

Participant Number _____

State Abbreviation _____

Participant Name (please print) _____

Important: Before you start this portion of the event, please write your participant number and state abbreviation on the blanks provided at the top of *each page*.

2011 NATIONAL FFA FARM BUSINESS MANAGEMENT CAREER DEVELOPMENT EVENT

Page Number	Part	Area	Possible Points	Score
5	I	Financial Statements	22	_____
8	II	Budgeting	34	_____
11	III	Cash Flow Planning	29	_____
14	IV	Marketing	23	_____
17	V	Income Tax Management	30	_____
19	VI	Investment Analysis	29	_____
21	VII	Risk Management	19	_____
23	VIII	Family Living and Planning	20	_____
26	IX	Analysis of the Farm Business	54	_____
29	X	Economic Principles	40	_____
TOTAL POSSIBLE POINTS			300	
PARTICIPANT POINTS				_____

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PART I – FINANCIAL STATEMENTS

NOTE: For the multiple choice questions circle the correct response. Each correct multiple choice response is 1 point.

1. This financial statement lists cash receipts and expenses of a farm during a specified time period.
 - a. Balance sheet
 - b. Income statement
 - c. Statement of owner equity
 - d. Statement of cash flow
2. Which of the following lists the four basic financial statements?
 - a. Balance sheet, income statement, checking account and statement of owner equity
 - b. Balance sheet, income statement, checking account and monthly bank statement
 - c. Balance sheet, income statement, statement of owner equity and statement of cash flow
 - d. Balance sheet, monthly bank statement, statement of owner equity and statement of cash flow
3. The 1040 Schedule F would be an example of statement similar to which of the following?
 - a. Balance sheet
 - b. Income statement
 - c. Statement of owner equity
 - d. Statement of cash flow
4. This financial statement lists assets, liabilities, and owner equity at a particular time.
 - a. Balance sheet
 - b. Income statement
 - c. Statement of owner equity
 - d. Statement of cash flow
5. A farm business accounting period for July 1, 2010 to June 30, 2011 would be an example of what type of accounting period?
 - a. Calendar year accounting period
 - b. Fiscal year accounting period

6. Which type of accounting adjusts for such things as inventory changes and changes in the value of prepaid expenses and unused supplies?
 - a. Cash accounting
 - b. Accrual accounting
7. The amount of money you have not received at the end of the accounting period for work completed is an example of what type of item?
 - a. An expense
 - b. A liability
 - c. An account payable
8. Which of the following items would not be a farm business expense for the accounting period?
 - a. Cash used to purchase new machinery
 - b. Cash used to purchase livestock feed
 - c. Cash to purchase feeder livestock
 - d. Cash used to purchase fertilizer
9. For the Redrock Ranch, LLC, what was the profit for 2010? (1 point)
\$ _____
10. What type of income statement for Redrock Ranch, LLC is contained in the resource information on page R5?
 - a. Cash income statement
 - b. Accrual adjusted income statement
11. What was the total amount principal scheduled to be paid on noncurrent loan by Redrock Ranch in 2010? (1 point)
\$ _____
12. At the end of 2010 what is the balance of the operating loan? (1 point)
\$ _____
13. Which of the following is indicated by the accrual adjustments on the income statement?
 - a. The accrued interest expense adjustment indicates that cash interest expenses understate the actual interest expenses for 2010.
 - b. The accrued interest expense adjustment indicates that cash interest expenses overstate the actual interest expenses for 2010.

14. During 2010, how much did Redrock Ranch borrow for operating? (1 point)
- \$ _____
15. In addition to records of revenues and expenses, a more complete record system for the ranch can be developed by maintaining records of which of the following? Circle all correct answers.
- a. Records of physical performance.
 - b. Records of production prices and weather conditions.
 - c. Records of input quantities used.
16. The management team is considering the purchase of a new tractor in 2011. if this purchase is made, the expense associated with this purchase will be which of the following?
- a. The cash paid for the new tractor.
 - b. The cash plus the value of any trade-in to purchase the tractor.
 - c. Deprecation allowed during the first year of owning the tractor.
17. Enterprise accounting can do which of the following?
- a. Indicate the overall profitability of the business.
 - b. Provide a summary of accounting records, farm receipts, and expenses that are related directly to each specific enterprise.
 - c. Provide projections for the whole farm.
18. Which of the following is not a business expense for the Redrock Ranch? Circle all correct answers.
- a. Purchase of feeder cattle
 - b. Purchase of capital assets
 - c. Interest payments on term debt
 - d. Principal payments on term debt
 - e. Groceries

End of Part I – FINANCIAL STATEMENTS

Total Possible Points - 22

POINTS EARNED PART I = _____

PART II - BUDGETING

PROBLEM I – Refinancing Debt

The Redrock Ranch LLC has \$7,209,311 in real estate debt. They are exploring the possibility of refinancing this debt. They are currently paying 6.5% interest but believe they can get a loan for 5.75% with a 20-year payout. There will be a ½% (.005) refinance fee. They will also be required to have the property appraised, which will cost an estimated \$7,500 and will be required to provide title insurance costing \$5,000. Consider the interest cost based upon the full term of the loan. Round answers to the nearest dollar. Each answer in the table is 1 point.

Amortization Table:

Years	5.75%	6.0%	6.25%	6.5%	6.75%	7.0%
20	.08542	.08718	.08903	.09076	.09251	.09439

Additional Costs:	Additional Returns:
Subtotal =	Subtotal =
Reduced Returns:	Reduced Costs:
Subtotal =	Subtotal =
Total AC + RR =	Total AR + RC =
Net Change in Income: _____	

Questions

1. Would you recommend refinancing to the Redrock Ranch? (1 point)

Yes No

2. If they refinance, how much total interest will they pay over the 20-year period? Round to the nearest dollar. (2 points)

\$ _____

3. How much less interest would Redrock Ranch pay over the 20 year period? Round to the nearest dollar. (2 points)

\$ _____

PROBLEM II – Produce Only Spayed Stocker Heifers

The Redrock Ranch LLC is currently running both spayed stocker heifers and stocker heifers on its rangeland. The operators are wondering if they should go with just one of these options. It costs \$5.50 per head to spay the heifers. Historically the spayed heifers average about 15 lbs more per head coming off the pasture. All other costs have generally been the same. The enterprise budget indicates that they market the heifers for \$0.79/lb. Use the partial budget to recommend one of the options. Fixed costs do not need to be included in the partial budget. Make your calculations on a per head basis. Each answer is 1 point.

Additional Costs:	Additional Returns:
Subtotal =	Subtotal =
Reduced Returns:	Reduced Costs:
Subtotal =	Subtotal =
Total AC + RR =	Total AR + RC =
Net Change in Income: _____	

1. Should the Redrock Ranch spay the heifers they plan to put on pasture? (1 point)

Yes No

2. How many pounds of extra gain on the spayed heifers is required to make this procedure a break even proposition? (2 points)
- _____

PROBLEM III – Replace Stocker Heifers With Stocker Steers

The Redrock Ranch LLC is considering grazing all stocker steers rather than any heifers. According to the enterprise budget, steers yield a return above variable costs of \$39.44/hd., while stocker heifers are yielding \$37.12/hd. Historically, the ranch has been able to run about 2% fewer steers than heifers on the same range. Using the partial budget, which alternative would be best? Fixed costs do not need to be included in the partial budget. Make your calculations on a per head basis. Each answer is 1 point.

Additional Costs:	Additional Returns:
Subtotal =	Subtotal =
Reduced Returns:	Reduced Costs:
Subtotal =	Subtotal =
Total AC + RR =	Total AR + RC =
Net Change in Income: _____	

- Should the Red rock Ranch graze all steers? (1 point) Yes No
- If both heifers and steers are being fed to 900 lbs and all costs remain the same, how much more per pound would be needed to make this a break even proposition for the heifers? Round to 0.000 (2 points)
- According to the stocker steer budget the marketing cost for the steers is \$76.32 while the marketing cost for the stocker heifers is \$66.14. If the marketing costs for both is \$66.14, what would be the additional return above all specified costs for the steers? (2 points)

End of Part II – BUDGETING

Total Points Possible = 34

POINTS EARNED PART II = _____

PART III – CASH FLOW PLANNING

In the Resource information, you will find four cash flow statements for 2010. The Redrock Ranch Consolidated cash flow (pages R6 & R7) is the overall cash flow for the operation. The other three cash flows (Medicine Bow, Foxhole Flats & Winding River) show the income & expense for each property in the business, and they combine to make the total cash flow for Redrock Ranch.

1. Which property generates the largest amount of cash for Redrock Ranch?
(1 point each answer)

2. Which property or properties generate/s revenue from yearlings?
(1 point each answer)

3. Which property generates the smallest amount of cash for Redrock Ranch?
(1 point each answer)

4. Each month, the ranch needs to calculate whether there is a cash surplus or a cash deficit based on the income and expense for the month, and the cash balance at the beginning of the month. If there is a deficit, money will need to be borrowed by the operation.

- a. Ranch Total (1 point each answer)

- i. Which month has the largest positive cash position for the ranch?

- ii. Which month has the largest negative cash position for the ranch?

- iii. Which month has the smallest negative cash position?

- b. Looking at each property individually. (1 point each answer)
- i. How many times does the cash difference exceed \$250,000? _____
- ii. Which property has the fewest months with a negative cash difference?

- iii. What expense item is the same for each? _____
5. Looking at each property individually, what are the two largest expense items (excluding livestock purchases)? (1 point each answer)
- a. _____
- b. _____
6. For the Redrock Ranch Consolidated cash flow, what percent of the total ranch expenses are the expenses in the final quarter of the year? Round to nearest hundredth of a percent 0.00%. (1 point each answer)
- a. _____ %
- b. Which quarter of the year has no income – 1st, 2nd, 3rd, or 4th? _____
- c. Does the total operation have a positive cash flow? Yes No
- d. Did operating debt increase or decrease during the year?
- Increase Decrease
- e. What is the operating loan accumulated borrowing at the end of the year?
- \$ _____
7. What was the gain or loss in cash balance from beginning to the end of the year for the Foxhole Flats property? (1 point each answer)
- \$ _____ Gain Loss

8. What percent of the total Redrock Ranch operation results from the Medicine Bow property? Calculate to the nearest one hundredth of a percent (0.00%) (2 points each answer)

a. Inflows: _____ %

b. Outflows: _____ %

9. Using the Medicine Bow Cash Flow Statement (R10 & R11), what is the ending Net Cash value as a percentage of Total Cash Inflows? Calculate to the nearest one hundredth of a percent (0.00%) (2 points)

_____ %

10. Using the Redrock Ranch Consolidated cash flow (R7), what is term loan interest as a percentage of total expenses? Calculate to the nearest one hundredth of a percent (0.00%) (2 points)

_____ %

11. Which individual property has the highest percentage term loan interest of total expenses? (1 point)

End of Part III – CASH FLOW PLANNING

Total possible points 29

POINTS EARNED PART III _____

PART IV – MARKETING

1. Match the terms on the right with correct definitions. Write the correct **CAPITAL LETTERS** on the blanks provided. Note: Each term may be used only once. (1 point each answer)

_____	Selling through a farmers' market or roadside market is	A. Supply curve
_____	The relationship between quantity purchased and price	B. Hedger
_____	This effectively puts a cost ceiling on raw material costs such as feed costs	C. Bear
_____	One who sells futures contracts to protect a producer from price fluctuations	D. Put option
_____	The relationship between quantity supplied and price	E. Short
_____	Price movement across months within the year is _____ variability	F. Demand
_____	The right to sell underlying futures at a specific price	G. Equilibrium
_____	The demand for a product at the farm level is a	H. Derived demand
_____	One who believes prices are too high and will decline	I. Call option
_____	The action of taking a position in which one has sold futures contracts	J. Seasonal
_____	The price where demand and supply intersect	K. Bull
_____	One who believes prices are too low and will advance	L. Direct marketing

NOTE: For the multiple choice questions circle the correct response. Each correct multiple choice response is 1 point.

2. Based on the Redrock Ranch 2010 cash flow over 95% of the cash inflows come from yearling sales. With that in mind what means could be used to protect that potential cash flow? Circle all correct answers.
 - a. Forward contract
 - b. Purchase puts
 - c. Sell calls
 - d. Purchase calls
3. If Redrock Ranch decides to use the futures market to hedge the price of feeder cattle to be sold in the future they would initially:
 - a. Buy futures contracts expecting to sell contracts when the cattle are sold.
 - b. Buy futures contracts expecting to buy more contracts when cattle are sold.
 - c. Sell futures contracts expecting to sell more contracts when cattle are sold.
 - d. Sell futures contracts expecting to buy them back when the cattle are sold.
4. The difference in the futures price and local price is called
 - a. net price.
 - b. strike price.
 - c. basis.
 - d. premium.
5. The money used to insure performance of a futures contract is called
 - a. margin.
 - b. premium.
 - c. basis.
 - d. commission.
6. When using options, the futures price you want to fix is:
 - a. Option price
 - b. Strike price
 - c. Buyer's price
 - d. Seller's price

7. The live cattle futures contract is _____ pounds.
- a. 20,000
 - b. 40,000
 - c. 60,000
 - d. 80,000
8. Ag options are heavily regulated to
- a. avoid misuses.
 - b. avoid price fixing.
 - c. ensure the investor knows the risk of trading options.
 - d. all the above
9. Which of these is **NOT** an advantage to buying options?
- a. Limited risk
 - b. No margin calls
 - c. Low commission cost
 - d. Unlimited potential
10. For the ranch to lock in the price for a feed, it would
- a. buy a call.
 - b. sell a call.
 - c. buy a put.
 - d. sell a put.
11. Which of these is **NOT** indicative of a speculator when he/she owns no other futures position?
- a. Mainly trades with spreads
 - b. Writes options
 - c. Does not own the underlying cash commodity
 - d. Wants the market to go higher even though he owns a put option

End of Part IV – MARKETING

Total possible points 23

POINTS EARNED PART IV - _____

Part V – INCOME TAX MANAGEMENT

A copy of the 2010 IRS Publication 225 – Farmer's Tax Guide will be provided to each participant to use in answering questions in this section.

NOTE: For the multiple choice questions circle the correct response. Each correct multiple choice response is 2 points.

1. The main objective of income tax management is to
 - a. pay no income taxes.
 - b. maximize the lowest tax bracket.
 - c. maximize the after-tax income.
 - d. minimize tax obligation.
2. Proper income tax management should result in
 - a. level income from year to year.
 - b. zero taxable income.
 - c. maximizing income each year.
 - d. always deferring income to the next year.
3. Farm income and expenses are reported on
 - a. Schedule C.
 - b. Schedule D.
 - c. Schedule E.
 - d. Schedule F.
4. The money received from the sale of raised cull beef cows is what type of income?
 - a. Ordinary
 - b. Capital gains
 - c. Accrual
 - d. Estate
5. The procedure that spreads out the cost of capital assets over their useful life is
 - a. depreciation.
 - b. appreciation.
 - c. itemized deductions.
 - d. deterioration.

6. The original purchase cost of feeder cattle is
 - a. expensing the purchase.
 - b. basis of the feeders.
 - c. tax benefit.
 - d. needed for capital gain calculations.
7. Real estate held at the death of the owner gets a new basis of
 - a. 50% increase of the real estate's value.
 - b. modified value.
 - c. fair market value.
 - d. exemption value.
8. For self-employed individuals, what percentage of health insurance premiums are deductible?
 - a. 25
 - b. 50
 - c. 75
 - d. 100
9. The maximum deduction for Section 179 expensing in 2010 is
 - a. \$250,000
 - b. \$500,000
 - c. \$750,000
 - d. \$1,000,000
10. When a farm or ranch has a net operating loss, it can be carried back how many years?
 - a. 3
 - b. 4
 - c. 5
 - d. 6
11. In 2011 the ranch may have a high taxable income. Which items would help reduce income taxes for the year? Circle all correct answers.
 - a. Borrow money to pay all accounts payable
 - b. Defer all possible income into the next tax year
 - c. Use Section 179 for capital purchases
 - d. Prepay expenses for next year

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12. What tax form or schedule would show the sale of cull beef cows?

- a. Schedule C
- b. Schedule F
- c. Form 4562
- d. Form 4797

End of Part V – INCOME TAX MANAGEMENT

Total possible points 30 POINTS EARNED PART V - _____

PART VI – INVESTMENT ANALYSIS

Part 1: Amortization/ Uniform Series –

The Redrock Ranch wants to buy a 2011 Featherlight 28' gooseneck horse trailer with living quarters. They want to trade in a 2001 Cimarron 20' gooseneck stock trailer and the dealer will allow them \$6,500 for it. The list price of the new trailer is \$58,000. The banker will give them a loan for seven years with an interest rate of 8.0%. The payments are due annually in (7) equal payments of \$9,891.73. From the information above fill out the amortization table below. Round your answers to the nearest cent and then answer the questions that follow. (Two points per answer in the table.)

Payment Number	Annual Payment Amount	Interest Amount/Payment	Principal Amount/Payment	Balance Due
0	0	0	0	51,500.00
1	9,891.73			
2	9,891.73	3,658.26	6,233.47	39,494.80
3	9,891.73	3,159.58	6,732.14	32,762.66
4		2,621.01	7,270.72	25,491.94
5	9,891.73	2,039.36		
6	9,891.73	1,411.17		
7	9,891.73	732.76		

Part 2

1. What is the total interest paid? (2 points) \$ _____
2. What is the total cost over seven years for each \$100 you borrow? (2 points)
\$ _____
3. When you shop for a loan, you should shop for? Circle all correct answers.
(1 point each correct response)
 - a. Rate
 - b. Term
 - c. Banker's personality
 - d. Payment interval
4. Which payment schedule would cause you to pay the most interest? (1 point
each correct response)
 - a. Semi annual
 - b. Monthly
 - c. Bi-monthly
 - d. Annual
 - e. Quarterly

End of Part VI – INVESTMENT ANALYSIS

Total points possible 29

POINTS EARNED PART VI - _____

PART VII - RISK MANAGEMENT

1. Match the terms on the right with the correct description. Write the correct number in the blanks provided. (1 point each correct response)

	Description	Term
_____	Unexpected circumstances where the probability of an event occurring can be empirically determined.	1. Insurance
_____	The act of managing or controlling exposure to risk in order to meet preset objectives or risk exposure guidelines.	2. Risk
_____	Where the probability of an event occurring cannot be empirically determined.	3. Insurance Premium
_____	Economic device whereby an individual or firm substitutes a certain cost for an uncertain financial loss.	4. Uncertainty
_____	The payment to an insurance company by a policyholder to purchase and maintain an insurance policy	5. Risk Management

2. The management team of the Redrock Ranch is considering getting back into sheep production. However before they decide to do this, they want to explore the risks associated with this enterprise. You can help them by providing answers to the following questions.
- a. Using the ewe-lamb budget (page R14) in the resource material, what is the breakeven price for lambs? Round your answer to the nearest cent. (3 points)

Lamb breakeven price (\$/cwt) \$ _____

- b. Hay prices are highly variable. If the cost of hay increases by \$21.00 per ton, what is the percentage increase in per ewe cost of hay? Round to nearest hundredth of a percent 0.00%. (3 points)

Percentage increase in per ewe cost of hay _____ %

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- c. What is the percentage increase in total variable cost if the per ton cost of hay increases by \$21.00? Round to nearest hundredth of a percent 0.00% (3 points)

Percent increase in variable cost of hay _____ %

- d. A 1% change in which cost item will cause the largest percentage change in total production costs? (1 point)

3. Using the ewe-lamb and cow-calf enterprise budgets in the resource material, what does the price per pound of lamb need to be in order to provide the same per unit (per cow or per ewe) return as the cow-calf budget? Round your answer to the nearest cent. (4 points)

Breakeven lamb price \$ _____ / pound

End of Part VII – RISK MANAGEMENT

Total points possible 19

POINTS EARNED PART VII _____

PART VIII - FAMILY LIVING AND PLANNING

Review the information from the Family Living (R19 of the resource information) before answering the following questions.

1. Assume 7000 head of stocker steers and heifers were sold at an average of 900 pounds. The Redrock Ranch has family withdrawals of \$175,674. If Redrock Ranch's owners wished to assign a family living cost per hundred weight of beef sold, what would that cost be? Calculate based upon the 2% death loss. Round to nearest cent. (3 points)

\$ _____

2. Using the information in question 1, if the death loss increases to 5% and no other factors change, what would the family living cost be? Round to nearest cent. (3 points)

\$ _____

3. What percent of total family living expenses on page R19 is covered by non-farm income? Round to nearest hundredth of a percent 0.00% (3 points)

\$ _____

4. How many dollars are spent on food? (2 points)

\$ _____

5. The legal, economic and social act of determining the allocation of a person's property to appropriate heirs is defined as (1 point)

- a. a business plan.
- b. an estate plan.
- c. a transition statement.
- d. a vision statement.

6. Cattle brands help law enforcement officers identify the rightful owner of livestock. (1 point)

True False

7. If the owners of the Redrock Ranch do not develop a will, the property they own at the time of death will be distributed using which procedure? (1 point)

- a. The oldest child receives their property.
- b. The property will be divided equally among their children.
- c. The laws of dissent for the state of residence.

8. Real estate can be held in several different ways. Match the terms on the right with the correct description on the left. Write the correct **CAPITAL LETTER** in the blanks provided. (1 point for each correct response)

	Description	Method of owning real property
_____	Gives the owner the unrestricted right to sell, mortgage or dispose of real estate.	A. Tenancy in Common
_____	Property is owned by two or more owners with undivided interests.	B. Fee simple
_____	Provides owners with undivided interest with no rights of survivorship but with rights to convey, mortgage and otherwise care for as is available through fee simple ownership.	C. Co-ownership
_____	Provides owners with undivided interests and with rights of survivorship.	D. Life estate
_____	Provides owners with undivided interest and with rights of survivorship but does not allow for conveyance without consent of the other party involved.	E. Joint tenancy
_____	Entitles a person to receive income from or use of property for his/her life only.	F. Tenancy by entirety

End of Part VIII – FAMILY LIVING

Total points possible 20

POINTS EARNED PART VIII- _____

PART IX – ANALYSIS OF THE FARM BUSINESS

1. Redrock Ranch, LLC is setting up a 3-year plan including some of the options provided in this problem. Using the information below complete the table below. Round to the nearest whole dollar. (2 points each correct response)

Increase to total assets = 8.5%
 Current Ratio = 2.25:1
 Debt-to-Asset Ratio = 0.30:1
 Rate of Return on Assets = 18%
 Current assets as percentage of total assets = 5.5%

Total Assets (12/31/2010)	\$ 21,954,611
Projected Total Assets	\$
Projected Total Liabilities	\$
Projected Total Equity	\$
Projected Return on Assets	\$
Projected Current Assets	\$
Projected Current Liabilities	\$

2. Calculate the following Liquidity and Solvency financial ratios using the Redrock Ranch balance sheets (page R4). For the Financial Efficiency Ratios, calculate the expense items listed below using the data provided for calculations in the first column. Calculate the Financial Efficiency Ratios as a percent. Round ratios and percentages to two decimal places. (2 points each correct response)

<i>LIQUIDITY</i>	Beginning	Ending
• Working Capital	\$	\$
<i>SOLVENCY</i>		
• Debt-to-Equity Ratio	:1	:1
• Equity-to-Asset Ratio	:1	:1
<i>FINANCIAL EFFICIENCY RATIOS</i>	Data for calculations	2010
• Operating-Expense Ratio	\$5,214,059	%
• Depreciation-Expense Ratio	\$88,796	%
• Interest-Expense Ratio	\$673,309	%
• Net Farm Income from Operations Ratio	\$510,032	%

3. Evaluate each of the following statements as it relates to an analysis of the Redrock Ranch business. Write a (+) on the blank provided before each true statement. Write an (O) on the blank before each false statement. (1 point each correct response)

- _____ The current ratio increased from the beginning to the end of the year.
- _____ The equity to asset ratio has improved from beginning to the end of the year.
- _____ Total liabilities have increased from beginning to the end of the year.
- _____ All existing livestock enterprise budgets indicate profitability.
- _____ For Redrock Ranch as a whole, cash is adequate to service short-term debt at the end of the year.

4. Evaluate each of the following statements as it relates to items that Redrock Ranch should consider for improving the business. Write a (+) on the blank provided for each statement that Redrock Ranch should consider to improve the business. Write a (O) on the blank before each statement that should not be considered. (1 point each)

- _____ Adjust the timing of livestock sales or expenses to provide a more even cash flow.
- _____ Develop written business and family goals and objectives.
- _____ Purchase an additional 10,000 acres of pasture to leverage a potential dry year.
- _____ Maximize pre-tax income.
- _____ Reduce the size of the cow-calf operation by 10% and expand elsewhere to increase revenue.

5. Use the data in the resource information (pages R15, R16 & R17); complete the following sensitivity table to determine the new return above all specified costs for the stocker enterprises on Redrock Ranch. Enter the return after adjusting for the revenue decrease or the expense increase on a per head basis. Round to the nearest two decimal places. (2 points each correct response)

Enterprise	10% Revenue Decrease	10% Total Cost Increase
Stocker Steers		
Stocker Heifers		
Stocker Spayed Heifers		

End of Part IX – ANALYSIS OF THE FARM BUSINESS

Total points possible 54

POINTS EARNED PART IX - _____

PART X - ECONOMIC PRINCIPLES

NOTE: For the multiple choice questions circle the correct response. Each correct multiple choice response is 1 point.

The Production Function

Part A: Multiple Choice

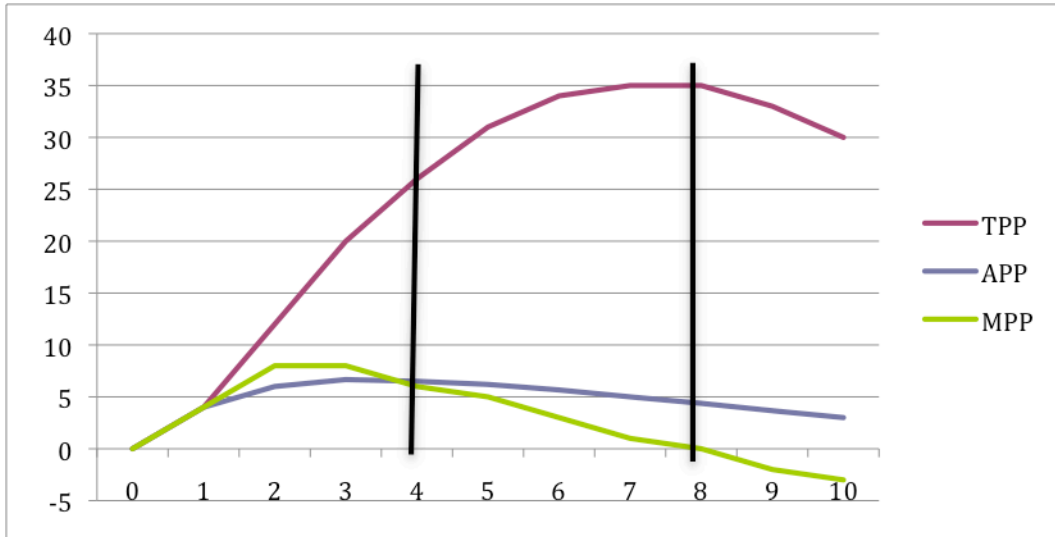
1. The primary purpose of the production function is to determine
 - a. whether or not to operate in the long run.
 - b. how to allocate resources throughout a business.
 - c. how much to produce.
 - d. All of the above
2. What are the two economic principles that make up the production function? (Circle 2 answers)
 - a. Law of diminishing returns
 - b. Opportunity cost
 - c. Law of production
 - d. Law of diminishing physical output
3. What does marginal cost measure?
 - a. Change in cost from one enterprise to another
 - b. Output cost from production at a specified level of inputs
 - c. Change in the cost by adding another unit of input
 - d. Change in total cost to produce another unit of output
4. What does stage two in a production function graph determine?
 - a. The beginning point of increasing returns
 - b. The stage where you should not produce
 - c. The lowest point of increasing marginal returns
 - d. The amount of variable input to use.
5. The point on a production function graph where marginal cost equals marginal revenue is where
 - a. losses will be the greatest.
 - b. profits will be the greatest.
 - c. costs are minimized.
 - d. production is maximized.

Part B: Fill in the Chart and answer the questions following the chart.

The data below represents hay production in a sub-irrigated hay field. Horses are used extensively in the livestock operations. They are trying to determine how many total tons of horse hay may be produced, but they need to know the optimal quantity of variable input. Round to the nearest two decimal places. (2 points per answer in the table)

Complete the following chart by filling in the blanks:

<i>Variable input</i>	<i>TPP</i>	<i>APP</i>	<i>MPP</i>
0	0	0	0
1	4	4	
2	12	6	
3	20	6.67	
4	26	6.50	
5	31	6.20	
6	34		
7	35		
8	35		
9	33		
10	30		



1. In what stage should this rancher produce?
 - a. Always in stage 1
 - b. Always in stage 2
 - c. Always in stage 3
2. Where do stage 2 and stage 3 separate?
 - a. Where $MPP = 0$ and/or TPP is maximized.
 - b. Where marginal MPP is maximized.
 - c. Where MC equals MR .
3. Where do stage 1 and stage 2 separate?
 - a. When MPP is greater than APP .
 - b. When total production is maximized.
 - c. When APP equals MPP .
4. The addition of more input beyond 8 units will cause the Total Production to
 - a. increase.
 - b. decrease.
 - c. stay the same.

End of Part X – ECONOMIC PRINCIPLES

Total points possible 40

POINTS EARNED PART X _____