Economics 330  
Fall 2007  
Exam 2  

Farm Information Systems

A. Circle the correct answer. Put a square around your second choice if you wish. (4 pts. each)

1. On a net worth statement, fixed assets are sometimes separated into:
   a. current and intermediate assets  
   b. intermediate and long-term assets  
   c. current and long-term assets  
   d. current, intermediate and long-term assets

2. “Grain sales” is an example of ________________.
   a. an asset account  
   b. a liability account  
   c. an income account  
   d. an expense account

3. The purpose of the recommendations from the Farm Financial Standards Council is to:
   a. increase farmers’ net worth  
   b. encourage more farmers to use computer accounting software  
   c. increase uniformity in how financial statements and ratios for farmers are prepared  
   d. allow more flexibility in how financial statements and ratios for farmers are prepared

4. The recommended approach for valuing breeding livestock for preparing a net worth statement is:
   a. use the same price per pound as for market livestock  
   b. use average selling values from a recent auction at a local sale barn  
   c. reduce their value 10% from their value at the beginning of the year  
   d. choose a certain value per head for each type of livestock and use it year after year

5. For filing income taxes the I.R.S. allows farmers to use:
   a. cash accounting only  
   b. accrual accounting only  
   c. either cash or accrual accounting  
   d. either single-entry or double-entry accounting

6. When the market value of a capital asset such as land or machinery increases or decreases, the gain or loss is included in net farm income:
   a. at the end of the accounting year  
   b. only when the asset is sold, if ever  
   c. only under accrual accounting  
   d. only if it is a gain (positive)

7. Which farm business analysis ratio measures the profitability of all the capital invested in the farm business, including borrowed funds?
   a. debt-to-asset ratio  
   b. interest rate  
   c. rate of return on equity (ROE)  
   d. rate as return on assets (ROA)
8. Which type of income tax is collected on net farm profit before any personal deductions or exemptions are subtracted?
   a. self-employment and medicare tax
   b. federal income tax
   c. state income tax
   d. capital gains tax

9. Depreciation expense for a farm income tax return:
   a. will usually be very close to the same value used for business analysis
   b. reflects an accurate estimate of how much an asset decreases in value each year
   c. can be used to adjust the amount of taxable income reported each year, especially if Section 179 expense method depreciation is used
   d. is always less than economic depreciation

B. Rob and Julie own a small acreage and rent some land on which they raise corn and feed out feeder pigs. Here are some of their financial statements for last year.

<table>
<thead>
<tr>
<th>Statement of Cash Flows</th>
<th>Cash In</th>
<th>Cash Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales of corn</td>
<td>$67,000</td>
<td>Corn Expenses</td>
</tr>
<tr>
<td>Sales of hogs</td>
<td>56,000</td>
<td>Hog Expenses</td>
</tr>
<tr>
<td>New loans received</td>
<td>50,000</td>
<td>Loan principal paid</td>
</tr>
<tr>
<td>Nonfarm income</td>
<td>0</td>
<td>Withdrawals for living</td>
</tr>
<tr>
<td>Total cash in</td>
<td>$173,000</td>
<td>Total cash out</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Net Worth Statements</th>
<th>Beginning of Year</th>
<th>End of Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash on hand</td>
<td>$5,000</td>
<td>$8,000</td>
</tr>
<tr>
<td>Corn in storage</td>
<td>40,000</td>
<td>52,000</td>
</tr>
<tr>
<td>Market hogs</td>
<td>26,000</td>
<td>23,000</td>
</tr>
<tr>
<td>Machinery and equipment</td>
<td>80,000</td>
<td>72,000</td>
</tr>
<tr>
<td>Land (30 acres)</td>
<td>120,000</td>
<td>128,000</td>
</tr>
<tr>
<td>Total assets</td>
<td>$271,000</td>
<td>$283,000</td>
</tr>
<tr>
<td><strong>Liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts payable (seed corn)</td>
<td>$10,000</td>
<td>$14,000</td>
</tr>
<tr>
<td>Short-term operating line</td>
<td>65,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Loan on acreage:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>due in 12 mo.</td>
<td>8,000</td>
<td>8,000</td>
</tr>
<tr>
<td>due beyond 12 mo.</td>
<td>42,000</td>
<td>36,000</td>
</tr>
<tr>
<td>Total liabilities</td>
<td>$125,000</td>
<td>$118,000</td>
</tr>
<tr>
<td><strong>Net worth (market)</strong></td>
<td>$146,000</td>
<td>$165,000</td>
</tr>
</tbody>
</table>
10. Calculate Rob and Julie’s accrual net farm income from the values on the previous page. (10 pts.)

<table>
<thead>
<tr>
<th>Cash income</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Accrual adjustments to income</td>
<td></td>
</tr>
<tr>
<td>Adjusted gross income (total)</td>
<td></td>
</tr>
<tr>
<td>Cash expenses</td>
<td></td>
</tr>
<tr>
<td>Accrual adjustments to expenses</td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>$8,000</td>
</tr>
<tr>
<td>Adjusted expenses (total)</td>
<td></td>
</tr>
<tr>
<td>Net farm income (accrual)</td>
<td></td>
</tr>
</tbody>
</table>

11. Show your work for the following questions. Use the financial statements on the previous page. (10 pts.)

- How much were their current assets at the end of the year? $_____________
- How much were their current liabilities at the end of the year? $_____________
- How much did their net worth increase from the beginning of the year to the end? $_____________
- How much of the change came from adjustments to the market value of their land? $_____________
- How much came from retaining net farm income in the business? $_____________

12. Give one measure of their solvency, including the name and numerical value. (3 pts.)

- How did their solvency compare to solvency for typical Iowa farms?

13. Give one measure of their liquidity, including the name and numerical value. (3 pts.)

- How did their liquidity compare to liquidity for typical Iowa farms?
C. Answer as indicated.

14. A farm’s **market value net worth** can increase over time in 3 general ways. What are they? (6 pts.)
   a. ______________________________________________________________
   b. ______________________________________________________________
   c. ______________________________________________________________

15. Describe briefly the purpose of each of the following financial statements, and what it shows. (12 pts.)
   a. net worth statement
   b. net farm income statement
   c. statement of owner equity
   d. statement of cash flows

16. What is the proper account code for each of the following cash transactions? (2 pts. each)

<table>
<thead>
<tr>
<th>Inflows</th>
<th>Outflows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>100</td>
</tr>
<tr>
<td>Investment</td>
<td>200</td>
</tr>
<tr>
<td>Financing</td>
<td>300</td>
</tr>
<tr>
<td>Nonfarm</td>
<td>400</td>
</tr>
</tbody>
</table>

   ______ funds advanced on a line of credit by a bank
   ______ a yearly lease payment on a combine
   ______ proceeds from the sale of 40 acres of land
   ______ prepayment of $10,000 for future feed bills
   ______ sale of milk produced

17. Indicate with the proper letter which business analysis area each of the following is a measure of: (2 pts. each)

   A. volume of production
   B. volume of resources
   C. physical efficiency
   D. economic efficiency

   ______ value of total farm assets
   ______ value of livestock production per $1 of feed fed
   ______ number of crop acres farmed
   ______ pounds of milk produced per cow per year
   ______ gross farm revenue
1. b  
2. c  
3. c  
4. d  
5. c  
6. b  
7. d  
8. a  
9. c  
10.  

<table>
<thead>
<tr>
<th>Cash income</th>
<th>($67,000 + $56,000) =</th>
<th>$123,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accrual adj. to income</td>
<td>($52,000 – $40,000) + ($23,000 – $26,000) =</td>
<td>$9,000</td>
</tr>
<tr>
<td>Adjusted gross income (total)</td>
<td></td>
<td>$132,000</td>
</tr>
<tr>
<td>Cash expenses</td>
<td>($51,000 + $27,000) =</td>
<td>$78,000</td>
</tr>
<tr>
<td>Accrual adjustments to expenses (if any)</td>
<td>($14,000 – $10,000) =</td>
<td>$4,000</td>
</tr>
<tr>
<td>Depreciation</td>
<td></td>
<td>$8,000</td>
</tr>
<tr>
<td>Adjusted expenses (total)</td>
<td></td>
<td>$90,000</td>
</tr>
<tr>
<td>Net farm income (accrual)</td>
<td>($132,000 – $90,000) =</td>
<td>$42,000</td>
</tr>
</tbody>
</table>

11. $8,000 + $52,000 + $23,000 = $83,000  
    $14,000 + $60,000 + $8,000 = $82,000  
    $165,000 – $146,000 = $19,000  
    $128,000 – $120,000 = $8,000  
    $19,000 – $8,000 = $11,000  

12. Net worth: $165,000  
    Debt-to-asset ratio: 118,000/283,000 = 42%  
    About average  

13. Working capital: $83,000 – $82,000 = $1,000  
    Current ratio: 83,000/82,000 = 1.01  
    Worse than average  

14. a. retained net farm income  
    b. outside income invested  
    c. increase in value of capital assets (e.g. land)
15.  a. What the business owns and what it owes – assets, liabilities and net worth.
    b. Value of what was produced and what it cost to produce it.
       gross income – total expenses = net income.
    c. How net worth changed during the year.
       Beginning net worth + net farm income – withdrawals = ending net worth
    d. Sources and uses of cash
       cash in – cash out = net cash flow

16.  300, 600, 200, 600, 100

17.  B, D, B, C, A