

Hollow

Economics 330
Spring 2005
Exam 2

Name Key

Section: 9:00 10:00

Part I: Multiple Choice. Circle the best answer (3 points each).

1. Reasons why you would replace machinery would include:
 - a. it is too small.
 - b. it is worn out and not dependable.
 - c. it is obsolete.
 - d. costs such as repairs for the present machine are increasing.
 - e. all the above are reasons.

2. Methods for acquiring machinery would include:
 - a. purchase or buy
 - b. lease
 - c. joint ownership
 - d. custom hire
 - e. all of the above are methods

3. Budgets are a common tool used in analyzing farm alternatives or decisions. Examples of budgets could include:
 - a. a partial budget.
 - b. a whole farm budget.
 - c. an crop budget such as soybeans.
 - d. a livestock budget such as cattle feeding.
 - e. All of the above are types of budgets.

4. A competitive enterprise is:
 - a. where if you increase the production of one enterprise, you can also increase the production of another enterprise.
 - b. where if you increase the production of one enterprise, you will need to reduce the production of another enterprise.
 - c. where if you increase the production of one enterprise, you will not impact the production of another enterprise.
 - d. None of the above represents a competitive enterprise.

5. In a whole farm budget:
 - a. you only evaluate the costs and return for the items that are changing.
 - b. you evaluate all costs and all revenues for the entire operation.
 - c. you only evaluate the fixed costs for the operation.
 - d. you only compare the return for the items that are changing.
 - e. you evaluate the revenue for the entire operation.

50

6. Which of the following is an example of a current (short term) liability?
- breeding livestock value
 - feed in storage
 - payment on land loan which is due in the next 12 months
 - account payable for feed purchased at local feed company
 - c and d above
7. The degree to which a business' total assets adequately cover or exceed the total liabilities is referred to as:
- bankruptcy
 - solvency
 - profitability
 - net worth
 - liquidity
8. If a business has a debt/asset ratio which is greater than two:
- it is in good financial shape.
 - it is not solvent; it is bankrupt, or debt exceeds asset.
 - the short term financial picture is tight but it looks good in the longer run.
 - the net farm income from operations has been at good levels in the past.
 - none of the above apply.
9. Which of the following best describes a "particular" balance sheet?
- it shows changes in profit from assets used in the business
 - it shows the assets and liabilities over the last accounting period
 - it shows assets and liabilities at a point in time
 - it shows business profit for the last accounting period
 - none of the above
10. Which of the following is an example of a noncurrent asset?
- breeding livestock value
 - feed in storage
 - loan on farm machinery
 - account payable
 - b and d above
11. When evaluating the solvency of a farm business which is applying for a loan, a lender would be most likely to look at the farms:
- checking account balance
 - net farm income from operations
 - cost value net worth
 - market value net worth
 - value of feed in storage

The next three questions (12-14) are based on the following information.

You are looking into purchasing a new tractor for your farming business. You have pulled together the following information and want to calculate some ownership (fixed) and operating (variable) costs.

| | | |
|----------------------|---|----------------------|
| PTO Horsepower | = | 100 |
| Interest rate | = | 8% |
| Purchase price | = | \$60,000 |
| Years of useful life | = | 12 years |
| Taxes | = | 1% of new cost |
| Salvage value | = | \$6,000 |
| Labor cost | = | \$8.00/hour |
| Labor amount (use) | = | 300 hours |
| Fuel cost | = | \$1.00 per gallon |
| Fuel use (gallon/hr) | = | .06 x PTO Horsepower |

12. In a budget for machine operating cost, what is the fuel cost per acre? (You will use the tractor on 150 acres.)

- a. \$1.00
- b. \$12.00
- c. \$6.00
- d. \$3.00
- e. none of the above

$$\begin{array}{r} 100 \\ \times .06 \\ \hline = 6 \text{ gal/hr} \end{array}$$

300 hrs
150 Acres
2 hr/Acre

13. In a budget for machine ownership, what is the annual interest cost?

- a. \$5,280
- b. \$2,640
- c. \$2,400
- d. \$4,800
- e. none of the above

60,000 66,200

14. In a budget for machine ownership costs, what is the annual depreciation?

- a. \$5,000
- b. \$4,500
- c. \$5,500
- d. \$2,750
- e. none of the above

15. Which of the following would be best valued at purchase cost on the balance sheet? (Balance sheet is to reflect financial position at the time the balance sheet is completed.)

- a. land
- b. grain in storage which was produced on the farm
- c. supplies such as fuel, etc.
- d. machinery
- e. equipment

The next five questions (16-20) are based on the following information for Cy's Balance Sheet.

| | |
|------------------------|-----------|
| Fixed liabilities | \$100,000 |
| Current liability | 60,000 |
| Intermediate liability | 80,000 |
| Total liabilities | 240,000 |
| Fixed assets | 200,000 |
| Current assets | 50,000 |
| Intermediate assets | 100,000 |
| Total assets | 350,000 |

16. What is Cy's current ratio? (As calculated for Cy Acres in class and in the text.)
- 1.458
 - .833
 - 1.25
 - 2.0
 - none of the above
17. What is Cy's debt structure?
- 58.33
 - 25.0
 - 14.5
 - 19.7
 - 33.34
18. What is Cy's working capital?
- \$10,000
 - \$10,000
 - \$50,000
 - \$20,000
 - none of the above
19. What is Cy's debt to equity (~~debt/equity~~) ratio?
- 1.25
 - 2.0
 - 2.18
 - .6857
 - none of the above
20. What is Cy's debt-to-asset (~~debt/asset~~) ratio?
- 1.458
 - .50
 - .6857
 - .469
 - none of the above

TA - TL
350 - 240

The following is for the next two questions.

You have the option of purchasing a self-propelled combine or having your neighbors, Joyce and her daughter Heather, custom harvest your crop. They will custom harvest the crop for \$30.00 per acre. The purchase cost of the combine is \$110,000. Given this, you calculate the annual fixed ownership cost to be \$22,000 per year. The operating cost per acre if you harvest the crop yourself is \$14 per acre.

21. Given this, how many acres are needed before you can justify ownership? (Don't consider any factors such as potential yield differences, etc.)
- at least 733.33 acres
 - at least 1375 acres
 - at least 1571.43 acres
 - at least 500 acres
 - none of the above
- $$\frac{22,000}{30 - 14} = 16$$
22. With further calculations, you conclude that if you have Joyce and Heather custom harvest your crop you will always have access to the latest harvesting technology. Your analysis indicates you will harvest four more bushels per acre with custom harvesting. You project that the corn price will be \$2.50 per bushel. Given this, what is the new break even number of acres?
- at least 3,666.67 acres
 - at least 1,047.62 acres
 - at least 846.15 acres
 - at least 623 acres
 - none of the above
- $$\frac{4}{2.50} = 1.6$$

The following seven questions (23-29) are based on the attached "Ewe Flock-One Ewe" budget.

23. Given the attached "Ewe Flock" budget, what is the income (gross revenue) per ewe, if the market lamb price is \$105 per hundred pounds and the cull ewe value is \$8.00 per ewe in the flock. Ewe productivity is as reflected in the budget.
- \$63.00
 - \$170.75
 - \$162.75
 - \$30.74
 - None of the above.
24. For the "Ewe Flock" budget, the corn costs of \$19.50 was:
- raised on the farm.
 - purchased.
 - Can't determine with the information provided.
 - None of the above.
25. How much supplement and mineral is fed per ewe?
- 10 bu.
 - 100 lbs.
 - .4 tons
 - 125 lbs.
 - None of the above.
- 155

26. For the 'Ewe Flock' budget, if the number of lambs born per ewe was 1.8 rather than the 1.6 as reflected in the budget how, many lambs are marketed per ewe if the other production information is as provided in the budget?
- a. 1.40
 b. 1.46
 c. 1.44
 d. 1.42
 e. None of the above.
27. The interest cost of \$2.71 per ewe as reflected on the "Ewe Flock" budget is an example of:
- a. using opportunity cost to place a value on resources
 b. non-farm costs
 c. family living costs
 d. fixed costs
 e. None of the above.
28. What is the corn cost per bushel for the "Ewe Flock" budget?
- a. \$2.25
 b. \$1.95
 c. \$2.00
 d. None of the above.
 e. Can't determine with information provided.
29. What is the breakeven selling price for all costs given the budget information provided? (The information is as provided in the budget.)
- a. \$108.55 per cwt. or \$1.09 per lb.
 b. \$90.33 per cwt. or \$.90 per lb.
 c. \$103.39 per cwt. or \$1.03 per lb.
 d. \$85.16 per cwt. or \$.85 per pound
 e. None of the above.
30. In 2003 the level of total assets for the typical farm on the Iowa Farm Business Farm Management Association was:
- a. \$575,429
 b. \$719,429
 c. \$879,246
 d. \$629,475
 e. None of the above.
31. During Spring Break, which is a bit more than a week from now,
- a. you are going to get some time to get yourself fully charged and come back raring to go and finish off the semester full of energy.
 b. You are going to do some fun things.
 c. You are going to do some things that you enjoy.
 d. HINT: You are going to do all the above is the best answer.
 e. You are going to do all the above.

$$\begin{array}{r} 180 \\ -20 \\ \hline 160 \\ -18 \\ \hline \end{array}$$

$$\begin{array}{r} 168.26 \\ -8.20 \\ \hline 100.26 \end{array}$$

Part II. Problems, etc.

1. (8 pts.) Use your knowledge of balance sheets and ratio analysis to complete the following balance sheet.

The current asset/current debt ratio is 3.0.

Your assets are structured so that total assets are four times the current assets.

Debt to asset ratio = .4

Fixed assets represent 40 percent of total assets.

Intermediate liabilities represent one half (50%) of the intermediate assets.

| <u>Assets</u> | | <u>Liabilities</u> | |
|---------------------------|-------------------|--------------------------------|-------------------|
| Total Current Assets | \$ <u>150,000</u> | Total Current Liabilities | <u>50,000</u> |
| Total Intermediate Assets | <u>210,000</u> | Total Intermediate Liabilities | <u>105,000</u> |
| Total Fixed Assets | \$ <u>240,000</u> | Total Long Term Liabilities | <u>85,000</u> |
| Total Assets | \$ <u>600,000</u> | Total Liabilities | \$ <u>240,000</u> |
| | | Net Worth (Owner Equity) | <u>360,000</u> |

BONUS: (2 points)

What is the name of the person sitting next to you in this class?

The Old Sage Says:

- A smile is a gently curved line that sets a lot of things straight.
- Well done is better than well said.
- Calculating business analysis ratios is a lot like twirling a baton, turning handspings or eating with chopsticks. It looks easy until you try it.