Multiple Choice Section

The Farm Management Contest is designed to test student understanding of the application of economic principles in farm management. Each question is worth three (3) points.

Choose the best answer and mark the appropriate box on the score sheet provided. There is only one correct answer to each question. Answers have been rounded.

1. Corn has an expected yield of 150 bushels per acre and a production cost of $400.00 per acre. Expected market prices are $6.50 per bushel for corn and $13.50 per bushel for soybeans. Soybeans can be raised at a production cost of $150 per acre. At what breakeven yield per acre would soybeans generate the same net return per acre as corn?
   A. 41.7 bushels
   B. 42.6 bushels
   C. 48.6 bushels
   D. 53.7 bushels
   E. None of the above

2. A farmer sold his 5000-bushel corn crop at several different times during the year. He sold 1000 bushels at $5.50, 2000 bushels at $5.20, and 2000 bushels at $6.00. What was his average price per bushel?
   A. $5.40
   B. $5.45
   C. $5.50
   D. $5.58
   E. None of the above

3. The self-employment tax rate for Medicare is
   A. 1.45%
   B. 2.90%
   C. 5.30%
   D. 7.65%
   E. None of the above

4. A farmer purchases 800-pound feeder steers for $1.35 per pound and plans to sell the steers at 1300 pounds. The farmer estimates the total cost of gain to be $1.00 per pound. The nearest breakeven price when the steers are sold at 1300 pounds is
   A. $1.22 per pound
   B. $1.27 per pound
   C. $1.31 per pound
   D. $1.33 per pound
   E. None of the above
5. How many total acres are included in the "N 1/2 of the SW 1/4 and NW 1/4 of Section 15, Twp. 10N, R4W of the 5th Principle Meridian"?
   A. 80 acres
   B. 120 acres
   C. 160 acres
   D. 240 acres
   E. None of the above

6. How much perimeter fence would be required to completely enclose the parcel of land described in the question above?
   A. 1.5 miles
   B. 2.0 miles
   C. 2.5 miles
   D. 3.0 mile
   E. None of the above

7. The Chicago Board of Trade wheat futures contract is for
   A. hard red winter wheat.
   B. hard red spring wheat.
   C. soft red winter wheat.
   D. durum wheat.
   E. None of the above

8. If the total cost of producing 100 units of output is $400 and the average variable cost per unit is $3, then which of the following statements is true?
   A. Total variable cost of the 100 units is $400.
   B. Total fixed cost is equal to $100.
   C. Average fixed cost is $3.
   D. Average total cost is $3.
   E. None of the above

9. Farmer Jones has less current assets than current liabilities. Her current ratio is
   A. negative.
   B. zero.
   C. between 0 and 1.
   D. greater than 1.
   E. None of the above

10. Economists use elasticities to relate the percentage change in one variable to the percentage change in another variable. The cross-price elasticity of demand estimates the impact on the demand for a good with respect to the change in the price of another good. A negative cross-price elasticity indicates the two goods are
    A. substitutes.
    B. complements.
    C. inferior.
    D. luxuries.
    E. None of the above
11. The own-price elasticity of supply estimates the impact on the quantity of a good supplied by a change in the price of the good. Normally, one would expect the own-price elasticity of supply to be
   A. positive.
   B. negative.
   C. zero.
   D. None of the above

12. The income elasticity of demand estimates the impact of a change in income on the demand for a good. For normal goods, the income elasticity of demand is
   A. positive.
   B. negative.
   C. zero.
   D. None of the above

13. A soybean producer decides to store his soybeans in the local elevator for 4 months. The price at harvest is $14.40 per bushel and the elevator charges 2 cents per bushel per month for storage plus a 5-cent per bushel handling charge. He has 5,000 bushels to sell and must borrow $72,000 at 7% annual interest while he stores the soybeans. What price must he receive for his soybeans to break even and cover his storage and opportunity costs?
   A. $14.79
   B. $14.87
   C. $14.89
   D. $14.93
   E. None of the above

14. How many square feet are in an acre?
   A. 5,280
   B. 12,250
   C. 43,560
   D. 100,000
   E. None of the above

15. The term "exchange rate" refers to
   A. how much of one currency is needed to acquire a unit of another currency.
   B. how much principal is reduced by payments on an amortized loan.
   C. the ratio between current and long-term debt.
   D. the difference in value between a dollar today and a dollar one year from today.
   E. None of the above

16. A cord is a stack of wood measuring
   A. 2' x 4' x 4'
   B. 4' x 4' x 4'
   C. 4' x 4' x 8'
   D. 4' x 8' x 8'
   E. None of the above
17. A procedure for expressing future cash flows in today's dollars is called
   A. compounding.
   B. discounting.
   C. deflating.
   D. inflating.
   E. None of the above

18. Farmer Brown has a debt-to-asset ratio of 53%. His debt-to-equity ratio must be
   A. negative.
   B. 47%.
   C. Less than 110%.
   D. Greater than 110%.
   E. None of the above

19. How many pounds of 48% protein soybean meal must be mixed with 8% protein corn to
   make a ton of 18% protein feed?
   A. 450 pounds
   B. 460 pounds
   C. 480 pounds
   D. 500 pounds
   E. None of the above

20. Which of the following is a market function?
   A. storing
   B. transporting
   C. grading
   D. processing
   E. All of the above

21. Farmer Johnson has a rate of return on assets of 5% when assets are valued using the cost
    method, and a rate of return on assets of 4% when the assets are valued using market
    valuation. This means that the value of assets using the cost method
   A. is greater than the market valuation.
   B. is equal to the market valuation.
   C. is less than the market valuation.
   D. has not been adjusted for depreciation.
   E. None of the above

22. A farm business has a debt/worth ratio of 1:2. Its current liabilities total $30,000 and its
    non-current liabilities total $90,000. What is the value of its assets?
   A. $450,000
   B. $360,000
   C. $240,000
   D. $120,000
   E. None of the above
23. A cattle feeding operation has sales of $930,000, feed purchases of $400,000, other costs of $500,000, an opening inventory of $360,000, and a closing inventory of $380,000. What is the net farm income for this operation on an accrual basis?
   A. $10,000
   B. $30,000
   C. $50,000
   D. $930,000
   E. None of the above

24. If corn silage as fed contains 66% moisture and 2.2% protein, the dry matter would be what percent protein?
   A. 2.80
   B. 3.08
   C. 6.47
   D. 7.33
   E. None of the above

25. On March 1, 2012, Kate borrowed $30,000 to plant corn. On November 1, 2012, she repaid the $30,000 along with $1,100.00 interest. What annual interest rate did she pay?
   A. 5.5%
   B. 6.6%
   C. 7.7%
   D. 8.8%
   E. None of the above

26. A $50,000 loan amortized at 6% interest for 20 years yields annual payments of $4,359.23. How much of the first year's payment is principal?
   A. $1,359.23
   B. $1,700.00
   C. $2,592.61
   D. $3,000.00
   E. None of the above

27. For the above loan of $50,000, if the 20th and final payment includes $246.74 of interest, what was the outstanding principal balance after the 19th payment?
   A. $5,688.07
   B. $4,715.38
   C. $4,112.49
   D. $377.23
   E. None of the above

28. For the above loan of $50,000, how much total interest is paid over the life of the loan?
   A. $101,852.20
   B. $51,852.20
   C. $37,184.60
   D. $7,544.60
   E. None of the above
29. At the beginning of last year, a farmer had an outstanding loan for $125,000. The interest rate was 7%. If the farmer made one loan payment at the end of the year of $20,500, what was the outstanding balance at the end of the year?
   A. $104,500
   B. $113,250
   C. $115,750
   D. $120,500
   E. None of the above

30. A feedlot operator purchases a pen of 50 feeder steers with an average weight of 753 pounds and sells them at an average weight of 1242 pounds. Total feed cost for the pen is $26,634. Feed cost per pound of gain is equal to
   A. $0.915
   B. $1.049
   C. $1.089
   D. $1.103
   E. None of the above

31. A producer sells 12 feeder steers for $144/cwt. The average weight per steer is 750 pounds. There is a 3% sales commission and yardage fees of $2.10 per head. The net amount received for the pen of steers would be
   A. $9,658.80
   B. $10,054.00
   C. $11,403.20
   D. $12,546.00
   E. None of the above

32. You can claim a tax deduction for a charitable contribution of $________ or more only if you have a written acknowledgment from the charitable organization.
   A. $100
   B. $250
   C. $1,000
   D. $5,000
   E. None of the above

33. The business profit for a year would be found on
   A. The balance sheet.
   B. The cash flow budget.
   C. The income statement.
   D. A partial budget.
   E. All of the above.

34. How many gallons of water must be mixed with a quart of herbicide to make a 2% solution?
   A. 12.25
   B. 12.50
   C. 24.75
   D. 98.00
   E. None of the above
35. A metric ton weighs
   A. 1876.3 pounds.
   B. 2000.0 pounds.
   C. 2204.6 pounds.
   D. 2520.3 pounds.
   E. None of the above

36. A hectare equals
   A. 0.40 acres
   B. 1.74 acres
   C. 2.47 acres
   D. 5.05 acres
   E. None of the above

37. The CME live cattle futures contract is for ______ pounds of fed cattle.
   A. 10,000
   B. 40,000
   C. 50,000
   D. 100,000
   E. None of the above

38. In legal terminology, an agent has one's
   A. right of ownership of property.
   B. authority to transact business.
   C. complete control and liability.
   D. no financial responsibility.
   E. None of the above

39. On a dry matter basis, corn is roughly 69% starch and 8.7% crude protein. A dry mill ethanol plant converts all the starch in corn to ethanol while leaving the protein unchanged in the byproduct, dried distillers grain. Mathematically, what percent crude protein would you expect in this byproduct?
   A. 8.7%
   B. 17.4%
   C. 20.6%
   D. 28.1%
   E. None of the above

40. If dried distillers grain has 10% moisture and sells for $130 per ton, what would be the nutrient equivalent price for wet distillers grain which has 65% moisture?
   A. $42.00 per ton
   B. $50.56 per ton
   C. $93.89 per ton
   D. $108.89 per ton
   E. None of the above
2013 DISTRICT FFA FARM MANAGEMENT CONTEST

Past exams are available at http://adultaged.missouri.edu/moaged/exams.htm

Problems Section

Choose the best answer and mark the corresponding numbered space on the answer sheet. Computations may be done in the margins or on the back of the paper. Each question is worth four (4) points. There is only one correct answer for each question. Answers have been rounded.

PROBLEM I - Balance Sheet

Using the information below, complete the net worth statement for January 1, 2013:

Land ...................................... $550,000
Autos ..................................... 22,000
Machinery and equipment .............. 185,000
Cows ...................................... 60,000
Calves .................................... 35,000
Accounts payable ......................... 16,500
Soybeans .................................. 18,400
Sows and boars ............................ 30,000
Feeder pigs ................................ 10,400
Checking and savings ..................... 9,415
House ...................................... 96,000
Hog buildings ............................ 45,000
Feed and hay ............................. 14,250
Accounts receivable ....................... 15,500
Accrued interest owed ..................... 18,750
Accrued taxes owed ....................... 17,400
30-year land loan balance is $320,000.
    $16,000 plus interest is due March 1 of each year.
7-year building loan balance is $44,000.
    $11,000 plus interest is due August 31 of each year.
20-year home loan balance is $78,016.
    $500 plus interest is due each month.

Current Assets:                   Current Liabilities:
__________________________________ __________________________________
__________________________________ __________________________________
__________________________________ __________________________________
__________________________________ __________________________________
__________________________________ __________________________________
__________________________________ __________________________________
__________________________________ __________________________________
__________________________________ __________________________________

Total ___________________       Total ___________________

<table>
<thead>
<tr>
<th>Non-current Assets:</th>
<th>Non-current Liabilities:</th>
</tr>
</thead>
<tbody>
<tr>
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<td><strong>Total</strong></td>
<td><strong>Total</strong></td>
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<tr>
<td><strong>Total Assets</strong></td>
<td><strong>Total Liabilities</strong></td>
</tr>
<tr>
<td><strong>Net Worth</strong></td>
<td></td>
</tr>
</tbody>
</table>

Questions 1 through 7 refer to PROBLEM I

1. The total value of current assets on January 1, 2013, was:
   - A. $102,965
   - B. $124,565
   - C. $140,065
   - D. $162,950
   - E. None of the above

2. The total value of non-current assets was:
   - A. $892,000
   - B. $958,000
   - C. $988,000
   - D. $1,090,965
   - E. None of the above

3. The total value of current liabilities was:
   - A. $61,150
   - B. $63,650
   - C. $79,650
   - D. $85,650
   - E. None of the above

4. The total value of non-current liabilities was:
   - A. $409,016
   - B. $433,516
   - C. $442,516
   - D. $494,666
   - E. None of the above
5. The net worth was:
   A. $596,299
   B. $633,399
   C. $660,399
   D. $668,903
   E. None of the above

6. The current ratio was:
   A. 0.629
   B. 0.891
   C. 1.202
   D. 2.280
   E. None of the above

7. The debt to equity ratio was:
   A. 0.439
   B. 0.830
   C. 1.053
   D. 1.280
   E. None of the above
PROBLEM II -- Enterprise Budget

Use the following cow-calf budget to answer Questions 8 through 16.

**COW-CALF**, spring calving, warm season pasture; cost/return per cow; ranch size unit; winter DM is 25% non-legume hay

<table>
<thead>
<tr>
<th>Operating Inputs</th>
<th>Units</th>
<th>Price</th>
<th>Qty.</th>
<th>Value</th>
<th>Your Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-legume hay</td>
<td>Lbs.</td>
<td>0.050</td>
<td>964.000</td>
<td>$48.20</td>
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<td>41-45% protein sup.</td>
<td>Lbs.</td>
<td>0.130</td>
<td>299.000</td>
<td>38.87</td>
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<tr>
<td>19-20% pro. feed</td>
<td>Lbs.</td>
<td>0.080</td>
<td>367.000</td>
<td>29.36</td>
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</tr>
<tr>
<td>Salt &amp; minerals</td>
<td>Lbs.</td>
<td>0.100</td>
<td>30.000</td>
<td>3.00</td>
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<tr>
<td>Summer pasture</td>
<td>AUMs</td>
<td>8.400</td>
<td>8.000</td>
<td>67.20</td>
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<tr>
<td>Winter dry pasture</td>
<td>AUMs</td>
<td>8.400</td>
<td>3.550</td>
<td>29.82</td>
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<tr>
<td>Vet. service</td>
<td>Head</td>
<td>14.650</td>
<td>1.000</td>
<td>14.65</td>
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</tr>
<tr>
<td>Vet. med., lstk. supplies</td>
<td>Head</td>
<td>2.800</td>
<td>1.000</td>
<td>2.80</td>
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<td>Marketing expense</td>
<td>Cwt.</td>
<td>1.750</td>
<td>4.320</td>
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<td>Personal taxes</td>
<td>Head</td>
<td>5.300</td>
<td>1.000</td>
<td>5.30</td>
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<tr>
<td>Herd bulls</td>
<td>Cwt.</td>
<td>85.000</td>
<td>0.122</td>
<td>10.37</td>
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<td>Hauling</td>
<td>Cwt.</td>
<td>0.500</td>
<td>4.320</td>
<td>2.16</td>
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<tr>
<td>Annual operating capital</td>
<td>Dol.</td>
<td>0.107</td>
<td>150.000</td>
<td>16.05</td>
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<tr>
<td>Machinery labor</td>
<td>Hour</td>
<td>6.000</td>
<td>4.574</td>
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<tr>
<td>Equipment labor</td>
<td>Hour</td>
<td>6.000</td>
<td>0.050</td>
<td>0.30</td>
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<tr>
<td>Livestock labor</td>
<td>Hour</td>
<td>6.000</td>
<td>5.330</td>
<td>31.98</td>
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<td>Mach. fuel, lube, repair</td>
<td>Dol.</td>
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<td></td>
<td>27.30</td>
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<tr>
<td>Equip. fuel, lube, repair</td>
<td>Dol.</td>
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<td>1.18</td>
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<tr>
<td>Total operating costs</td>
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<td>$363.52</td>
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**Fixed costs**

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<tr>
<th>Machinery</th>
<th>Amount</th>
<th>Value</th>
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<tbody>
<tr>
<td>Interest at 10.675%</td>
<td>54.58</td>
<td>5.83</td>
</tr>
<tr>
<td>Depr., taxes, insurance</td>
<td>10.69</td>
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<tr>
<td>Equipment</td>
<td></td>
<td></td>
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<tr>
<td>Interest at 10.675%</td>
<td>13.43</td>
<td>1.43</td>
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<td>Depr., taxes, insurance</td>
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<tr>
<td>Livestock</td>
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<tr>
<td>Beef cow</td>
<td>720.00</td>
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<tr>
<td>Bull</td>
<td>40.50</td>
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<tr>
<td>Beef heifer</td>
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<tr>
<td>Horse</td>
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<td>Interest at 10.675%</td>
<td>823.90</td>
<td>87.95</td>
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<td>Depr., taxes, insurance</td>
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<td>Total fixed costs</td>
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**Production**

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<th>Production</th>
<th>Units</th>
<th>Price</th>
<th>Quantity</th>
<th>Value</th>
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<tbody>
<tr>
<td>Steer calves (400-500#)</td>
<td>Cwt.</td>
<td>160.00</td>
<td>1.92</td>
<td>307.20</td>
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<td>Heifer calves (400-500#)</td>
<td>Cwt.</td>
<td>150.00</td>
<td>1.27</td>
<td>190.50</td>
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<tr>
<td>Commercial cows</td>
<td>Cwt.</td>
<td>70.00</td>
<td>0.87</td>
<td>60.90</td>
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<td>Aged bulls</td>
<td>Cwt.</td>
<td>51.00</td>
<td>0.14</td>
<td>7.14</td>
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<td>Heifers (600-700#)</td>
<td>Cwt.</td>
<td>120.00</td>
<td>0.12</td>
<td>14.40</td>
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<tr>
<td>Total receipts</td>
<td></td>
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<td></td>
<td>580.14</td>
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</tbody>
</table>

Returns above total operating costs 216.62
Returns above all specified costs 97.66
8. Total operating cost per cow is:
   A. $16.05
   B. $97.66
   C. $216.62
   D. $363.52
   E. None of the above

9. The return above total operating cost per cow is:
   A. $97.66
   B. $118.96
   C. $216.62
   D. $363.52
   E. None of the above

10. How many hours of labor are budgeted per cow?
    A. 6.000
    B. 9.954
    C. 18.000
    D. 59.700
    E. None of the above

11. What is the total budgeted interest cost per cow?
    A. $68.01
    B. $87.95
    C. $95.21
    D. $111.26
    E. None of the above

12. What price per ton is paid for hay?
    A. $5.00
    B. $48.20
    C. $50.00
    D. $100.00
    E. None of the above

13. What are the per cow costs directly attributed to feed?
    A. $97.02
    B. $119.43
    C. $216.45
    D. $261.45
    E. None of the above
14. How many pounds of cattle are sold per cow?
   A. 319
   B. 432
   C. 450
   D. 500
   E. None of the above

15. If the price of all cattle sold increases by 10%, what will be the per cow returns above total operating costs?
   A. $238.28
   B. $246.87
   C. $267.68
   D. $274.63
   E. None of the above

16. What will be the returns above all costs if you include the change from question 15 and pay $100 for pasture rent (ignore any change in operating capital expense)?
   A. $87.16
   B. $106.24
   C. $132.70
   D. $152.69
   E. None of the above

PROBLEM III -- Income Tax Management

Use the tables at the end of this exam to calculate depreciation on the following item.

On May 1, 2012, Stan bought a new baler. Stan traded his old baler which had a remaining book value of $4,525. Stan paid $10,000 "down" and financed the remaining $15,000 over 3 years at 7% interest. He elected to roll the remaining basis of his old baler into the new one.

17. The baler is
   A. 3-year property
   B. 5-year property
   C. 7-year property
   D. 10-year property
   E. None of the above

18. If Stan does not expense any of the cost of the baler, then 2012 depreciation will be (use regular MACRS and mid-year convention)
   A. $1,556.21
   B. $2,500.00
   C. $2,678.50
   D. $3,163.31
   E. None of the above
19. If Stan expenses $10,000 of the baler cost and uses the mid-quarter convention and regular MACRS, then 2012 depreciation will be
   A. $2,091.91
   B. $2,614.98
   C. $3,660.94
   D. $5,254.69
   E. None of the above

20. If Stan expenses the maximum allowable on the baler and uses regular MACRS with the mid-year convention, then 1/1/13 remaining book value will be
   A. $0
   B. $484.81
   C. $2,700.90
   D. $4,040.19
   E. None of the above

21. If Stan does not claim an expense deduction and uses the mid-quarter convention and straight line depreciation over the alternate MACRS life, his 2012 depreciation will be
   A. $380.50
   B. $1,000.00
   C. $1,845.31
   D. $2,583.44
   E. None of the above

22. Under MACRS, a pickup truck is classified as
   A. 3-year property
   B. 5-year property
   C. 7-year property
   D. 10-year property
   E. None of the above
PROBLEM IV -- Supply and Demand

The above graph represents supply of apples for import into the U.S. (S_f) the supply of apples produced in the U.S. (S_U), the total supply of apples in the U.S. (S_T), the foreign demand for U.S. apples (D_F), the domestic demand for apples (D_U), and the total demand for apples (D_T) in the U.S.

23. What is the market equilibrium price of apples in the U.S.?
   A. P_1
   B. P_2
   C. P_3
   D. P_4
   E. None of the above

24. At the market equilibrium price, how many apples will be exported from the U.S.?
   A. Q_1
   B. Q_2
   C. Q_3
   D. Q_4
   E. Q_5

25. At the market equilibrium price, how many apples will be imported into the U.S.?
   A. Q_1
   B. Q_2
   C. Q_3
   D. Q_4
   E. Q_5

26. At what price would apple imports equal apple exports?
   A. P_1
   B. P_2
   C. P_3
   D. P_4
   E. None of the above
For questions 27 and 28, assume the value of the U.S. dollar weakens with respect to the currency of our major apple trading partners.

27. The change will cause the U.S. apple imports to
   A. increase.
   B. decrease.
   C. not change.
   D. None of the above

28. After the dollar weakens, U.S. equilibrium price of apples should
   A. increase.
   B. decrease.
   C. stay the same.
   D. None of the above

**PROBLEM V - Marketing**

In January, a farmer has 5,000 bushels of corn in the bin. He sells the corn on April 25. Ignore commissions, storage cost, and interest.

<table>
<thead>
<tr>
<th>January 5 quotes:</th>
<th>April 25 quotes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>May futures price = $6.70</td>
<td>May futures price = $6.65</td>
</tr>
<tr>
<td>Expected basis = $0.15 under the board</td>
<td>Basis = $0.10 over the board</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strike price</th>
<th>-- May Premiums ---</th>
<th>-- May Premiums ---</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Call</td>
<td>Put</td>
</tr>
<tr>
<td>$6.50</td>
<td>$0.43</td>
<td>$0.07</td>
</tr>
<tr>
<td>$6.60</td>
<td>$0.33</td>
<td>$0.14</td>
</tr>
<tr>
<td>$6.70</td>
<td>$0.24</td>
<td>$0.22</td>
</tr>
<tr>
<td>$6.80</td>
<td>$0.16</td>
<td>$0.31</td>
</tr>
<tr>
<td>$6.90</td>
<td>$0.09</td>
<td>$0.41</td>
</tr>
</tbody>
</table>

29. What is the cash price of corn on April 25?
   A. $6.65
   B. $6.70
   C. $6.75
   D. $6.80
   E. None of the above

30. If the farmer sold one 5,000-bushel futures contract on January 5 and bought back the contract on April 25, what would be the realized price per bushel (cash + net on futures) for his corn?
   A. $6.50
   B. $6.60
   C. $6.70
   D. $6.80
   E. None of the above
31. If the farmer sold a $6.60 Call on January 5 and bought it back on April 25, what would be the realized price per bushel (cash + net on options) for his corn?
   A. $6.61
   B. $6.66
   C. $6.79
   D. $6.84
   E. None of the above

32. If the farmer bought a 5,000-bushel $6.70 Put on January 5 and sold the Put on April 25, what would be the realized price per bushel (cash + net on options) for his corn?
   A. $6.47
   B. $6.58
   C. $6.62
   D. $6.92
   E. None of the above

33. If the farmer bought a 5,000-bushel $6.50 Put and sold a $6.50 Call on January 5, and sold the Put and bought back the Call on April 25, what would be the realized price per bushel (cash + net on options) for his corn?
   A. $6.66
   B. $6.71
   C. $6.79
   D. $6.91
   E. None of the above

34. If the farmer sold his corn on January 5 for $6.70 per bushel and bought one 5,000-bushel $6.70 May call, then sold the Call on April 25, his realized price per bushel (cash + net on options) would be:
   A. $6.59
   B. $6.62
   C. $6.78
   D. $6.81
   E. None of the above
Hogs grow best when grain and protein are mixed to obtain the proper protein level. However, they will grow on most any mix of corn and protein. The following rations will all produce about 1050 pounds of gain when fed to a pen of ten, 155-pound pigs.

<table>
<thead>
<tr>
<th>Ration</th>
<th>Lbs. corn</th>
<th>Lbs. protein supplement</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3500</td>
<td>100</td>
</tr>
<tr>
<td>B</td>
<td>2990</td>
<td>300</td>
</tr>
<tr>
<td>C</td>
<td>2560</td>
<td>500</td>
</tr>
<tr>
<td>D</td>
<td>2200</td>
<td>700</td>
</tr>
<tr>
<td>E</td>
<td>1900</td>
<td>900</td>
</tr>
</tbody>
</table>

35. If corn costs 14¢/pound and supplement costs 28¢/pound, what is the least cost ration?
   A. Ration A  
   B. Ration B  
   C. Ration C  
   D. Ration D  
   E. Ration E

36. If corn costs 10¢/pound and supplement costs 24¢/pound, what is the least cost ration?
   A. Ration A  
   B. Ration B  
   C. Ration C  
   D. Ration D  
   E. Ration E

37. Between Ration C and D, it takes __________ pounds of corn to replace a pound of supplement.
   A. 1.80  
   B. 2.15  
   C. 3.60  
   D. 4.30  
   E. None of the above
PROBLEM VII - Exchange Rates

<table>
<thead>
<tr>
<th></th>
<th>Canadian Dollars per US $</th>
<th>Mexican Pesos per US $</th>
<th>Japanese Yen per US $</th>
<th>Chinese Yuan per US $</th>
<th>European Euros per US $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 05</td>
<td>1.22</td>
<td>11.26</td>
<td>103.3</td>
<td>8.28</td>
<td>0.762</td>
</tr>
<tr>
<td>Jan 06</td>
<td>1.16</td>
<td>10.54</td>
<td>115.5</td>
<td>8.07</td>
<td>0.825</td>
</tr>
<tr>
<td>Jan 07</td>
<td>1.18</td>
<td>10.96</td>
<td>120.5</td>
<td>7.79</td>
<td>0.770</td>
</tr>
<tr>
<td>Jan 08</td>
<td>1.01</td>
<td>10.91</td>
<td>107.8</td>
<td>7.24</td>
<td>0.679</td>
</tr>
<tr>
<td>Jan 09</td>
<td>1.22</td>
<td>13.88</td>
<td>90.1</td>
<td>6.84</td>
<td>0.7551</td>
</tr>
<tr>
<td>Jan 10</td>
<td>1.04</td>
<td>12.81</td>
<td>91.1</td>
<td>6.83</td>
<td>0.7010</td>
</tr>
<tr>
<td>Jan 11</td>
<td>0.99</td>
<td>12.13</td>
<td>82.6</td>
<td>6.60</td>
<td>0.7479</td>
</tr>
<tr>
<td>Jan 12</td>
<td>1.01</td>
<td>13.38</td>
<td>77.0</td>
<td>6.32</td>
<td>0.7746</td>
</tr>
<tr>
<td>Jan 13</td>
<td>0.99</td>
<td>12.70</td>
<td>89.1</td>
<td>6.22</td>
<td>0.7517</td>
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<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Jan 05</td>
<td>1.86</td>
<td>3.43</td>
<td>73.98</td>
<td>148.40</td>
</tr>
<tr>
<td>Jan 06</td>
<td>1.98</td>
<td>3.52</td>
<td>61.50</td>
<td>155.19</td>
</tr>
<tr>
<td>Jan 07</td>
<td>3.01</td>
<td>4.53</td>
<td>63.70</td>
<td>149.96</td>
</tr>
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<td>3.88</td>
<td>7.96</td>
<td>56.71</td>
<td>146.41</td>
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<tr>
<td>Jan 09</td>
<td>4.34</td>
<td>6.20</td>
<td>57.54</td>
<td>147.68</td>
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<tr>
<td>Jan 10</td>
<td>3.63</td>
<td>4.90</td>
<td>72.58</td>
<td>142.87</td>
</tr>
<tr>
<td>Jan 11</td>
<td>4.94</td>
<td>6.69</td>
<td>83.30</td>
<td>169.96</td>
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<tr>
<td>Jan 12</td>
<td>6.11</td>
<td>7.05</td>
<td>84.44</td>
<td>186.77</td>
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<tr>
<td>Jan 13</td>
<td>6.87</td>
<td>8.12</td>
<td>84.13</td>
<td>191.12</td>
</tr>
</tbody>
</table>

38. Valued in Japanese Yen, how much did Nebraska beef prices decrease from January 2007 to January 2012?
   A. 10.0%
   B. 15.3%
   C. 20.4%
   D. 33.2%
   E. None of the above

39. Valued in Chinese Yuan, how much did Illinois corn prices increase from January 2005 to January 2013?
   A. 60.5%
   B. 92.8%
   C. 177.5%
   D. 277.5%
   E. None of the above

40. Valued in Mexican pesos, how much did Iowa pork prices increase from January 2006 to January 2012?
   A. 1.6%
   B. 12.1%
   C. 22.3%
   D. 74.3%
   E. None of the above
### ANNUAL DEPRECIATION PERCENTAGES FOR 5-YR PROPERTY, 150% DB

<table>
<thead>
<tr>
<th>Year</th>
<th>MID-YEAR CONVENTION</th>
<th>Quarter placed in service --</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>15.000%</td>
<td>26.250%</td>
</tr>
<tr>
<td>3</td>
<td>17.850</td>
<td>16.520</td>
</tr>
<tr>
<td>Total</td>
<td>100.000</td>
<td>100.000</td>
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</table>

### ANNUAL DEPRECIATION PERCENTAGES FOR 7-YR PROPERTY, 150% DB

<table>
<thead>
<tr>
<th>Year</th>
<th>MID-YEAR CONVENTION</th>
<th>Quarter placed in service --</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>10.714%</td>
<td>18.750%</td>
</tr>
<tr>
<td>2</td>
<td>19.133</td>
<td>17.411</td>
</tr>
<tr>
<td>3</td>
<td>15.033</td>
<td>13.680</td>
</tr>
<tr>
<td>4-7</td>
<td>12.249</td>
<td>12.160</td>
</tr>
<tr>
<td>8</td>
<td>6.124</td>
<td>1.520</td>
</tr>
<tr>
<td>Total</td>
<td>100.000</td>
<td>100.000</td>
</tr>
</tbody>
</table>

### ANNUAL FRACTIONS FOR STRAIGHT LINE OVER N YEARS (N less than 26)

<table>
<thead>
<tr>
<th>Year</th>
<th>MID-YEAR CONVENTION</th>
<th>Quarter placed in service --</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>1/2</td>
<td>7/8</td>
</tr>
<tr>
<td>2-N</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>N+1</td>
<td>1/2</td>
<td>1/8</td>
</tr>
</tbody>
</table>

Depreciation formula: Basis divided by N times number from above table.

### ANNUAL FRACTIONS FOR 27 1/2 YEAR PROPERTY, REGULAR MACRS

<table>
<thead>
<tr>
<th>Year</th>
<th>Month Placed in Service --</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>11.5</td>
</tr>
<tr>
<td>2-27</td>
<td>12</td>
</tr>
<tr>
<td>28</td>
<td>6.5</td>
</tr>
<tr>
<td>29</td>
<td>--</td>
</tr>
</tbody>
</table>

Depreciation formula: Basis divided by 27 1/2 divided by 12 times number from above table.

### ANNUAL FRACTIONS FOR 39 YEAR PROPERTY, REGULAR MACRS

<table>
<thead>
<tr>
<th>Year</th>
<th>Month Placed in Service --</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>11.5</td>
</tr>
<tr>
<td>2-39</td>
<td>12</td>
</tr>
<tr>
<td>40</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Depreciation formula: Basis divided by 39 divided by 12 times number from above table.
# KEY

**2013 DISTRICT FFA FARM MANAGEMENT CONTEST**

## Multiple Choice

<p>| | | | | |</p>
<table>
<thead>
<tr>
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## Problems

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