Land, Labor, Capital and Machinery

A. Circle the best answer. You may put a box around your second choice. (4 pts each)

1. Under a crop-share lease, which of the following costs is usually not shared between the landowner and the tenant?
   a. fertilizer
   b. drying fuel
   c. seed
   d. hired labor

2. The Commodity Credit Corporation (CCC) loans money only to farmers:
   a. who want to purchase farmland
   b. who agree to store their grain for up to 9 months
   c. who have farmed less than 5 years
   d. who can’t get credit from a commercial bank

3. Farmland is different from other capital assets used in farming because:
   a. it depreciates over a longer period of time
   b. it is very homogeneous
   c. the total quantity available is essentially fixed
   d. more acres are always available to bring into production

4. The degree to which a farm business’ liabilities are backed up by its assets is called:
   a. liquidity
   b. solvency
   c. profitability
   d. efficiency

5. Employee performance reviews for farm workers should be held:
   a. on a regular schedule, at least once a year
   b. weekly
   c. whenever the employee skips work
   d. only for workers who have been employed less than 6 months

6. The largest portion of farm machinery costs per acre is due to:
   a. repairs
   b. fuel and lubrication
   c. depreciation and interest
   d. lease payments
7. Under a typical custom cattle feedlot contract, the feedlot operator is paid:
   a. a fixed rate per head of cattle sold
   b. a fixed rate per animal, per day in the feedlot
   c. a fixed rate per hour of labor used
   d. a fixed percent of the selling price of the animal

8. Which of the following trends could cause farmland values in Central USA to decrease:
   a. lower interest rates
   b. increased export demand for corn, wheat and soybeans
   c. discontinuation of USDA price deficiency payments
   d. mandatory use of ethanol in fuel nationwide (made from corn)

9. The total quantity of which of the following assets has increased the most in U.S. agriculture in the past 50 years:
   a. land
   b. labor
   c. capital

10. An advantage of refinancing a large carryover operating loan on a 5-year repayment note using the farm’s line of machinery as collateral is:
    a. less total interest will be paid over time
    b. the farm’s total debt-to-asset ratio will decrease
    c. the farm’s net farm income will be higher in the coming year
    d. the farm’s cash flow requirements will be lower in the coming year

11. The Farm Credit System obtains funds to loan to farmers from:
    a. selling bonds to investors
    b. deposits made by customers
    c. appropriations from the federal government
    d. premiums paid by insurance policy holders

12. What is a good benchmark value to which a farm operator could compare each of the following to identify potential cash flow problems? Give a cost item for each one, not a dollar value. (9 pts)
    a. Principal payments due in the next year for loans used to acquire depreciable assets

    ______________________________________________________________________

    b. Total cash flow requirement per acre for land (principal and interest on land debt, rent, property taxes).

    ______________________________________________________________________

    c. Family living expenses paid from farm income.

    ______________________________________________________________________
13. A Kansas farmer has developed the budget below for growing irrigated corn. The land is rented under a crop-share lease where the landowner provides the land, well and irrigation equipment, and pays for repairs/maintenance on the irrigation equipment. The tenant furnishes or pays for everything else, including pumping fuel and oil.

<table>
<thead>
<tr>
<th>Variable Costs Per Acre</th>
<th>$ Values</th>
<th>Landowner</th>
<th>Tenant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor</td>
<td>$26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seed</td>
<td>39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herbicide</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insecticide</td>
<td>45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fertilizer and Lime</td>
<td>45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel and Oil – Crop</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel and Oil – Pumping</td>
<td>43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machinery and Equipment Repairs</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrigation Repairs and Maintenance</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drying</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crop Consulting</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>A. TOTAL VARIABLE COSTS</strong></td>
<td><strong>$307</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fixed Costs Per Acre</th>
<th>$ Values</th>
<th>Landowner</th>
<th>Tenant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real Estate Taxes (including well)</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest on Land and Well</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation on Crop Machinery</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest on Crop Machinery</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation on Irrigation Equipment and Well</td>
<td>63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest on Irrigation Equipment</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B. TOTAL FIXED COSTS</strong></td>
<td><strong>$172</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C. TOTAL COSTS (A+B)</strong></td>
<td><strong>$479</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D. YIELD PER ACRE- BU</strong></td>
<td><strong>200</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E. PRICE PER BUSHEL</strong></td>
<td><strong>$2.50</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. If the crop is to be divided in the same proportion as total costs, what percent would you recommend that each party receive? Use the columns above. (5 pts)

Landowner ____%  Tenant ______%  

b. If the tenant rented the same land under a **cash rent** agreement and paid all the variable costs and machinery ownership costs, what is the maximum cash rent he/she could pay and just break even? Show your work. (5 pts)

$______/acre
c. How much cash rent could he/she pay and earn the same profit per acre as under the crop share lease, using the % division of the crop that you suggested in part (a)? Show your work. (5 pts.)

$_______/acre

14. A rancher agrees to repay a $40,000 loan to finance building a new cattle handling facility in four equal annual payments of $12,619, beginning one year after the loan is obtained. The interest rate is 10 percent annually. How much principal and how much interest will each payment consist of? (6 pts)

<table>
<thead>
<tr>
<th></th>
<th>Total Payment</th>
<th>Interest</th>
<th>Principal</th>
<th>Principal Left After Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>$12,619</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Second</td>
<td>$12,619</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Third</td>
<td>$12,619</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Fourth</td>
<td>$12,619</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
</tbody>
</table>

15. A large cash grain farm wants to hire a good mechanic and truck driver. They are wondering if they should utilize an Internet agricultural employment company like the one cited in Lab 11. Discuss some advantages and disadvantages for them of doing this. (4 pts)

Advantages:

Disadvantages:
16. What factors should you consider when deciding whether a farm employee should be paid (1) a set hourly wage, or (2) a fixed monthly salary? (5 pts)

17. List three ways that a small, part-time crop farmer could reduce total machinery costs. (6 pts)
   a. 
   b. 
   c. 

18. Discuss the advantages and disadvantages to a 4,000 acre cash grain farm of acquiring a new combine each 3 years under a lease plan, compared to buying a new one every 3 years financed by a bank loan. (5 pts)

   Advantages:

   Disadvantages:

19. What is the purpose of a flexible cash lease? (6 pts)

   Give an example of one.
1. d
2. b
3. c
4. b
5. a
6. c
7. b
8. c
9. c
10. d
11. a

12. a. depreciation expense
   b. typical cash rent in the area
   c. value of unpaid labor utilized

13. | Landowner | Tenant |
    | Variable costs | $ 7 | $300 |
    | Fixed costs | $138 | $ 34 |
    | Total costs | $145 | $334 |
    | Percentage | 30% | 70% |

   b. 200 bu. @ $2.50 = $500
      less variable costs 307
      less machinery fixed costs 34
      residual to tenant $159

c. landlord’s gross: 70% x $500 = $150
   less landlords share of var. costs = $7
   cash rent equivalent to crop share $143

14. Each total payment = $12,619. Calculate interest first for each payment.

<table>
<thead>
<tr>
<th></th>
<th>Principal</th>
<th>Interest</th>
<th>Principal left after pmt</th>
</tr>
</thead>
<tbody>
<tr>
<td>First payment</td>
<td>$8,619</td>
<td>$4,000</td>
<td>$31,381</td>
</tr>
<tr>
<td>Second payment</td>
<td>$9,481</td>
<td>$3,138</td>
<td>$21,900</td>
</tr>
<tr>
<td>Third payment</td>
<td>$10,429</td>
<td>$2,190</td>
<td>$11,471</td>
</tr>
<tr>
<td>Fourth payment</td>
<td>$11,471</td>
<td>$1,147</td>
<td>$0</td>
</tr>
</tbody>
</table>

15. Advantages: wider dissemination of ad, company can screen applicants, may get higher skilled applicants willing to relocate, looks more professional
Disadvantages: Costs more, applicants may come from far away, aren’t known personally, not everyone uses the Internet

16. Are working hours regular and predictable, or highly variable?  
Will there be overtime hours?  
Does employee need an incentive to work extra hours?  
Is the job seasonal or full-year?  
Is it a managerial position or laborer?  
Does the employee miss work a lot?

17. Joint ownership of machinery, custom hiring machinery operations, trading labor for machinery use, renting machinery short-term

18. Advantages:  
Always have a new machine  
Machine always under warranty  
Lower annual payments  
No initial investment  
No debt shown on balance sheet

   Disadvantages:  
No equity built up in combine  
Locked into lease for 3 years  
Can’t exceed maximum hours of use without penalty  
No depreciation deduction

19. Adjust cash rent each year according to the income produced by the farm.

   Example: cash rent is equal to 35% of actual yield (based on combine monitor) times price at nearest elevator on October 15.