

2015 Iowa Farm Business Management Career Development Event

INDIVIDUAL EXAM (150 pts.)

Select the best answer to each of the 75 questions to follow (2 pts. ea.). Code your answers on the answer sheet provided. Be sure to erase completely any answers that you change. You have 120 minutes (maximum) to complete this exam. Section A contains 25 questions over 'Principles of Economics and Management'. Section B contains 50 questions over 'Financial Statements, Records Analysis, as well as Marketing and Risk Management'.

Section A. Principles of Economics and Management (Questions #1-#25)

1. Which of the following is the best 'economic' description of money?
 - a. a resource
 - b. a good
 - c. a medium of exchange
 - d. a luxury

2. Assume Joan is in a 15% federal income tax bracket. If Joan gets a \$1,000 bonus, what is the after-tax value of that bonus (ignoring state and other taxes)?
 - a. \$1,000
 - b. \$1,150
 - c. \$150
 - d. \$850

3. In the market for grapefruit, what determines the market price?
 - a. the quantity of grapefruit produced
 - b. the quantity of grapefruit bought
 - c. the price of oranges
 - d. grapefruit supply and grapefruit demand

4. Gary owns a house with an assessed value of \$150,000 and an estimated market value of \$160,000. If the property tax rate on his house is 2%, how much will Gary have to pay in property tax on his house for this year?
 - a. $(.02)(160,000 - 150,000)$
 - b. $(.02)(160,000 + 150,000)$
 - c. $(.02)(160,000)$
 - d. $(.02)(150,000)$

5. A tax-deductible expense?
 - a. reduces taxable income
 - b. increases taxable income
 - c. has no impact on taxable income
 - d. increases taxes owed

6. If r (= the annual interest rate) is 6%, what is the present value of \$1,200 to be received 5 years from the present?
- $(1,200)/5$
 - $(1,200)(1.06)^5$
 - $(1,200)/(1.06)^5$
 - $(1,200)/(1.05)^6$
7. Fred paid \$50 for a ticket to a football game that is sold out. He has been offered \$120 for the ticket by Paul which is the highest offer for the ticket Fred had received. What is the opportunity cost of going to the game for Fred?
- \$170
 - \$120
 - \$70
 - \$50
8. In economics, the term 'risk taker' is often used to describe what?
- an irrational person
 - an entrepreneur
 - a hedger
 - anyone who buys a product in a market
9. The part of a loan that is repaid during a year is what type of payment?
- principal
 - interest
 - mortgage
 - installment
10. Net worth on a balance sheet = total assets less _____?
- equity
 - debt
 - total liabilities
 - accrued expenses
11. What are the two general types of inputs used in a production process?
- fixed and variable
 - liquid and non-liquid
 - short-run and long-run
 - those supplied and those demanded
12. A current asset is one that:
- is currently being used by a business firm
 - can be converted into cash fairly easily within one year
 - has been paid for by the business owner
 - has been purchased within the past year by the business owner

13. The ability to convert assets into cash is known as:
 - a. liquidity
 - b. solvency
 - c. profitability
 - d. elasticity

14. A monthly bank statement is?
 - a. an income statement
 - b. a cash flow statement
 - c. a net worth statement
 - d. NOT a basic, business firm financial statement

15. If a diversified farming operation raises and sells hogs, among other commodities, a detailed listing of revenues and expenses for just the part of the farming operation dealing with the hogs would be called what?
 - a. a cash flow budget
 - b. an enterprise budget
 - c. a whole farm budget
 - d. an income statement

16. The main objective of income tax management is to do what?
 - a. hide taxable income from the IRS
 - b. reduce taxes payable to zero
 - c. maximize after-tax income
 - d. maximize taxable income

17. Postponing the reporting of taxable income to next year is most likely to be economically advantageous for Ellen if she:
 - a. expects to be in a lower income tax bracket next year
 - b. does not have the time to file her income taxes this year
 - c. wants to remodel the kitchen in her house
 - d. all of the above

18. What is the general name of federal benefits paid to people who retire:
 - a. welfare
 - b. Medicare
 - c. Social Security
 - d. Obamacare

19. The relationship between quantity of an output and quantity of an input for a firm is called what?
 - a. a production function
 - b. a production possibility curve
 - c. a supply curve
 - d. diminishing marginal product

20. Prorating the cost of a capital asset over the useful life of that asset is called:
- capital budgeting
 - figuring out depreciation
 - itemizing expenses
 - spreading fixed costs over larger units of output
21. What is another term for interest expense owed?
- accrued interest expense
 - a current asset
 - a long-term liability
 - a non-current liability
22. If a firm is maximizing its profits, it will most likely be doing which of the following?
- maximizing output
 - using the least costly combination of resources for producing the desired level of output
 - minimizing total costs
 - paying no income taxes
23. Planning, organizing, and directing are often noted as examples of what?
- economic activities
 - marketing activities
 - functions of management
 - stages of new product development
24. Orange juice prices are historically high despite the fact that per capita consumption of orange juice has been decreasing for many years. What is the most likely 'economic' explanation of the higher orange juice prices?
- the demand for orange juice has decreased
 - the supply of orange juice has decreased
 - the supply of orange juice has increased
 - there are more substitutes to orange juice available
25. Which of the following is a tax-deductible expense?
- loan principal repayments
 - interest payments on a credit card used for personal expenses
 - machinery rental fees
 - all of the above

Section B. Financial Statements, Records Analysis, Marketing, Risk Management.
(Questions #26-#75)

Use the attached net worth statement (balance sheet) and net farm income statement to answer questions #26-37.

26. Of the following, which is the most liquid asset?
- farm machinery
 - balance in checking account
 - breeding livestock
 - account payable
27. Which of the following best describes a balance sheet?
- it shows changes in assets and liabilities over the last accounting period
 - it shows the sources and uses of cash over the last accounting period
 - it shows assets and liabilities at a point in time
 - it shows profit for the last accounting period
28. What was this farm's current ratio on January 1, 2015?
- 0.26
 - 0.41
 - 2.44
 - \$409,182
29. The farm's cost value net worth changed by ____ % from a year ago.
- +11 %
 - +13%
 - 13%
 - it stayed the same
30. What percent of the farm's total liabilities are due and payable beyond the next 12 months?
- 18%
 - 30%
 - 44%
 - 70%
31. Which of the following is not a source of owner equity for a farm business?
- loans received to purchase land
 - increases in the value of owned land
 - profit retained in the business
 - assets contributed to the business by the owner(s)

32. From the Net Farm Income Statement, how much did this farm's gross farm revenue change as a result of an increase or decrease in market livestock inventory value?
- a. \$29,360
 - b. +\$72,490
 - c. -\$72,490
 - d. -\$93,320
33. At the end of the year a farmer has an unpaid bill at the local machinery repair shop. It would be shown in an accrual accounting system as a(n) _____
- a. prepaid expense
 - b. account receivable
 - c. account payable
 - d. accrued expense
34. How much was FFA Farms' net farm income from operations in 2014?
- a. \$ 95,067
 - b. \$98,349
 - c. \$103,349
 - d. \$729,516
35. A major advantage of accrual accounting over cash accounting is:
- a. a more accurate estimate of annual profit
 - b. simplicity
 - c. always shows a higher profit
 - d. can use single entry instead of double entry
36. What expense category is not found on a cash flow budget but is included in a net farm income statement?
- a. cash rent payments
 - b. pesticide purchases
 - c. hired labor wages
 - d. depreciation
37. FFA Farm's rent/lease payments accounted for what percent of their total cash expenses in 2014?
- a. 17 %
 - b. 19 %
 - c. 22 %
 - d. 25 %

Use the attached cash flow budget projection to answer questions #38-45.

38. How many dollars' worth of crops does FFA Farm plan to sell in March and April?
- \$46,545
 - \$130,909
 - \$182,709
 - \$409,036
39. In which period does this farm expect to have its largest net cash flow deficit?
- January - February
 - March-April
 - May-June
 - July-August
40. How much operating capital does FFA Farm need to borrow in January-February in order to have a cash balance of \$2,000 at the end of February?
- \$ 55,770
 - \$ 57,770
 - \$ 59,770
 - \$ 59,425
41. In which period does this farm expect to have its largest need for cash?
- January - February
 - March-April
 - May-June
 - July-August
42. What is FFA Farm's projected total cash inflows for all of 2015?
- \$923,676
 - \$1,019,245
 - \$30,554
 - \$3,655
43. When does FFA farm expect to pay cash rent?
- March-April and September-October
 - March-April and November-December
 - May-June and November-December
 - May-June
44. In how many periods does FFA farm expect to have a negative net cash flow?
- none
 - two
 - three
 - six

45. Which of the following would not appear on a cash flow budget?
- a. feed purchases
 - b. inventory change
 - c. family living expenses
 - d. cost of new tractor

Refer to the attached “Grade A Dairy” budget to answer questions #46-50.

46. How much income over all costs (profit) for one dairy cow is projected?
- a. \$4,860.40
 - b. \$898.11
 - c. \$490.40
 - d. \$-48.09
47. What is the selling price of milk needed to cover variable costs after allowing for income from the sale of cull cows and calves?
- a. \$ 14.00 per cwt.
 - b. \$15.10 per cwt.
 - c. \$19.00 per cwt.
 - d. \$19.21 per cwt.
48. What is the expected profit per hundredweight (cwt) of milk sold?
- a. \$ 19.00 per cwt
 - b. \$ -0.21 per cwt
 - c. \$ 3.90 per cwt
 - d. \$15.10 per cwt
49. What are projected milk sales per \$ of feed fed in this budget, to the nearest cent?
- a. \$ 0.44 per \$ of feed
 - b. \$ 1.86 per \$ of feed
 - c. \$ 2.07 per \$ of feed
 - d. \$ 11.06 per \$ of feed
50. For this budget, what is the minimum gross income needed to justify continuing to produce in the short-run?
- a. \$3,962.29
 - b. \$4,908.49
 - c. \$4860.40
 - d. \$898.11

Refer to the attached budget for corn following soybeans to answer questions 51-55.

51. How much is the expected gross margin (i.e. return over variable costs per acre)?
- a. \$ -23.87
 - b. \$ 382.21
 - c. \$ 453.92
 - d. \$ 860.00
52. What selling price for corn grain is needed to just cover total costs after accounting for income received from sale of stover bales?
- a. \$ 5.69 per bu.
 - b. \$ 4.78 per bu.
 - c. \$4.91 per bu.
 - d. \$4.13 per bu.
53. How much are total costs for machinery (including drying)?
- a. \$37.70 per acre
 - b. \$227.45 per acre
 - c. \$265.15 per acre
 - d. \$ 273.00 per acre
54. How much cash rent could be paid and just break even?
- a. \$73.13 per acre
 - b. \$ 249.13 per acre
 - c. \$ 270.00 per acre
 - d. \$ 883.87 per acre
55. If output increases with no change in total cost, breakeven selling price will:
- a. increase
 - b. decrease
 - c. remain constant
 - d. initially decrease and then begin to increase

Questions #56-75 deal mainly with marketing and risk management.

56. Liability insurance provides protection against which of the following?
- a. lawsuits
 - b. creditors
 - c. predators
 - d. property loss
57. In marketing, 'basis' is the difference between what?
- a. a futures price and a cash price
 - b. a projected price and an actual price
 - c. two current cash prices
 - d. two current futures prices

58. Which of the following actions is intended to limit the price paid for corn fed to feeder cattle?
- buy a put option
 - sell a call option
 - sell a futures contract
 - buy a call option
59. In studying consumer purchasing behavior in economics, utility means:
- sources of energy
 - satisfaction
 - practicality
 - dependability
60. Spreading and reducing risk by a farmer would most likely be associated with which of the following:
- expanding the size of their specialty operation
 - hiring more labor
 - adding a new enterprise to the operation
 - purchasing more inputs
61. Which of the following is a hedger most likely doing?
- increasing their risk
 - transferring risk to someone else
 - taking out a loan
 - paying off a loan
62. A strike price is what?
- the market equilibrium price
 - the premium paid for the purchase of an option
 - the price at which an option buyer can sell the underlying futures contract
 - the desired wage by workers who are on strike
63. If a corn farmer has hedged some future corn sales with the futures market, what should they do if they are a true hedger when they sell their corn in the cash market in the future?
- let the corn futures contract expire
 - buy back the futures contracts sold
 - sell the futures contracts initially bought
 - purchase an offsetting call option
64. A commodity market described as 'highly volatile' is one with what?
- unstable interest rates
 - high inventory turnover
 - highly variable prices
 - high profitability

65. A person who helps you buy and sell things like stocks, bonds, futures contracts, and options is called what?
- an investor
 - a speculator
 - a broker
 - a trader
66. A cooperative patronage refund is what?
- the same as a stock dividend
 - a return of company profits to owners based on their use of the business
 - a return of company profits to owners based on the length of time of their membership with the business
 - money paid back to a dissatisfied customer
67. If a corn farmer has total fixed costs per acre of \$200, variable costs of \$3 per bushel, and the price of corn is \$4 per bushel, what is the farmer's breakeven yield per acre (in bushels)?
- 50
 - 66.67
 - 28.57
 - 200
68. Which of the following is most likely true for the 'average fixed cost' for a farmer who produces fed cattle?
- it does NOT change with changes in the number of fed cattle produced
 - it decreases with increases in the number of fed cattle produced
 - it increases with increases in the number of fed cattle produced
 - it decreases with decreases in the number of fed cattle produced
69. If a corn farmer can gain 10 cents per bushel by doing a better job marketing corn from their 2,000-acre corn operation that yields 200 bushels per acre, how much will they add to their total income?
- \$2,000
 - \$4,000
 - \$40,000
 - \$400,000
70. A soybean farmer has soybeans stored in on-arm storage bins. The farmer has two pricing options (per bushel): A = sell today for \$8.75 or B = sell in two years for \$9.00. Which of the following is true about the farmer's 'best' pricing and marketing strategy?
- it depends on storage costs and interest rates
 - it depends on what is cost to produce those soybeans
 - sell in two years because the price is higher
 - sell today if the farmer needs the storage space for a new crop to be harvested soon

71. The “Law of Demand” in economics states that consumers will buy more of a product if what?
- they want it
 - they need it
 - the price of the product is reduced
 - there is an improvement made in the quality of the product
72. What market position does a hog farmer have who will be selling market hogs in two months?
- long cash
 - short cash
 - intermediate
 - vulnerable
73. Misty has agreed to sell 5,000 bushels of soybeans to her local grain elevator on Nov. 1 of this year at a price = \$9.25 per bushel. What type of contractual arrangement is this for Misty?
- futures
 - basis
 - forward cash
 - hedge to arrive
74. Crop insurance substitutes what for what?
- an asset for a liability
 - physical crop loss risk for price risk
 - a certain cost for an uncertain loss
 - an uncertain cost for a certain loss
75. The profit-maximizing output rule is to produce a level of output where the marginal revenue of the last unit produce is equal to what?
- 0
 - total cost
 - average cost
 - marginal cost

INDIVIDUAL EXAM KEY

Section A. Principles of Economics and Management

1. C
2. D
3. D
4. D
5. A
6. C
7. B
8. B
9. A
10. C
11. A
12. B
13. A
14. D
15. B
16. C
17. A
18. C
19. A
20. B
21. A
22. B
23. C
24. B
25. C

Section B. Financial Statements, Records Analysis, Marketing, Risk Management

26. B Can easily be converted to cash
27. C Shows what we own and what we owe
28. C Current ratio = (current assets / current liabilities)
= $\$693,663 / \$284,481 = 2.44$
29. B Percent change in cost value net worth = (Farm Net Worth this year – Farm Net Worth Last Year) / Farm net Worth Last Year = $(\$1,809,189 - \$1,605,826) / \$1,605,826 = 13\%$

30. D (Fixed liabilities / total liabilities)
= $\$655,927 / \$940,408 = 70\%$
31. A Loans are a liability not a source of owner equity.
32. B Change in market livestock revenue = ending market livestock value – beginning market livestock value
= $\$277,100 - \$204,610 = \$72,490$
33. C
34. B Net farm income from operations = Gross farm revenue – gross farm expenses
 $\$729,516 - \$631,167 = \$98,349$
35. A
36. D Depreciation is a non-cash expense.
37. B Rent or lease payments / total cash expenses
 $(\$140,500 / \$727,769) \times 100 = 19\%$
38. C
39. D $-\$68,274$ during the July-August period.
40. B Net operating loans needed in January-February = (negative net cash flow Jan. and Feb.) – (beg. Cash balance) – (ending cash balance)
 $\$59,425 - \$3,655 + \$2,000 = \$57,770$
41. B The projected cash expenses are largest at $\$265,318$ for March-April.
42. A Total cash inflows for the whole year = $\$923,676$.
43. B $\$75,000$ in March-April and $\$75,000$ in November-December.
44. C There is a projected negative net cash flow in Jan-Feb, Mar-April and July-August.
45. B Inventory change would be a non-cash change in revenue.
46. D Profit = total income – total all costs
 $\$4,806.40 - \$4,908.49 = \$-48.09$
47. B Needed selling price = (variable costs-other income) / cwt. milk sold
 $(\$3,962.29 - \$490.40) / 230 \text{ cwt.} = \15.10 per cwt.

48. B Profit per cwt = Profit / cwt sold = $\$-48.09 / 230 = \-0.21 per cwt
Or, you can find this as selling price per cwt – breakeven price = $\$19.00 - \19.21
49. B \$ milk sales/total feed costs
 $\$4,370.00 / \$2,350.77 = \$1.86$
50. A Income to just cover variable costs.
 $\$3,962.29$
51. B Gross margin = gross revenue – variable costs = $\$860.00 - \$477.79 = \$382.21$.
52. D (Total cost – other income) / bushels to sell
 $= \$883.87 - \$140.00 / 180 \text{ bu.} = \4.13 per bu.
53. C Pre-harvest machinery costs + Harvest machinery cost = $\$37.70 + \$227.45 = \$265.15$.
54. B Gross income - (Total Costs excluding cash rent) = $\$860 - (\$883.87 - \$273) = \249.13
55. B
56. A
57. A
58. D
59. B
60. C
61. B
62. C
63. B
64. C
65. C
66. B
67. $D = TFC / (P - AVC) = 200 / (4 - 3) = 200$
68. B
69. $C = (2000) (200) (0.10) = 40,000$
70. A
71. C
72. A
73. C
74. C
75. D

Team Participation Event – “Individual” Portion (5 Questions @ 1 pt ea)

**2015 Iowa Vo-Ag/FFA
Farm Business Management Career Development Event
(Maximum possible pts = 5 per individual and 15 per team)**

Instructions: The questions below are related to the problems you just worked on as a team. Select the best answer (1 pt. each). Code your answers on the answer sheet provided. Be sure to erase completely any answers that you change.

1. The internal rate of return is the discount rate that makes which of the following have a value of 0?
 - a. present value
 - b. net present value
 - c. net cash flow
 - d. payback period

2. Which of the following would increase the number of future value (FV) dollars that are equivalent to a given number of present value (PV) dollars, holding all other factors constant?
 - a. \uparrow r
 - b. \downarrow n
 - c. \downarrow PV
 - d. a and b

3. According to the most recent ISU Iowa Land Value Survey, the 2014 average value per acre of Iowa farmland:
 - a. did not change much (i.e. less than 1%) from 2013
 - b. went down by the largest % in a single year ever
 - c. went up for the 5th year in a row
 - d. went down but NOT by the largest % in a single year ever

4. What is a graphic representation of the timing of current and future cash flows called?
 - a. a cash flow statement
 - b. a net present value chart
 - c. a time line
 - d. a supply and demand diagram

5. If Farmer Jones buys 100 acres of land today at \$8,000 per acre, the payback period (NOT discounted payback period) is what if the farmer expects to have a net cash flow per acre of \$200 (ignore resale value)?
 - a. 4 years
 - b. 2.5%
 - c. need to know interest rate in order to calculate
 - d. 40 years

Team Participation Event – “TEAM” Portion (7 questions @ 5 pts. ea.)

**2015 Iowa Vo-Ag/FFA
Farm Business Management Career Development Event
(Maximum possible pts = 35 pts per team)**

As a group (or team), you are to collectively select the best answer to each question below (5 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 this year focuses on sub topics related to CAPITAL BUDGETING and Iowa farmland values.

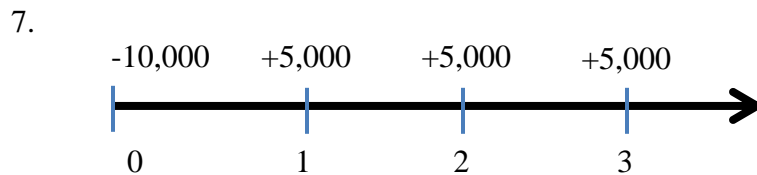
1. Based on Table 1 (attached), the average Iowa farmland value per acre in 2014 was what?
 - a. \$8716
 - b. Not known
 - c. \$7943
 - d. -\$773

2. Based on Table 1, what was the % change in the average Iowa farmland per acre from 2013 to 2014?
 - a. -9.7
 - b. -8.9
 - c. +5.1
 - d. Not known

3. Based on Table 1, during what year did the average Iowa farmland value per acre decrease the most from the previous year?
 - a. 1985
 - b. 2014
 - c. it depends on the definition of most (i.e. % or \$)
 - d. 1984

4. Based on Table 1, what annual net cash flow per acre would have produced a 30-year payback period for land purchased in 2010 at a price equal to the statewide average value per acre (ignore resale value)?
 - a. \$168.80
 - b. need to know the discount rate in order to calculate
 - c. \$23.00
 - d. \$264.77

5. Based on Table 1, if a farmer purchased 1,000 acres of land in 2012 at a price equal to the statewide average value per acre and was required to put down 50% cash on the purchase, how many cash dollars did the farmer need to have to make the purchase?
- \$4,148
 - \$8,296,000
 - \$4,148,000
 - none of the above
6. Which of the following would decrease the number of future value (FV) dollars that are equivalent to a given number of present value (PV) dollars, holding all other factors constant?
- ↑ r
 - ↑ PV
 - ↓ n
 - all of the above



Assume the time line above represents net cash flows associated with an investment. If $r = 7\%$, what is the net present value (NPV) of this investment?

- $5,000/(1.07) + 5,000/(1.07)^2 + 5,000/(1.07)^3 - 10,000$
- +5,000
- $5000/(1.07) + 5,000/(1.07)^2 + 5,000/(1.07)^3$
- $(-10,000)(.07) + (15,000) (.07) = 350$

VII. 2015 Event Resources

Theme: “Capital budgeting topics such as payback periods and time value of money with some applications to land values.”

- Understanding the Time Value of Money
<http://www.extension.iastate.edu/agdm/wholefarm/html/c5-96.html>
<http://www.extension.iastate.edu/agdm/wholefarm/pdf/c5-96.pdf>
- Time Value of Money and Capital Budgeting Terms
<http://www.extension.iastate.edu/agdm/wholefarm/pdf/c5-243.pdf>
- Capital Budgeting Basics
<http://www.extension.iastate.edu/agdm/wholefarm/html/c5-240.html>
<http://www.extension.iastate.edu/agdm/wholefarm/pdf/c5-240.pdf>
- 2014 Farmland Value Survey Iowa State University
<http://www.extension.iastate.edu/agdm/wholefarm/html/c2-70.html>

Table 1. Recent changes in Iowa farmland values.

Year	Value per acre	Dollar change	Percentage change
1981	\$ 2147	\$ 81	3.9
1982	1801	-346	-16.1
1983	1691	-110	- 6.1
1984	1357	-334	-19.8
1985	948	-409	-30.1
1986	787	-161	-17.0
1987	875	88	11.2
1988	1054	179	20.5
1989	1139	85	8.1
1990	1214	75	6.6
1991	1219	5	.4
1992	1249	30	2.5
1993	1275	26	2.1
1994	1356	81	6.4
1995	1455	99	7.3
1996	1682	227	15.6
1997	1837	155	9.2
1998	1801	-36	-2.0
1999	1781	-20	-1.1
2000	1857	76	4.3
2001	1926	69	3.7
2002	2083	157	8.2
2003	2275	192	9.2
2004	2629	354	15.6
2005	2914	285	10.8
2006	3204	290	10.0
2007	3908	704	22.0
2008	4468	560	14.3
2009	4371	-97	-2.2
2010	5064	693	15.9
2011	6708	1644	32.5
2012	8296	1588	23.7
2013	8716	420	5.1
2014		-773	

Team Participation Event – “Individual” Portion (35 pts.) – KEY

2015 Iowa Vo-Ag/FFA

Farm Business Management Career Development Event

(Max. possible: 5 pts per individual, 15 pts. per team = sum of team’s top 3 individual scores.)

1. B
2. A $FV = PV(1 + r)^n$. An $\uparrow r$ will $\uparrow FV$
3. D See team activity reference (2014 Farmland Value Survey ISU, Table 1)
4. C See team activity reference (Understanding Time Value of Money, p. 1)
5. D Payback period = initial cost/annual net cash flow = $\$8,000/\$200 = 40$ years

Team Participation Event – “TEAM” Portion (35 pts.) - KEY

**2015 Iowa Vo-Ag/FFA
Farm Business Management Career Development Event**

1. C = 2013 value – 773 = 8716 – 773 = 7943
2. B = $(-773/8716)(100) = -8.9$
3. C -30.1% = largest % ↓ in 1985; -\$773 = largest \$ ↓ in 2014
4. A payback period = cost/avg annual net cash flow $\Rightarrow 30 = 5064/x \Rightarrow x = 5064/30 = 168.80$
5. C = $(8296) (1000) (.5) = 4,148,000$
6. C $FV = PV (1+r)^n \Rightarrow \downarrow n \text{ would } \downarrow FV$
7. A $NPV = PV \text{ of future net cash flows} - \text{initial cost}$
 $= [5000/1.07 + 5,000/(1.07)^2 + 5000/(1.07)^3] - 10,000$

2015 Iowa Farm Business Mgt CDE

ATTACHMENTS

Ending Net Worth Statement

Name	FFA FARM		Date	01/01/15
Farm Assets	Cost Value	Market Value	Farm Liabilities	Market Value
Current Assets			Current Liabilities	
Checking and savings accounts	\$31,963	\$31,963	Accounts payable (Sched. N)	\$18,654
Crops held for sale/feed (Sched. A)	\$354,550	\$354,550	Farm taxes due (Sched. O)	\$4,490
Investment in growing crops(Sch. B)			Current notes and credit lines (Sched. P)	\$109,232
Commercial feed on hand (Sch. C)	\$11,300	\$11,300		
Prepaid expenses (Sched. D)	\$18,750	\$18,750	Accrued interest - short (Sched. P)	\$4,772
Market livestock (Sched. E)	\$277,100	\$277,100	- fixed (Sched. Q)	\$73,275
Supplies on hand (Sched. F)			Due in 12 months - fixed (Sched. Q)	\$74,059
Accounts receivable (Sched. G)				
Other current assets			Other current liabilities	
A) Total Current Assets	\$693,663	\$693,663	C) Total Current Liabilities	\$284,481
Fixed Assets			Fixed Liabilities	
Unpaid coop. distributions (Sch. H)	\$14,435	\$14,435	Notes and contracts remainder (Sched. Q)	\$655,927
Breeding livestock (Sched. I)	\$59,750	\$59,750	Other fixed liabilities	
Machinery & equipment (Sched. J)	\$331,932	\$455,600	Total Fixed Liabilities	\$655,927
Buildings/improvements (Sched. K)	\$489,817	\$617,000		
Farmland (Sched. L)	\$1,160,000	\$1,720,000		
Farm securities, certificates (Sch.M)				
Other fixed assets				
Total Fixed Assets	\$2,055,934	\$2,866,785		
B) Total Farm Assets	\$2,749,597	\$3,560,448	D) Total Farm Liabilities	\$940,408
E) Farm Net Worth (B - D)	\$1,809,189	\$2,620,040		
F) Farm Net Worth Last Year	\$1,605,826	\$2,338,637	Working Capital (A - C)	
G) Change in Farm Net Worth (E - F)			Current Asset-to-Debt Ratio (A / C)	
Percent Change in Net Worth (G / F)			Total Debt-to-Asset Ratio (D / B)	

Net Farm Income Statement

Name	FFA FARM	Year	2014		
Income					
Cash Income		Income Adjustments		Ending	Beginning
Sales of livestock bought for resale		Crops held for sale or feed (Sched. A)	\$354,550	\$518,460	
Sales of market livestock, grain, etc.	\$764,328	Market livestock (Sched. E)	\$277,100	\$204,610	
Cooperative distributions paid		Accounts receivable (Sched. G)			
Agricultural program payments	\$18,790	Other current assets			
Crop insurance proceeds		Unpaid cooperative distributions (Sched. H)	\$14,435	\$14,435	
Custom hire income		Breeding livestock (Sched. I)	\$59,750	\$61,650	
Other cash income	\$10,358	Subtotal of adjustments	\$705,835	\$799,155	
Sales of breeding livestock	\$29,360	(b) Net adjustment (ending - beginning)	(\$93,320)		
(a) Total Cash Income	\$822,836	(c) Value of home used production			
			(d) Gross Farm Revenue (a + b + c)		
			\$729,516		
Expenses					
Cash Expenses		Expense Adjustments		Ending	Beginning
Car and truck expenses	\$1,894	Investment in growing crops (Sched. B)			\$8,213
Chemicals	\$30,760	Commercial feed on hand (Sched. C)	\$11,300	\$8,750	
Conservation expenses		Prepaid expenses (Sched. D)	\$18,750		
Custom hire		Supplies on hand (Sched. F)			
Employee benefits	\$2,400	(f) Net adjustment (beginning - ending)	(\$13,088)		
Feed purchased	\$137,210		Ending	Beginning	
Fertilizer and lime	\$105,500	Accounts payable (Sched. N)	\$18,654	\$24,250	
Freight, trucking	\$12,290	Farm taxes due (Sched. O)	\$4,490	\$4,490	
Gasoline, fuel, oil	\$23,650	Accrued interest (Sched. P, Q)	\$78,046	\$218,626	
Insurance	\$7,000	(g) Net adjustment (ending - beginning)	(\$146,176)		
Interest paid	\$85,511	(h) Depreciation (Sched. J, K)			\$62,661
Labor hired	\$36,000	(i) Gross Farm Expenses			\$631,167
Pension and profit-share plans					
Rent or lease payments	\$140,500	(j) Net Farm Income from Operations			
Repairs, maintenance	\$12,333				
Seeds, plants	\$64,925	(k) Sales of farm capital assets			\$5,000
Storage, warehousing		(l) Cost value of items sold (Sched. J, K, L)			
Supplies purchased	\$3,675	(m) Capital gains or losses (k - l)			\$5,000
Taxes (farm)	\$8,980	Net Farm Income (accrual) (j + m)			\$103,349
Utilities	\$17,358				
Vet. fees, medicine, breeding	\$11,623				
Other cash expenses	\$4,560				
Livestock purchased	\$21,600	Net Farm Income (cash)			\$95,067
(e) Total Cash Expenses	\$727,769	Value of Farm Production			\$570,706

Grade A Dairy - One Cow Unit

Income	Price	Unit	x	Quantity	Unit	=	Total
Milk sales*	\$19.00	per cwt	x	230	cwt	=	\$4,370.00
Cull cow	\$0.60	per lb	x	1350	lbs	=	\$324.00
Dairy calf	\$320.00	per head	x	0.52	head	=	\$166.40
Gross Income							\$4,860.40
Variable Costs							
Feed Costs							
Corn equivalents	\$3.50	per bu	x	113	bu	=	\$395.50
Corn Silage	\$35.00	per ton	x	8	tons	=	280.00
Hay equivalents	\$180.00	per ton	x	6	tons	=	1,080.00
Salts and minerals	\$0.14	per lb	x	323	lbs	=	45.22
Protein supplement	\$0.12	per lb	x	1855	lbs	=	222.60
Cottonseed	\$0.15	per lb	x	1361	lbs	=	204.15
Fat	\$0.30	per lb	x	111	lbs	=	33.30
Milk replacer, calf starter							90.00
Other							<u>0.00</u>
Total Feed Costs							\$2,350.77
Veterinary and health							\$118.00
Fuel, utilities and repairs							160.00
DHIA & accounting							30.00
Breeding fees							50.00
Bedding, supplies and miscellaneous							170.00
Hauling	\$0.29	per cwt					66.70
Interest on variable costs	5%			3	month		36.82
Labor	\$14.00	per hour		70	hours		<u>980.00</u>
Total Variable Costs							\$3,962.29
Income over Variable Costs							\$898.11
Fixed Costs							
Machinery, equipment, facilities							\$620.00
Interest, insurance on herd							<u>326.20</u>
Total Fixed Costs							\$946.20
Total of All Costs							\$4,908.49
Income over All Costs							<div style="border: 1px solid black; width: 100px; height: 20px;"></div>
Income from cull cows, calves, and heifers							\$490.40
Break-even selling price for variable costs							<div style="border: 1px solid black; width: 100px; height: 20px;"></div> per cwt
Break-even selling price for all costs							<div style="border: 1px solid black; width: 100px; height: 20px;"></div> per cwt

Corn following Soybeans

Gross returns	Price	Yield	
Grain	\$4.00	180	\$720.00 bu./acre
Stover bales	\$35.00	4	\$140.00
Gross income			\$860.00

	Cost per Acre		
	<u>Fixed</u>	<u>Variable</u>	<u>Total</u>
Preharvest machinery			
Tandem disk	\$3.60	\$3.10	\$6.70
Apply nitrogen	\$4.70	\$5.30	\$10.00
Field cultivate	\$2.50	\$3.10	\$5.60
Plant	\$6.00	\$5.40	\$11.40
Spray	\$2.00	\$2.00	\$4.00
Custom hire	\$0.00	\$0.00	\$0.00
Other	\$0.00	\$0.00	\$0.00
Other	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
Total per acre	\$18.80	\$18.90	\$37.70

Seed, chemicals, etc.			
Seed		---	\$115.80
<i>cost per 1000 kernels</i>	\$3.86		
<i>kernels per acre</i>	30,000		
Nitrogen		---	\$61.57
<i>price per pound</i>	\$0.47		
<i>pounds per acre</i>	131		
Phosphate		---	\$32.64
<i>price per pound</i>	\$0.48		
<i>pounds per acre</i>	68		
Potash		---	\$22.14
<i>price per pound</i>	\$0.41		
<i>pounds per acre</i>	54		
Lime (annual cost)		---	\$10.00
Herbicide		---	\$35.50
Crop insurance		---	\$13.60
Miscellaneous		---	\$10.00
Interest on preharvest variable costs		---	\$10.67
<i>length of period (months)</i>	8		
<i>interest rate</i>	5.0%		
Total			\$311.92

Harvest machinery			
Combine		\$19.00	\$10.90
Grain Cart		\$5.90	\$3.20
Haul		\$7.34	\$6.87
<i>Fixed- price per bushel</i>	\$0.04		
<i>Variable- price per bushel</i>	\$0.04		
Drying		\$36.00	\$108.00
<i>Fixed- price per bushel</i>	\$0.05		
<i>Variable- price per bushel</i>	\$0.15		
Handling		\$12.24	\$18.00
<i>Fixed- price per bushel</i>	\$0.02		
<i>Variable- price per bushel</i>	\$0.03		
Custom hire		<u>\$0.00</u>	<u>\$0.00</u>
Total per acre		\$80.48	\$146.97

Labor			
<i>Hours</i>	2.6	<u>\$33.80</u>	\$33.80
<i>Rate per hour</i>	\$13.00		

Land			
Cash rent		\$273.00	\$273.00

Total fixed, variable and all costs		<u>Fixed</u>	<u>Variable</u>	<u>Total</u>
Per acre		\$406.08	\$477.79	\$883.87

Profit				<u><u>-\$23.87</u></u>
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