Farm Information Systems

Circle the best answer. Put a square around your second choice, if you wish. You will receive half credit if your second choice is right. (4 points each)

1. Another name for the Net Worth Statement is:
   a. Balance Sheet
   b. Profit and Loss Statement
   c. Net Farm Income Statement
   d. Statement of Owner Equity

2. A chart of accounts in a farm accounting system is:
   a. a list of all the checking and savings accounts the farm has
   b. a list of all the people or businesses to whom the farm writes checks
   c. a list of all the people or businesses to whom the farm owes money
   d. a list of all the categories of income and expenses a farm has

3. All farmers must keep financial records for the purpose of:
   a. filing an income tax return
   b. completing credit applications
   c. having accurate information for future budgets
   d. determining which enterprises were most profitable

4. Economic efficiency is affected by all of the following except:
   a. marketing ability (selling prices achieved)
   b. debt-to-asset ratio (solvency)
   c. cost of resources (purchase or rental price)
   d. physical efficiency

5. One advantage of double-entry accounting over single-entry accounting is:
   a. it takes less time and effort to use
   b. net farm income is generally higher
   c. net worth statements are always up-to-date
   d. transactions are automatically allocated among enterprises

6. The purpose of making accrual adjustments to gross revenue at the end of the accounting year is:
   a. to include products produced in the previous year that were sold this year
   b. to include the value of products produced that year but not sold yet
   c. to include income from selling capital assets for more than their cost value
   d. to include the value of farm raised produce consumed at home
7. Market value net worth will increase as a result of all the following except:
   a. paying back more loans than you borrow
   b. earning more net farm income than you withdraw for family living and income taxes
   c. valuing land at more than you did last year
   c. inheriting assets that become part of the farm business

8. Measures of financial structure such as return on assets and debt-to-asset ratio should be calculated using _______ values for assets:
   a. cost
   b. market
   c. both cost and market
   d. accrual

9. The Iowa Farm Business Association does not:
   a. help farmers complete their income tax returns
   b. manage rented farms for absentee owners
   c. provide members with farm business analysis values for farms similar to theirs
   d. sell farm accounting software

**Show your work where appropriate:**

10. Give one example of each of the following types of farm business analysis measures (you do not need to give numerical values).

   a. farm size ______________________________________________________________
   b. physical efficiency ______________________________________________________
   c. economic efficiency _____________________________________________________
   d. liquidity _______________________________________________________________
   e. profitability ____________________________________________________________

11. For each type of financial statement, give the fundamental accounting relationship that it summarizes.

   net worth statement ______________________________________________________
   net income statement _____________________________________________________
   statement of cash flows __________________________________________________
   statement of owner equity ________________________________________________

(10 points)

(8 points)
12. A farm business with a debt-to-asset ratio of .40 had a return on equity (ROE) of 9% on the year. If their average interest rate paid on debt capital was 7.5%, what was their return on assets (ROA)?

(4 points)

\[ \] \%

13. What cost value would you give each of the following assets on a current balance sheet? (9 points)

a. 10,000 bushels of soybeans. The nearest elevator is paying $7.00 per bushel cash price, but it would cost you $.05 per bushel to deliver them.

\[ \] 

b. A machine shed erected 5 years ago at a cost of $30,000. You use 20-year, straight-line depreciation.

\[ \] 

c. 40 acres of farmland purchased for $80,000 in 1993, which would sell for $110,000 today.

\[ \] 

14. On November 1 you paid down the balance on your farm operating loan to $34,500, and paid all the interest due up to that time. How much would your accrued interest be on January 1 if the annual interest rate is 7%? (4 points)

\[ \] 

15. Give an example of an internal transaction that might be entered for the purpose of enterprise accounting in a farm business. (5 points)

Example: ..........................................................................................................

Income to (enterprise): .................................................................................

Expense to (enterprise): .................................................................................
16. Enter the value of each of the following transactions in the statement of cash flows form shown below. Some categories may have more than one entry: (14 points)

a. borrowed $70,000 to buy feeder pigs
b. bought feeder pigs for $50,000
c. bought feed for $40,000
d. sold pigs for $100,000
e. sold feed mill for $20,000
f. repaid loan $70,000 principal and $5,000 interest
g. withdrew $20,000 for family living expenses

<table>
<thead>
<tr>
<th>Cash Inflows</th>
<th>Cash Outflows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td></td>
</tr>
<tr>
<td>Financing</td>
<td></td>
</tr>
<tr>
<td>Capital assets</td>
<td></td>
</tr>
<tr>
<td>Nonfarm</td>
<td></td>
</tr>
</tbody>
</table>

Here are the beginning and ending net worth statements for the same farm as above.

<table>
<thead>
<tr>
<th>Assets (cost value)</th>
<th>Beginning</th>
<th>Ending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash on hand</td>
<td>$20,000</td>
<td>$25,000</td>
</tr>
<tr>
<td>Pigs in inventory</td>
<td>30,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Feed mill</td>
<td>12,000</td>
<td>0</td>
</tr>
<tr>
<td>Buildings</td>
<td>100,000</td>
<td>95,000</td>
</tr>
<tr>
<td></td>
<td>$162,000</td>
<td>$160,000</td>
</tr>
<tr>
<td>Liabilities</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Net worth</td>
<td>$162,000</td>
<td>$160,000</td>
</tr>
</tbody>
</table>

Complete the following based on information from the cash flow and net worth statements above: (10 points)

a. cash income    $________________
b. cash expenses  $________________
c. accrual adjustment to net farm income $________________
d. depreciation   $________________
e. capital gain or loss $________________
1. A
2. D
3. A
4. B
5. C
6. B
7. A
8. B
9. B
10. a. acres, total assets, gross sales
    b. bushels/acre, pigs/litter, milk/cow, lb. feed/lb. gain
    c. crop value/acre, livestock returns/$100 feed fed, asset turnover ratio
    d. current ratio, working capital
    e. net farm income, return on assets, return on equity
11. a. assets – liabilities = net worth
    b. cash inflows – cash outflows = net cash flow
    c. beginning net worth + net farm income – nonfarm withdrawals = ending net worth
12. \((.40 \times 7.5\%) + (.60 \times 9\%) = 8.4\%\)
13. a. 10,000 bu. x \((7.00 – .05)\) = $69,500
    b. \(\frac{30,000}{20 \text{ yr}} = \frac{1,500}{\text{yr}}. \ 30,000 = (5 \times 1,500) = 22,500\)
    c. $80,000
14. $34,500 x 7\% \times 2/12 = $402.50
15. feeding raised corn to hogs
   corn
   hogs
16. |               | Cash Inflows | Cash Outflows |
    |----------------|-------------|--------------|
    | Production     | 100,000     | 40,000       |
    |                |             | 5,000        |
    |                |             | 50,000       |
    | Financing      | 70,000      | 70,000       |
    | Capital assets | 20,000      |              |
    | Nonfarm       | 20,000      | 20,000       |

    a. $100,000
    b. $95,000
    c. \(+40,000 – 30,000 = +$10,000\)
    d. $100,000 – 95,000 = $5,000
    e. $20,000 – 12,000 = $8,000