LAND, LABOR, CAPITAL AND MACHINERY

A. Circle the best answer. You may indicate your second choice with a square. (4 points each)

1. When the Farm Service Agency (FSA) provides a “marketing loan” to a grain farmer:
   a. the farmer must have less than a maximum net worth
   b. the farmer must be too risky to obtain a loan from a bank or Farm Credit Services
   c. FSA will partially forgive the loan if the market price is lower than the USDA loan rate
   d. FSA will partially repay the bank that made the loan if the farmer can’t pay it back

2. The advantage of a “balloon payment” loan over a conventional loan repayment plan is:
   a. less total interest is paid
   b. the size of the payments is flexible
   c. the payments are smaller, except for the final one
   d. the interest rate is flexible

3. An agreement in which a farmer makes payments for the use of a piece of machinery but does not actually own it unless the purchase option is exercised is called:
   a. a machinery lease
   b. a rollover purchase plan
   c. an installment sales contract
   d. a short-term rental agreement

4. Which type of agreement shares price and yield risk between the tenant and landowner, but does not require the landowner to pay any operating expenses?
   a. fixed cash rent lease
   b. 50-50 crop share lease
   c. flexible cash lease
   d. custom farming contract

5. New farm employees should have a performance review:
   a. only when a problem arises
   b. on a regular basis, such as once a year
   c. during the first few months on the job, but not after that
   d. during the first few months on the job, then on a regular basis

6. A large livestock farm that wants to hire an experienced nutritionist should probably recruit using:
   a. A professional agri-business placement agency
   b. Word of mouth in the local community
   c. A “help wanted” notice posted at the local co-op elevator
   d. The classified section of the Des Moines Register
7. One test to diagnose the reason why a profitable farm may be having cash flow shortages is to compare building and machinery loan principal payments to:

   a. income tax depreciation costs
   b. economic depreciation costs
   c. value of operator labor
   d. current market value of buildings and machinery

8. The last major decrease in the average value of Iowa farmland occurred in the decade of:

   a. the 1960s
   b. the 1970s
   c. the 1980s
   d. the 1990s

9. A cash flow budget does not include:

   a. purchases of capital assets
   b. depreciation on capital assets
   c. principal portion of loan payments for capital asset purchases
   d. family living expenses

10. Which of the following agricultural lenders is organized as a cooperative?

    a. Farm Service Agency
    b. Farm Credit Services
    c. Commercial Bank
    d. Iowa Agricultural Development Authority

11. One purpose of a cash flow budget is to estimate:

    a. the value of operating loan funds that will be needed and when
    b. net farm income for the coming year
    c. a farm’s level of solvency
    d. break-even cost of production

12. The share of crops that go to the landowner under a crop-share lease is determined by:

    a. state law
    b. the lender who provides the operating loan
    c. the share of variable costs paid or contributed by each party
    d. the share of total costs paid or contributed by each party

13. A farmer with a smaller than average number of acres to harvest and no extra help could probably minimize harvesting costs by:

    a. contracting with a custom operator
    b. leasing a combine for a year at a time
    c. owning his own combine for 5-10 years
    d. purchasing a new combine each year under a “rollover” plan
B. Show your work for the following problems.

14. The following is an enterprise budget for one acre of corn. Use it to answer the questions below.

<table>
<thead>
<tr>
<th>Gross Revenue</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>150 bushels @ $2.50</td>
<td>$375</td>
</tr>
<tr>
<td></td>
<td>USDA direct payment</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$400</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Costs (except land)</th>
<th>Variable</th>
<th>Fixed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seed</td>
<td>$34</td>
<td>$0</td>
</tr>
<tr>
<td>Fertilizer &amp; lime</td>
<td>70</td>
<td>0</td>
</tr>
<tr>
<td>Pesticides</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>Crop insurance</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Machinery</td>
<td>26</td>
<td>32</td>
</tr>
<tr>
<td>Labor</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>$168</td>
<td>$56</td>
</tr>
</tbody>
</table>

a. How much profit would the tenant earn under each of the following agreements? (3 points each)

1) fixed cash rent of $130? $ __________/acre

2) flexible cash rent equal to 35% of gross revenue? $ __________/acre

3) traditional 50-50 crop share lease $ __________/acre

4) custom farming contract at $100 per acre $ __________/acre

b. If the discount (capitalization) rate for farmland is currently 5%, how much would the estimated market value of the land in the budget be, using the income approach to valuation? Assume that land ownership costs (property taxes and upkeep) would be $20 per acre annually? (4 points)

$ __________/acre

c. What other factors might cause the actual selling price of the land to be higher than the value indicated by the income approach? (4 points)
15. A farm business has a line of credit from the local bank with a maximum balance of $100,000 and an annual interest rate of 6%. If they borrow $30,000 on March 1 and $24,000 on May 1 against their line of credit, and make a payment of $40,000 on December 1, how much will be allocated to interest and how much to principal? 

(5 points)

$_____ interest

$_____ principal

C. Answer Briefly

16. J and K Farms can lease a new combine for 5 years for $30,000 per year with the first payment due on delivery of the combine. They can also buy the same combine now for $160,000 with a dealer loan for a down payment of $40,000 and four annual loan payments of $36,000 each, principal and interest included. 

(15 points)

a. Compare the effects of both plans on the farm’s liquidity (cash flow).

b. How would each plan affect their solvency measures, such as debt/asset ratio and net worth?

c. How would each plan affect their income tax deductions?

17. You recently hired a 20-year old from the neighboring county to help you with your 2,500 per acre cash grain farm. She will mostly do tillage operations in the field and drive a grain truck. After three weeks on the job a bearing breaks on the tandem disk she has been pulling. You can tell that the bearing hasn’t been greased for a long time, even though you expected her to do that. How would you handle the situation? 

(5 points)
Economics 330
Fall 2005
Exam 3

A.
1. c  
2. c  
3. a  
4. c  
5. d  
6. a  
7. b  
8. c  
9. b  
10. b  
11. a  
12. d  
13. a  

B.

14 a.
   \[400 - 168 - 56 - 130 = \$46/acre\]
   Rent = .35 x 400 = \$140
   \[400 - 168 - 56 - 140 = \$36/acre\]
3. \(.5 \times G.R. - .5 \times (34 + 70 + 32 + 6) - 26 - 56 = \$
   \[200 - 71 - 26 - 56 = \$47/acre\]
4. $100 – machinery and labor
   \[100 - 26 - 32 - 24 = \$18/acre\]

14 b.
\[400 - 168 - 56 - 20 = \$156 \text{ return to land}\]
\[\frac{\$156}{.05} = \$3,120/acre\]

14 c.
Potential for nonfarm uses, buildings, local competition for land, and proximity to markets.

15.
\[\$30,000 \times 6\% \times 9/12 = \$1,350\]
\[\$24,000 \times 6\% \times 7/12 = \$840\]
\[\$2,190 \text{ interest}\]
\[\$37,810 \text{ principal}\]

16.
a. Lease would decrease liquidity less because the payments are smaller.
b. Lease would not show up as an asset or liability, so ratio d/a and net worth would not change. Loan would increase the debt-to-asset ratio. Net worth would increase as the loan is paid off.
c. Lease payments are deductible. No depreciation. Loan interest is deductible. Depreciation is deductible if they buy the combine.

17.
- check bearings with her
- show her how to grease them
- explain cause of problem
- make it clear that it is her responsibility
- watch her perform the duty