2010 Iowa Farm Business Management Career Development Event

INDIVIDUAL EXAM (150 pts.)

Select the <u>best</u> 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. Goods that are purchased from a foreign country are known as:
 - a. tariffs
 - b. imports
 - c. exports
 - d. foreign exchange
- 2. This curve in a graph shows the different combinations of price of a product and the amount that buyers are willing and able to buy:
 - a. demand
 - b. supply
 - c. consumption
 - d. market
- 3. If a corn farmer has a yield of 200 bushels per acre, total fixed costs of \$150 per acre and total variable costs of \$250 per are, what is this farmer's total cost per bushel (i.e. average total cost)?
 - a. \$0.50
 - b. \$1.25
 - c. \$1.50
 - d. \$2.00
- 4. If Company A is owed money by a third party for products received, this would likely show up as the following on Co. A's balance sheet:
 - a. an account payable
 - b. a liability
 - c. an account receivable
 - d. debt
- 5. Wages earned and income taxes withheld are reported to a wage earner annually on this tax form:
 - a. 1040 or 1040A
 - b. 1099
 - c. WD40
 - d. W-2

6.	Which of the following equations represents a linear relationship between y and x?
	a. $y = 100/x$
	b. $y = 100 + x$
	c. $y = 100 + x^2$
	d. $y = 100X + x^2$
7.	Which of the following is an opportunity cost of owning and operating farm ground?
<i>,</i> .	a. the lost interest
	b. the lost rent
	c. the lost soil
	d. a and b
8.	Profit for a business is calculated as:
	a. total revenues – total costs
	b. total assets – total liabilities
	c. price of the output x quantity sold
	d. cash receipts – cash expenses
9.	A projected cash flow statement for a business shows future:
	a. non cash needs
	b. cash outflows and cash inflows
	c. profits
	d. projects
10.	The amount of a business owner's money or capital that he/she currently has invested in
10.	their own business is referred to as:
	a. debt capital
	b. current assets
	c. equity
	d. liabilities
11.	Costs that do NOT vary with short-run changes in production for a business firm are
	these costs:
	a. fixed
	b. opportunity
	c. marginal
	d. controllable
12.	A business firm owner and risk taker is often called:
	a. a socialist
	b. a gambler
	c. an entrepreneur
	d. a corporation

- 13. Which of the following is most likely to increase the demand for pork (i.e. shift the demand curve for pork to the right)?
 - a. increase in the supply of pork
 - b. increase in the price of a substitute product, such as beef
 - c. decrease in consumers' incomes so they go out to eat less often
 - d. increase in the cost of livestock feed used to produce pork
- 14. What 'balances' on a balance sheet?
 - a. equity capital and debt capital
 - b. assets and liabilities
 - c. assets and claims on assets (= liabilities + equity)
 - d. cash inflows and cash outflows
- 15. The time value of money concept says a dollar to be received in the future is:
 - a. worth less than a dollar to be received today
 - b. worth more than a dollar to be received today
 - c. worth the same as a dollar to be received today
 - d. dependent on the value of one's time (i.e. wage rate)
- 16. An item today costs \$4.50 that cost \$3.00 last year. What was the percentage change in the cost of this item over the past year?
 - a. +33%
 - b. -50%
 - c. +50%
 - d. +100%
- 17. According to economic concepts and principles, an activity is worth doing if:
 - a. it generates additional revenue
 - b. the incremental benefits exceed the incremental costs
 - c. there is no risk involved
 - d. you get paid to do it
- 18. The three most general forms of business are corporations, partnerships, and:
 - a. sole proprietorships
 - b. charities
 - c. government-run operations
 - d. casinos
- 19. In production in the short-run, the point where the marginal product of the input starts to decline is known as:
 - a. the point of diminishing returns
 - b. the point of no return
 - c. the breakeven point
 - d. the point where total output starts to decline

- 20. In production, the 'economic' factors of production typically include:
 - a. fixed assets, current assets, intermediate assets
 - b. people, money, and time
 - c. land, labor, capital, and management
 - d. weather, technology, and input prices
- 21. Depreciation, for business taxation purposes, is:
 - a. not a deductible expense because it is not a cash expense
 - b. taxed at a capital gains rate
 - c. added to net income to determine gross income
 - d. a deductible expense
- 22. There would most likely be an increase in a firm's average variable cost if the firm expands output by one unit and the marginal cost of producing that last unit:
 - a. exceeds the firm's previous average variable cost
 - b. is negative
 - c. is greater than the marginal cost of producing the previous unit
 - d. exceeds the firm's fixed costs per unit of output
- 23. Future borrowing needs for a business during a specific month in the future can best be determined by looking at a projected
 - a. time value of money table
 - b. profit and loss statement
 - c. balance sheet
 - d. cash flow statement
- 24. A farm firm in a 30% tax bracket would most likely see its after-tax profit change by how much if it's before-tax cost (of a tax-deductible item) increases by \$1.00?
 - a. -\$0.30
 - b. -\$0.70
 - c. -\$1.30
 - d. \$0.00
- 25. In economics, a 'market-clearing' price at which quantity supplied equals quantity demanded is known as the:
 - a. equilibrium price
 - b. world price
 - c. hidden price
 - d. black market price

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

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

26.	What was this farm's net worth on January 1, 2010, using <u>cost</u> values for their assets?
	a. \$2,216,514
	b. \$1,093,129
	c. \$1,920,236
	d. \$1,123,385
27.	The farm's market value net worth changed by% from a year ago.
	a. + 20%
	b. + 9%
	c. $+ 17\%$
	d. stayed the same
28.	What percent of the farm's total liabilities are due and payable in the next 12 months
	a. 11%
	b. 36%
	c. 55%
	d. 66%
29.	Using 'market' values, the farm's ratio of total debt to equity is:
	a57
	b36
	c. 1.76
	d65
30.	If FFA farm sold its farmland for its estimated market value on 1/1/2010, how much capital gain would they owe tax on?
	a. none
	b. \$1,288,000
	c. \$528,000
	d. \$52,800
31.	How much is this farm's working capital?
	a. \$587,955
	b. \$390,101
	c. \$197,854
	d. \$6,092

32.	From the Net Farm Income Statement, how much was this farm's <u>Cash Net Farm Income</u> , <u>before</u> any income or expense adjustments? a. \$82,635
	b. \$610,614
	c. \$553,012
	d. \$57,602
33.	How many \$ were taken out of the farm income for family living expenses in 2009 assuming this equals accrual net farm income less the change in cost value net worth?
	a. \$62,515
	b. \$82,635
	c. \$0
	d. \$20,119
34.	Based on the Net Farm Income Statement, which of the following were greater than zero (or positive) in adjusting net cash farm income to arrive at accrual net farm income?
	a. total income adjustments.
	b. total expense adjustments.
	c. both a and b.
	d. neither a nor b.
35.	From the Income Adjustment for crops held, we can assume that at the end of 2009,
	compared to the beginning of 2009,
	a. crop prices were higher
	b. they had more bushels stored
	c. either (a) or (b), or both
	d. neither (a) nor (b)
Use t	he attached <u>cash flow budget</u> projection to answer questions #36-42.
36.	What is this farm's largest source of cash inflows?
	a. livestock sales
	b. crop sales
	c. capital asset sales
	d. new loans
37.	In which period does this farm project its largest net cash flow deficit?
	a. JanFeb.
	b. May-June
	c. July-August
	d. NovDec.

38.	How much does FFA Farm need to borrow in order to achieve a positive ending cash
	balance of \$2,000 at the end of the January-February period?
	a. \$24,989
	b. \$20,806
	c. \$26,898
	d. nothing
39.	The projected ending cash balance at the end of any two-month period for FFA Farm is:
	a. always positive
	b. always negative
	c. the same as cash inflow minus cash outflow for that time period
	d. the same as the <u>beginning</u> cash balance at the start of the next two-month period
40.	What is FFA Farm's projected net cash flow for 2010, based on the cash flow budget?
	a. \$930,796
	b. \$56,786
	c. \$874,010
	d. \$30,742
41.	When does FFA farm expect to have to pay its' cash rent?
	a. half in the spring, half following harvest
	b. all in the spring
	c. all following harvest
	d. all in July-August
42.	"Purchase of capital assets" could be for:
	a. feeder cattle
	b. real estate taxes
	c. seed
	d. a new machine shed

In which periods could FFA farm be able to make a payment to reduce their operating

How much cash income does this farm expect to receive from crops sold after harvest in

43.

44.

loan balance?

a.

b.

c.

a.

b.

c.

d.

Jan.-Feb.

\$299,836

\$37,309

\$85,909

\$95,760

May-June only

Nov.-Dec. only

May-June, Sept.-Oct. and Nov.-Dec.

2010? They raise only corn and soybeans.

45.	What expense category is found in a Net Farm Income Statement but not in a cash flow budget? a. family living expenses b. accounts payable c. hired labor d. depreciation
Refer 50.	to the attached "Beef Cow-Calf" budget for <u>One Cow Unit</u> to answer questions #46-
46.	How much <u>profit</u> for one cow unit is projected? a. \$155.55 b. \$621.73 c. \$25.55 d. \$647.28
47.	What price per pound is needed from calf sales to just pay for <u>variable costs</u> , after netting out income from sales of cull cows? a. \$.58 b. \$1.09 c. \$.86 d. \$.78
48.	If the price of hay rises to \$85 per ton, how much will total costs per cow unit rise (all else equal)? Ignore interest. a. \$15.00 b. \$147.00 c. \$178.50 d. \$31.50
49.	How much is the projected feed cost per pound of beef sold in this budget? Include both calves and cull cows. a. \$.85 b. \$.45 c. \$.26 d. \$.22
50.	How much is the projected total return (labor expense + profit) to labor per cow unit? a. \$25.55 b. \$96.00 c. \$121.55 d. \$251.55

Refer to the attached "Corn following Soybeans" budget to answer questions 51-55.

- 51. How much is the expected return over variable costs per acre of corn (note there are fixed, variable, and total cost columns)?
 - a. \$107.36
 - b. \$708.75
 - c. \$384.11
 - d. \$3.85
- 52. What selling price is needed to just break even (profit = 0), after netting out the USDA payment?
 - a. \$3.44
 - b. \$3.85
 - c. \$3.24
 - d. \$1.66
- 53. Which of the following does <u>not</u> have a fixed cost per acre component?
 - a. seed and chemicals
 - b. land rent
 - c. hired labor
 - d. harvest machinery
- 54. What is their breakeven yield after netting out the USDA payment?
 - a. 175 bu./acre
 - b. 156 bu./acre
 - c. 165 bu./acre
 - d. 147 bu./acre
- 55. If the farmer agreed to pay the landowner cash rent equal to 35% of the crop value (excluding USDA payments), how much would the rent be for the expected price and yield?
 - a. \$236
 - b. \$200
 - c. \$248
 - d. \$265

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

- 56. A soybean farmer who uses soybean futures contracts in an attempt to protect against future soybean price declines is referred to as:
 - a. a speculator
 - b. a hedger
 - c. a forward contractor
 - d. a general contractor

- 57. A farmer who purchases 'crop insurance' would typically be trying to protect himself/herself against:
 - a. price risks
 - b. basis risks
 - c. production risks
 - d. health risks associated with producing crops
- 58. Basis in futures market is the difference between:
 - a. a cash price and a non cash price
 - b. a cash price today and a cash price in the future
 - c. two different futures prices for the same commodity
 - d. a futures contract price and a cash price
- 59. The right to sell a futures contract at a specified price is known as:
 - a. a call option
 - b. a short futures position
 - c. a put option
 - d. a long futures position
- 60. If a marketer is said to be 'bullish', they
 - a. are wanting to sell
 - b. expect prices to increase
 - c. expect prices to decrease
 - d. are greedy
- 61. Which of the following is most likely to be known at the time an option is purchased?
 - a. its strike price
 - b. its premium
 - c. its expiration date
 - d. all of the above
- 62. Marginal revenue means the same as:
 - a. incremental profit
 - b. marginal profit
 - c. additional income
 - d. low-quality sales
- 63. The funds deposited with a broker to fund the trading of futures contracts are called:
 - a. basis money
 - b. fast money
 - c. commission fees
 - d. margin money

- 64. When Farmer Jones agrees in May to sell some of his corn in November to the local ethanol plant for a delivered price of \$3.50 per bushel, this is an example of:
 - a. a forward contract
 - b. an options contract
 - c. a futures contract
 - d. a basis contract
- 65. If the expected corn basis in December in a given area is \$0.30 per bushel, one would expect in December:
 - a. the cash price to = \$3.50 if the futures price = \$3.20
 - b. the January futures price to = \$3.50 if the December futures price = \$3.20
 - c. the cash price to = \$2.90 if the futures price = \$3.20
 - d. the cash price to = \$0.30 above what it was earlier in the year
- 66. A non hedged, cash sale of soybeans will likely be a better marketing alternative than using futures contracts if cash prices of soybeans:
 - a. increase a lot
 - b. decrease a little
 - c. decrease a lot
 - d. b and c
- 67. If a corn farmer received a 5 cent per bushel 'patronage refund' from his/her grain buyer, he/she likely sold their corn to:
 - a. the government
 - b. his/her bank
 - c. a cooperative
 - d. the local elevator on contract
- 68. In March, a farmer sells December hog futures at \$40.00 to hedge future hog sales. In December, the farmer buys back the futures contract at \$36.00 and sells hogs in the cash market at \$37.00. What is the net price received by the farmer (ignoring all commission fees)?
 - a. \$36.00
 - b. \$33.00
 - c. \$41.00
 - d. \$39.00
- 69. Farmers who sell their product to local farmers markets, restaurants, and grocery stores are said to be engaged in this type of marketing:
 - a. illegal
 - b. direct
 - c. organic
 - d. integrated

- 70. Which of the following is <u>least</u> likely to affect the profit-maximizing quantity of wheat to produce per acre by Cy, a wheat farmer?

 a. price of wheat

 b. variable chemical costs

 c. variable fertilizer costs

 d. what Cy paid for the land
- 71. A breakeven price is one that covers:
 - a. fixed costs only
 - b. cash costs only
 - c. variable costs only
 - d. all costs
- 72. The specific price at which a put option buyer has obtained the right to sell is called:
 - a. the strike price
 - b. the premium
 - c. the basis
 - d. the price floor
- 73. Niche marketing generally means the sale of:
 - a. niches
 - b. a specialized product to specific buyers
 - c. a product during a very limited time frame
 - d. a general product that is sold similarly by a large number of other sellers.
- 74. The general economic term used to describe where and when, buyers and sellers interact regarding a specific product is called:
 - a. an auction
 - b. a contract
 - c. a market
 - d. arbitrage
- 75. The ultimate user of a product is called:
 - a. the government
 - b. the market
 - c. the producer
 - d. the consumer

Farm Financial Statements

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Net Worth Statement

Name FFA FARM			Date	01/01/10
Farm Assets	Cost Value	Market Value	Farm Liabilities	Market Value
Current Assets			Current Liabilities	
Checking and savings accounts	\$6,092	\$6,092	Accounts payable	\$29,540
Crops held for sale/feed	\$373,000	\$373,000	Farm taxes due	\$9,344
Investment in growing crops			Current notes and credit lines	\$230,554
Commercial feed on hand	\$9,100	\$9,100		
Prepaid expenses	\$12,750	\$12,750	Accrued interest - short	\$9,216
Market livestock	\$187,013	\$187,013	- fixed	\$37,388
Supplies on hand			Due in 12 months - fixed	\$74,059
Accounts receivable				
Other current assets			Other current liabilities	
Total Current Assets	\$587,955	\$587,955	Total Current Liabilities	\$390,101
Fixed Assets			Fixed Liabilities	
Unpaid coop. distributions	\$14,435	\$14,435	Notes and contracts remainder (Sched. Q)	\$703,028
Breeding livestock	\$50,375	\$50,375	Machinery	
Machinery & equipment	\$313,932	\$455,600	Land	
Buildings/improvements	\$489,817	\$617,000		
Farmland	\$760,000	\$1,288,000		
Farm securities, certificates				
Other fixed assets			Other fixed liabilities	
Total Fixed Assets	\$1,628,559	\$2,425,410	Total Fixed Liabilities	\$703,028
A) Total Farm Assets	\$2,216,514	\$3,013,365	B) Total Farm Liabilities	\$1,093,129
C) Farm Net Worth		\$1,920,236		_
D) Farm Net Worth Last Year	\$1,060,869	\$1,761,680		
E) Change in Farm Net Worth	\$62,516			,
-				

Net Farm Income Statement

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See the Financial Files for more information.

Net Farm Income Statement (Profit and Loss)

Labor hired

Seeds, plants

Utilities

Pension and profit-share plans Rent or lease payments

Vet. fees, medicine, breeding

Repairs, maintenance

Storage, warehousing

Supplies purchased Taxes (farm)

Other cash expenses

Livestock purchased

Total Cash Expenses (f)

		•		
Name FFA FARM		d	Year	2009
		Income		
Cash Income		Income Adjustments	Ending	Beginning
Sales of livestock bought for resale		Crops held for sale or feed (Sched. A)	\$373,000	\$329,750
Sales of market livestock, grain, etc.	\$546,200	Market livestock (Sched. E)	\$187,013	\$163,590
Cooperative distributions paid		Accounts receivable (Sched. G) and		
Agricultural program payments	\$34,562	other current assets		
Crop insurance proceeds		Unpaid coop. distributions (Sched. H)	\$14,435	\$14,43
Custom hire income		Breeding livestock (Sched. I)	\$50,375	\$50,62
Other cash income	\$5,672	Subtotal of Adjustments	\$624,823	\$558,400
Sales of breeding livestock	\$24,180	Value of Home Used Production (d)		
Total Cash Income (a)	\$610,614	Gross Farm Revenue (e)		\$677,03
		Expenses		
Cash Expenses		Expense Adjustments	Beginning	Ending
Car and truck expenses	\$4,899	Investment in growing crops	\$5,850	
Chemicals	\$40,760	Commercial feed on hand	\$5,600	\$9,10
Conservation expenses		Prepaid expenses		\$12,75
Custom hire		Supplies on hand		
Employee benefits	\$1,780		Ending	Beginning
Feed purchased	\$104,310	Accounts payable	\$29,540	\$36,58
Fertilizer and lime	\$55,623	Farm taxes due	\$9,344	\$8,48
Freight, trucking	\$12,290	Accrued interest	\$46,604	\$49,29
Gasoline, fuel, oil	\$23,650	Subtotal of Adjustments	\$96,938	\$116,21
Insurance	\$6,500		g	h
Interest paid	\$85,511	Depreciation		\$60,66°
Laborateland	000.000	^		

Gross Farm Expenses

\$85,600 Accrual Net Farm Income

\$594,401

\$82,635

\$28,000

\$12,333

\$28,560

\$2,375

\$8,980

\$17,358

\$11,623

\$4,560

\$18,300

\$553,012

Cash Flow Budget

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Name:
FFA FARM
2010

CASH INFLOWS	Total for	January	March	May	July	September	November
Operating	Year	February	April	June	August	October	December
Livestock income	574,560	95,760	95,760	95,760	95,760	95,760	95,760
Sales of crops	299,836	37,309	139,309	37,309	0	0	85,909
Other crop income	0	0	0	0	0	0	0
USDA payments	18,000	9,000	0	0	0	9,000	0
Custom hire income	0	0	0	0	0	0	0
Farm rents, interest	0	. 0	0	. 0	0	0	0
Other	6,000	1,000	1,000	1,000	1,000	1,000	1,000
Sales of Capital Assets	5,000	5,000	0	0	0	0	0
Financing							
Total new short-term loans to receive	0	0	0	0	0	0	0
New term loans to receive	20,000	0	0	20,000	0	0	0
Non-farm Income	7,400	400	400	2,900	400	400	2,900
Total Cash Inflows	930,796	148,469	236,469	156,969	97,160	106,160	185,569

CASH OUTFLOWS	Total for	January	March	May	July	September	November
Operating	Year	February	April	June	August	October	December
Seed	54,540	18,180	18,180	0	0	0	18,180
Fertilizer and lime	85,900	28,633	28,633	اه	0	0	28,633
Pesticides	24,320	0	24,320	ō	0	0	0
Crop insurance	12,360	o l	0	o	0	12,360	0
Drying fuel	19,600	o l	o	0	0	19,600	0
Custom hire or machine rental	0	ō	ō	ō	0	0	0
Other cash costs per acre	10,200	1,700	1,700	1,700	1,700	1,700	1,700
Purchased crops	0	0	0	0	0	0	0
Purchased livestock	22,500	3,750	3,750	3,750	3,750	3,750	3,750
Purchased feed	157,500	26,250	26,250	26,250	26,250	26,250	. 26,250
Health and veterinary	11,250	1,875	1,875	1,875	1,875	1,875	1,875
Marketing	13,500	2,250	2,250	2,250	2,250	2,250	2,250
Other cash costs per head	. 0	0	0	0	0	0	0
Real estate taxes	16,000	0	8,000	o	0	8,000	0
Cash rent	100,000	0	50,000	0	0	0	50,000
Hired labor	30,000	5,000	5,000	5,000	5,000	5,000	5,000
Repairs and upkeep	13,000	2,889	1,444	1,444	1,444	2,889	2,889
Fuel and lubrication	25,000	2,500	5,000	5,000	2,500	5,000	5,000
Other fixed expenses	6,000	1,000	1,000	1,000	1,000	1,000	1,000
Equipment lease payments	0	0	0	0	0	0	0
Purchases of Capital Assets	25,000	0	0	25,000	0	0	0
Financing							
Accounts payable	29,540	29,540	0	0	0	0	0
Short term notes due	22,500	22,500	. 0	0	0	0	0
Term loan payments	132,300	20,300	45,800	1,300	62,300	1,300	1,300
Non-farm Expenditures							
Family living expenses	30,000	5,000	5,000	5,000	5,000	5,000	5,000
Non-farm investments	33,000	2,000	13,000	12,000	2,000	2,000	2,000
Total Cash Outflows	874,010	173,367	241,203	91,569	115,069	97,974	154,827

SUMMARY	Total for	January ,	March	May	July	September	November
	Year	February	April	June	August	October	December
Net Cash Flow	56,786	(24,898)	(4,734)	65,400	(17,909)	8,186	30,742
Beginning cash balance	6,092	6,092	(18,806)	(23,540)	41,860	23,950	32,136
New operating loan received	0						
Repayment of operating loan	0						
Interest paid on oper. loan balance	0	0	0	0	0	0	0
Ending cash balance	62,878	(18,806)	(23,540)	41,860	23,950	32,136	62,878
Operating Loan Balance				-			•
Beginning Balance	230,554	230,554	230,554	230,554	230,554	230,554	230,554
Ending Balance	230,554	230,554	230,554	230,554	230,554	230,554	230,554

Beef Cow-Calf (one cow unit)

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Hay and Pasture; Calves Sold]		
Production Efficiencies Calf weaning rate Calf death loss Cow death loss Cow replacement rate	94% 0% 2% 20%			
Income Calves Cull cows Gross Income	\$1.15 per lb	\(\text{Quantity Unit} \) \(Vision of the content of the c	x 0.74 head x 0.18 head	
Variable Costs Feed Costs Pasture Pasture fert. & misc. costs Corn Modified distiller grain Salt and minerals Supplement & minerals Alfalfa - brome hay Corn stalks Other Total Feed Costs	Price Unit \$35.00 per acre \$15.00 per bu per ton \$0.07 per lb per lb \$70.00 per ton \$2.50 per acre	Quantity Unit x		= \$87.50 = 37.50 = 12.00 = 0.00 = 4.20 = 0.00 = 147.00 = 10.00 \$298.20
Veterinary & health Machinery, equipment, fuel & repairs Marketing & miscellaneous Other Interest on variable costs Labor Total Variable Costs Income Over Variable Costs Fixed Costs	6% \$12.00 per hr	x 6 months x 8 hours		\$35.00 26.00 25.00 0.00 = 11.53 = 96.00 \$491.73
Machinery, equipment, housing & fence Interest & insurance on breeding herd Bull depreciation/replacement Total Fixed Costs Total All Costs	es			\$55.00 65.00 10.00 \$130.00

Profit

IOWA STATE UNIVERSITY University Extension

Corn following Soybeans

Preharvest machinery	Gross revenue Expected selling price and yield Expected USDA payments Total	<u>Price</u> \$3.85		<u>Yield</u> 175	\$673.75 <u>\$35.00</u> \$708.75
Preharvest machinery			Co	st per Acre	
Tandem disk	Preharvest machinery		***************************************		Total
Apply nitrogen \$4.20	· · · · · · · · · · · · · · · · · · ·				
Field cultivate				•	•
Plant					
Cultivate \$14.0 \$1.50 \$2.90				-	•
Spray	* *=***		•		•
Custom hire Other \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 Total per acre \$0.00 \$16.20 \$0.00 \$14.30 \$30.50 Seed, chemicals, etc. Seed			•		
Seed, chemicals, etc. Seed Seed, chemicals, etc. Seed S	, -			•	•
Total per acre \$16.20					
Seed					
Seed	rotar por noro		φ10.25	ψ11.00	400.00
Seed	Seed, chemicals, etc.				
kernels per acre 30,000 Nitrogen \$0.33 price per pound \$0.33 pounds per acre 130 Phosphate \$0.38 price per pound \$0.38 pounds per acre 60 Potash \$0.43 pounds per acre 50 Lime (annual cost) \$7.00 Herbicide \$37.80 Crop insurance \$20.00 Miscellaneous \$12.56 Interest no preharvest variable costs \$12.56 length of period (months) 8 interest rate 7.0% Total \$267.46 *267.46 \$267.46 *** \$267.46 *** \$267.46 *** \$267.46 *** \$267.46 *** \$267.46 *** \$267.46 *** \$267.46 *** \$267.46 *** \$267.46 *** \$267.46 *** \$267.46 <td></td> <td></td> <td>*****</td> <td>\$93.90</td> <td>\$93.90</td>			*****	\$93.90	\$93.90
kernels per acre 30,000 Nitrogen \$0.33 price per pound \$0.33 pounds per acre 130 Phosphate \$0.38 price per pound \$0.38 pounds per acre 60 Potash \$0.43 pounds per acre 50 Lime (annual cost) \$7.00 Herbicide \$37.80 Grop insurance \$20.00 Miscellaneous \$12.56 Interest no preharvest variable costs \$12.56 Interest no preharvest variable costs \$12.56 Interest not preharvest variable costs \$12.56 Interest not prehavest variable costs \$12.56 Interest not preharvest variable costs \$12.56 Interest not preharvest variable costs \$12.56 Interest not preharvest variable costs \$20.00 Interest not preharvest variable costs \$25.00 Interest not preharvest variable costs \$25.76 Interest not preharvest variable costs \$25.76 Interest not preharvest variable costs \$25.76	cost per 1000 kernels	\$3.13			
Nitrogen	•	30,000			
price per pound per acre 130 Phosphate	Nitrogen			\$42.90	\$42.90
Phosphate	price per pound	\$0.33			
Phosphate		130			
price per pound \$0.38 pounds per acre 60 Potash	•			\$22.80	\$22.80
Potash Spring S		\$0.38			,
Potash		•			
price per pound per acre \$0.43 pounds per acre 50 Lime (annual cost)	•			\$21.50	\$21.50
Dounds per acre S0		\$0.43		,	•
Lime (annual cost)		50			
Herbicide	•			\$7.00	\$7.00
Crop insurance \$20.00 \$9.00 Miscellaneous \$9.00 \$9.00 Interest on preharvest variable costs length of period (months) 8 interest rate 7.0% \$12.56 \$12.56 Total \$267.46 \$267.46 \$267.46 Harvest machinery Combine \$15.30 \$8.20 \$23.50 Grain Cart \$4.40 \$2.30 \$6.70 Haul \$3.50 \$5.25 \$8.75 Fixed-price per bushel \$0.02 \$0.02 \$26.25 \$33.25 Fixed-price per bushel \$0.03 \$7.00 \$26.25 \$33.25 Fixed-price per bushel \$0.04 \$0.08 \$2.50 \$33.25 Handling \$1.75 \$0.88 \$2.63 Fixed-price per bushel \$0.01 \$0.08 \$2.63 Variable-price per bushel \$0.01 \$0.00 \$0.00 Variable-price per bushel \$0.01 \$0.00 \$0.00 Total per acre \$31.95 \$42.88 \$74.83 Labor \$0.00 \$0.00	,			•	•
Miscellaneous \$9.00 \$9.00 Interest on preharvest variable costs \$12.56 \$12.56 Iength of period (months) 8 Interest rate 7.0% \$267.46 Total \$267.46 T			****	•	•
Interest on preharvest variable costs Interest rate Inte	•				
Interest rate 7.0% Total		sts			
Interest rate Total Total Total Sept. Sept	•			Ţ	¥
Total	. , ,				
Harvest machinery		,,,,,,		\$267.46	\$267.46
Combine \$15.30 \$8.20 \$23.50 Grain Cart \$4.40 \$2.30 \$6.70 Haul \$3.50 \$5.25 \$8.75 Fixed- price per bushel \$0.02 \$7.00 \$26.25 \$33.25 Fixed- price per bushel \$0.04 \$7.00 \$26.25 \$33.25 Fixed- price per bushel \$0.01 \$1.75 \$0.88 \$2.63 Fixed- price per bushel \$0.01 \$0.00 \$0.88 \$2.63 Fixed- price per bushel \$0.00 \$0.00 \$0.00 \$0.00 Custom hire \$0.00 \$0.00 \$0.00 \$0.00 Total per acre \$28.60 \$28.60 Hours 2.6 \$0.00 \$0.00 \$0.00 Hired \$0.00 \$0.00 \$0.00 Hours 0 \$28.60 \$0.00 \$28.60 Total \$0.00 \$28.60 \$0.00 \$28.60 Land \$200.00 \$20.00 \$20.00 \$20.00 Total fixed, variable and all costs Fixed Variable Total					
Grain Cart \$4.40 \$2.30 \$6.70 Haul \$3.50 \$5.25 \$8.75 Fixed- price per bushel \$0.03 \$7.00 \$26.25 \$33.25 Fixed- price per bushel \$0.04 \$0.05 \$0.08 \$2.63 Fixed- price per bushel \$0.01 \$1.75 \$0.88 \$2.63 Fixed- price per bushel \$0.01 \$0.00 \$0.00 \$0.00 Variable- price per bushel \$0.005 \$0.00 \$0.00 \$0.00 Custom hire \$0.00 \$0.00 \$0.00 \$0.00 Total per acre \$31.95 \$42.88 \$74.83 Labor \$28.60 \$0.00 \$28.60 Hours \$2.6 \$28.60 \$0.00 \$0.00 Hired \$0.00 \$0.00 \$0.00 \$0.00 Hours \$0.00 \$28.60 \$0.00 \$28.60 Hours \$0.00 \$28.60 \$0.00 \$28.60 Fate per hour \$0.00 \$28.60 \$0.00 \$28.60 Cash rent \$20.00 \$20.00 \$20.00 \$20.00	Harvest machinery				
Haul	Combine		\$15.30	\$8.20	\$23.50
Fixed- price per bushel \$0.02 Variable- price per bushel \$0.03 Drying \$7.00 \$26.25 \$33.25 Fixed- price per bushel \$0.04 Variable- price per bushel \$0.15 Handling \$1.75 \$0.88 \$2.63 Fixed- price per bushel \$0.01 \$0.00 \$0.80 Variable- price per bushel \$0.005 \$0.00 \$0.00 \$0.00 Custom hire \$0.00 \$0.00 \$0.00 \$0.00 Total per acre \$28.60 \$28.60 Hours 2.6 Rate per hour \$11.00 \$0.00 \$0.00 Hours 0 \$28.60 \$0.00 \$28.60 Hours 0 \$28.60 \$0.00 \$28.60 Land \$20.00 \$20.00 \$20.00 Total \$200.00 \$200.00 Total fixed, variable and all costs Fixed Variable Variable Yariable Yariable Yariable Yariable \$601.39	Grain Cart		\$4.40	\$2.30	\$6.70
Variable- price per bushel \$0.03 Drying \$7.00 \$26.25 \$33.25 Fixed- price per bushel \$0.015 \$1.75 \$0.88 \$2.63 Handling \$0.01 \$1.75 \$0.88 \$2.63 Fixed- price per bushel \$0.001 \$0.00 \$0.00 \$0.00 Variable- price per bushel \$0.005 \$0.00 \$0.00 \$0.00 Custom hire \$31.95 \$42.88 \$74.83 Labor \$28.60 \$0.00 \$28.60 Hours 2.6 \$28.60 \$0.00 \$0.00 Hired \$0.00 \$0.00 \$0.00 \$0.00 Hours 0 \$28.60 \$0.00 \$28.60 Hours 0 \$28.60 \$0.00 \$28.60 Land \$200.00 \$200.00 \$200.00 Total fixed, variable and all costs Fixed Variable Total Per acre \$276.75 \$324.64 \$601.39	Haul		\$3.50	\$5.25	\$8.75
Drying \$7.00 \$26.25 \$33.25 Fixed- price per bushel \$0.04 \$0.15 Handling \$1.75 \$0.88 \$2.63 Fixed- price per bushel \$0.01 \$0.00 \$0.00 \$0.00 Variable- price per bushel \$0.005 \$0.00 \$0.00 \$0.00 Custom hire \$0.00 \$0.00 \$0.00 \$0.00 Total per acre \$28.60 \$28.60 Hours 2.6 \$28.60 \$28.60 Hired \$0.00 \$0.00 Hours 0 \$0.00 \$0.00 Hours 0 \$28.60 \$0.00 \$28.60 Hours 0 \$28.60 \$0.00 \$28.60 Hours \$0.00 \$28.60 \$0.00 \$28.60 Fixed \$0.00 \$0.00 \$0.00 \$0.00	Fixed- price per bushel	\$0.02			
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Variable- price per bushel \$0.15 Handling \$0.01 Fixed- price per bushel \$0.005 Custom hire \$0.005 Total per acre \$31.95 Labor \$28.60 Operator \$28.60 Hours 2.6 Rate per hour \$11.00 Hired \$0.00 Hours 0 Rate per hour \$0.00 Total \$28.60 \$0.00 \$28.60 \$0.00 \$20.00 Total fixed, variable and all costs Fixed Variable Total Fixed \$276.75 \$324.64 \$601.39	Drying		\$7.00	\$26.25	\$33.25
Handling \$0.01 \$0.005 \$0.005 \$0.000	Fixed- price per bushel	\$0.04			
Fixed- price per bushel \$0.01 Variable- price per bushel \$0.005 Custom hire \$0.00 \$0.00 \$0.00 Total per acre \$31.95 \$42.88 \$74.83 Labor \$28.60 \$28.60 Operator \$28.60 \$28.60 Hours \$2.6 \$28.60 \$0.00 \$0.00 Hired \$0.00 \$0.00 \$0.00 Hours 0 \$28.60 \$0.00 \$28.60 Rate per hour \$0.00 \$28.60 \$0.00 \$28.60 Land \$200.00 \$200.00 Total fixed, variable and all costs Fixed Variable Total Per acre \$276.75 \$324.64 \$601.39	Variable- price per bushel	\$0.15			
Variable- price per bushel \$0.005 Custom hire \$0.00 \$0.00 \$0.00 Total per acre \$31.95 \$42.88 \$74.83 Labor \$28.60 \$28.60 Operator \$28.60 \$28.60 Hours 2.6 \$0.00 \$0.00 Hired \$0.00 \$0.00 Hours 0 \$0.00 \$0.00 Hours 0 \$28.60 \$0.00 \$28.60 Total \$200.00 \$200.00 Total \$200.00 \$200.00 Total fixed, variable and all costs Fixed Variable Total Per acre \$276.75 \$324.64 \$601.39	•		\$1.75	\$0.88	\$2.63
Custom hire Total per acre \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00		\$0.01			
Total per acre \$31.95 \$42.88 \$74.83 Labor Operator Hours 2.6 Rate per hour Hired Hired Hours 0 Rate per hour Total Total Cash rent Solution \$0.00 \$28.60 \$28.60 \$0.00 \$28.60 \$28.60 \$200.00 \$200.00 Total fixed, variable and all costs Per acre Fixed Yariable Total \$601.39	·	\$0.005			
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Operator \$28.60 \$28.60 Hours 2.6 \$0.00 \$0.00 Hired \$0.00 \$0.00 \$0.00 Hours 0 \$28.60 \$0.00 \$28.60 Total \$28.60 \$0.00 \$28.60 </td <td>Total per acre</td> <td></td> <td>\$31.95</td> <td>\$42.88</td> <td>\$74.83</td>	Total per acre		\$31.95	\$42.88	\$74.83
Operator \$28.60 \$28.60 Hours 2.6 \$0.00 \$0.00 Hired \$0.00 \$0.00 \$0.00 Hours 0 \$28.60 \$0.00 \$28.60 Total \$28.60 \$0.00 \$28.60 </td <td></td> <td></td> <td></td> <td></td> <td></td>					
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Total fixed, variable and all costs Fixed Variable Total Per acre \$276.75 \$324.64 \$601.39			\$200.00		ድ200 00
Per acre \$276.75 \$324.64 \$601.39	- don rone		Ψ200,00		Ψ200.00
Per acre \$276.75 \$324.64 \$601.39	Total fixed, variable and all costs	5	<u>F</u> ixed	<u>Var</u> iable	Total
	Per bushel		\$1.58	\$1.86	

2010 Iowa Farm Business Management Career Development Event

INDIVIDUAL EXAM KEY

Section A. Principles of Economics and Management

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

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

- 26. D Cost value net worth = total farm assets (cost value) total farm liabilities = \$2,216,514 \$1,093,129 = \$1,123,385
- 27. B % market value net worth increase = change in farm net worth (market)/farm net worth last year x 100 (\$158,556 / \$1,761,680) (100) = 9%
- 28. B (Total current liabilities / total liabilities) x 100 = (\$390,101 / \$1,093,129) = 36%

- 29. A Debt-to-equity ratio = total farm liabilities divided by farm net worth (market value) = \$1,093,129 / \$1,920,236 = .57
- 30. C Capital gain = market value of land cost value of land = \$1,288,000 \$760,000 = \$528,000
- 31. C Working capital = current assets current liabilities \$587,955 \$390,101 = \$197,854
- 32. D Cash net farm income before adjustments = total cash income total cash expenses = \$610,614 \$553,012 = \$57,602
- 33. D Family living withdrawal = accrual net farm income change in cost value net worth = \$82,635 \$62,516 = \$20,119
- 34. C Gross farm income > cash income and Gross farm expenses > cash expenses which means both positive income and expense adjustments were made
- 35. C Prices could be higher and/or more bushels could be stored.
- 36. A Livestock sales (\$574,560)
- 37. A Projected net cash flow is most negative in January-February (-\$24,898)
- 38. B negative net cash flow minus beginning cash balance plus desired ending cash balance
 = \$24,898 \$6,092 + \$2,000 = \$20,806
- 39. D Ending cash balance one period = beginning cash balance next period
- 40. B Net cash flow = \$56,786.
- 41. A \$50,000 in March-April and \$50,000 in November-December.
- 42. D Only a machine shed is a "capital" asset.
- 43. D In the periods for which they project a positive net cash flow.
- 44. C 2010 crop sales projected for after harvest, Nov.-Dec. = \$85,909. Sales earlier in the year would be prior to harvest of the 2010 crop.
- 45. D Depreciation is not a cash expense.

46. C Profit = gross income – total all costs \$647.28 - \$621.73 = \$25.55 47. D = (total variable costs – cull cow sales)/(calf weight x no. sold) (\$491.73 - \$157.95) / (575 lb x .74 head) = \$.7848. D change in price of hay x tons fed $($85 - $70) \times 2.1 \text{ tons} = 31.50 49. В Total feed costs / total pounds sold 298.20 / [575 lb. x .74 hd.) + (1,350 lb. x .18 hd.] = 4.4550. C Profit + labor cost \$25.55 + \$96.00 = \$121.5551. C Total revenue minus total variable costs = return over variable costs \$708.75 - \$324.64 = \$384.11 52. \mathbf{C} (Total costs – USDA payment) / bushels to sell = (\$601.39 - \$35.00) / 175 bu. = \$3.2453. Note seed and chemical costs are all variable at \$267.46 per acre. A 54. Breakeven yield = (total all costs – USDA payment) / selling price D = (\$601.39 - \$35.00) / \$3.85 = 147 bu/acre55. Cash rent = expected price x expected yield x 35%A $= $3.85 \times 175 \text{ bu. } \times 35\% = 236 per acre 56. В 57. \mathbf{C} 58. D C 59. В 60. 61. D 62. \mathbf{C} 63. D 64. A 65. C 66. Α \mathbf{C} 67. \mathbf{C} 68. 69. В 70. D 71. D 72. Α

73. 74. 75. B C D