Land, Labor, Capital and Machinery

A. Circle the best answer. Put a square around your second choice, if you wish (half credit).

(4 pts. each)

1. Under a custom farming agreement, the tenant/operator pays _______ of the seed, fertilizer, and pesticide costs, typically.
   a. none
   b. one-half
   c. all
   d. varies by region

2. An advantage to the borrower of obtaining operating capital under a “line of credit” instead of with several single-payment loans is:
   a. the borrower pays interest on loan funds for only the time they are actually used
   b. the interest rate is usually higher
   c. expectations about how much is repaid and when are more definite
   d. less employee time and overhead cost is involved

3. Advertisements to fill farm employee positions should:
   a. be short, since newspapers charge by the word for classified ads
   b. not mention specific duties, so as to not scare off potential applicants
   c. try to make the position and location sound desirable
   d. quote the exact salary offered

4. Under which type of farm lease do the tenant and landowner share the risk of low prices or low yields, but not the risk of higher input costs?
   a. fixed cash
   b. flexible cash
   c. crop-share
   d. custom farming

5. One quick and easy measure of a farm’s liquidity is:
   a. total debt-to-asset ratio
   b. working capital
   c. return on assets
   d. net worth

6. A “rollover plan” allows a farmer to acquire machinery:
   a. for one year, then trade for a new one
   b. that has been damaged in an accident
   c. for a fixed annual payment, without owning it
   d. by making a series of annual principal and interest payments
7. Farm employers are not required to:
   a. pay the legal minimum wage rate or higher
   b. pay overtime wage rates after 40 hours per week
   c. check that foreign employees have legal work permission
   d. withhold income and social security taxes for employees under 21

8. Under which repayment plan would the first payment (principal and interest) for an amortized loan be smallest?
   a. even total payments
   b. even principal payments
   c. even total payments, plus a 50% balloon payment at the end
   d. even principal payments, plus a 50% balloon payment at the end

9. In which type of livestock production agreement does the operator (farmer) provide feed, labor, facilities and operating costs in exchange for a fixed payment per head, per day?
   a. custom feeding of cattle
   b. contract finishing of feeder pigs
   c. livestock share lease
   d. custom farming

10. Most Iowa farmland is purchased by:
    a. existing farmers
    b. beginning farmers
    c. nonfarm investors
    d. the state or federal government

11. If farmland values declined by 10%, the ________ of a farm business that owned land would be affected the most.
    a. profitability
    b. efficiency
    c. solvency
    d. liquidity

B. Answer as indicated.

1. Give three reasons why a farm business might have difficulty achieving a positive cash flow even though it was earning an average or better accrual net farm income. (6 pts.)

   a.

   b.

   c.
2. Match the source of agricultural credit with the descriptions below. **(2 pts each)**

- A. Commercial Bank
- B. Farm Credit System
- C. Farm Service Agency
- D. Commodity Credit Corporation
- E. Supplier or Dealer
- F. Insurance Company

- Loans money only for farm real estate purchases
- Loans short-term credit to farmers who agree to store their grain
- Requires borrowers to buy its products
- Organized as a farmer-owned cooperative
- Makes or guarantees loans to higher risk farmers
- Sells bonds to raise funds to loan
- Investor owned, loans to farmers for all purposes

3. If a farm has a current ratio of 3.5 to 1.0, and its current assets are valued at $70,000, how much is its **working capital**? **(4 pts)**

   $______________________$

4. A certain farm business has had a line of credit for several years. Each year the outstanding balance gets larger. Their lender suggests refinancing 80% of the balance for 5 years using their machinery for collateral. Discuss the advantages and disadvantages to the farm business and family of doing this. **(6 pts)**

   **Advantages:**

   **Disadvantages:**
C. Land rental and purchase. Use the budget below for the following questions. Show your work if you want partial credit.

**Budget**

**Crop: Wheat in South Central Kansas**

### Revenue

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 bushels @ $3.25</td>
<td>$195.00</td>
</tr>
<tr>
<td>USDA payment</td>
<td>$22.50</td>
</tr>
<tr>
<td>Straw: .75 ton @ $40</td>
<td>$30.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$215.00</strong></td>
</tr>
</tbody>
</table>

### Variable Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inputs</td>
<td></td>
</tr>
<tr>
<td>Seed</td>
<td>$6.00</td>
</tr>
<tr>
<td>Herbicide, insecticide</td>
<td>$7.00</td>
</tr>
<tr>
<td>Fertilizer, lime</td>
<td>$32.00</td>
</tr>
<tr>
<td>Insurance, miscellaneous</td>
<td>$10.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$55.00</strong></td>
</tr>
<tr>
<td>Machinery fuel, repairs, custom hire</td>
<td>$30.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machinery ownership</td>
<td>$32.00</td>
</tr>
<tr>
<td>Labor</td>
<td>$15.00</td>
</tr>
<tr>
<td><strong>Total cost (except land)</strong></td>
<td>$132.00</td>
</tr>
<tr>
<td>Profit and return to land</td>
<td>$83.00</td>
</tr>
</tbody>
</table>

1. Under a 60-40 crop share lease, where the tenant pays 60% of all variable input costs and gets 60% of all revenue, how would profit per acre compare to renting the same land at $70 per acre, fixed cash rent? (6 pts)

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>60-40 crop share</td>
<td></td>
</tr>
<tr>
<td>$70 fixed cash rent</td>
<td></td>
</tr>
<tr>
<td><strong>$______________/acre</strong></td>
<td></td>
</tr>
<tr>
<td><strong>$______________/acre</strong></td>
<td></td>
</tr>
</tbody>
</table>
2. What would the estimated sale value of this land be? Assume that you would have to pay property taxes and upkeep of $10 per acre per year, and the capitalization (discount) rate is 5%. (4 pts.)

Net return to land $_____________/acre

Land value $ _______________/acre

3. If the USDA payments were discontinued, how much would the estimated value change? Indicate + or -. (4 pts.)

$ _________________/acre

4. If you could purchase the land with a loan of $1,000 per acre, 7% annual interest, repayable in 20 annual equal total payments at 75%, how much would the annual payment be? The amortization factor for 20 years, 7%, is .0944. (6 pts.)

Total payment $__________________

Interest $__________________

Principal $__________________

5. Based on the wheat budget, would you have a cash flow surplus or deficit after making the payment? (4 pts.)

Assume that labor is a cash cost, but machinery ownership is not. Also assume the land is 100% tillable.

$ _______________________

(indicate surplus or deficit)
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A.
1. a
2. a
3. c
4. b
5. b
6. a
7. b
8. c
9. b
10. a
11. c

B.
1a. Expansion, new investment, building inventories.
1b. Paying off debt too quickly, high nonfarm expenses.
1c. High land debt, carryover operating loans.
2. F, D, E, B, C, B, A
3. Current asset = $70,000
   Current liabilities = $20,000
   $50,000
4. **Advantages:**
   - decrease cash flow requirements
   - improve current ratio and working capital
   - increase collateral for loan funds
   **Disadvantages:**
   - pay more interest in the long run
   - machinery is encumbered
   - may not solve the original problem
   - less flexible repayment

C.
1.  
   **60-40 crop share**  
   Income: $215 x 60% = $129  
   Inputs: $55 x 60% = -33  
   Machinery operating: -30  
   Fixed costs: -47  
   rent $19/acre  
   $13/acre
   **70 fixed cash rent**  
   Income: $215  
   inputs -55  
   mach. oper. -30  
   fixed costs -47  
   rent -70

2. $83 - $10 = $73
   Net return to land $73.00/acre

   $73 = $1,460
   Land value $1,460/acre
3. \[ \frac{22.50}{0.05} = -450 \text{ acre decrease} \]

4. \[ \begin{align*}
    \text{Total payment } & = 94.40 \\
    \text{Interest } & = 70.00 \\
    \text{Principal } & = 24.40
\end{align*} \]

5. Interest, only \[ = 70.00 \]

6. Revenue: \[ = 215.00 \]
   Cash outflows:
   - inputs \[ = 55.00 \]
   - machinery oper. \[ = 30.00 \]
   - labor \[ = 15.00 \]
   - taxes \[ = 10.00 \]
   - payment \[ = 94.40 \]
   \[ = 204.40 \]

\[ 215.00 - 204.40 = 10.60 \text{ (cash surplus)} \]