Live Cattle Options
Settlement prices, 3/21/06, cents per lb.

	Calls		Puts	
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