Part I: Multiple Choice. Circle the best answer. (3 points each)

1. Which of the following is an example of a noncurrent asset?
   a. breeding livestock value
   b. feed in storage
   c. loan on farm machinery
   d. account payable
   e. b and d above
   f. none of the above

2. Which of the following would appear on an income statement (profit and loss)?
   a. your liabilities
   b. your level of assets
   c. interest payments made the past year
   d. your net worth
   e. your level of loan payments due in the next 12 months
   f. c and e above

3. If a business has a debt/asset ratio which is greater than two:
   a. it is in good financial shape.
   b. it is not solvent; it is bankrupt.
   c. the short term financial picture is tight but it looks good in the longer run.
   d. the net farm income from operations has been at good levels in the past.
   e. none of the above apply.

4. Which of the following best describes a "particular" balance sheet?
   a. it shows changes in profit from assets used in the business
   b. it shows the assets and liabilities over the last accounting period
   c. it shows assets and liabilities at a point in time
   d. it shows business profit for the last accounting period

5. The degree to which a business' total assets adequately cover or exceed the total liabilities is referred to as:
   a. bankruptcy
   b. solvency
   c. profitability
   d. net worth
   e. liquidity
   f. none of the above
6. Which of the following is an example of a current (short term) liability?
   a. breeding livestock value
   b. feed in storage
   c. payment on land loan which is due in the next 12 months
   d. account payable for feed purchased at local feed company
   e. c and d above
   f. none of the above

The following is for the next two questions.

You have the option of purchasing a self-propelled combine or having your neighbors, Joyce and her daughter Heather, custom harvest your crop. They will custom harvest the crop for $30.00 per acre. The purchase cost of the combine is $110,000. Given this, you calculate the annual fixed ownership cost to be $22,000 per year. The operating cost per acre if you harvest the crop yourself is $14 per acre.

7. Given this, how many acres are needed before you can justify ownership? (Don't consider any factors such as potential yield differences, etc.)
   a. at least 733.33 acres
   b. at least 1375 acres
   c. at least 1571.43 acres
   d. at least 500 acres
   e. none of the above

8. With further calculations, you conclude that if you have Joyce and Heather custom harvest your crop you will always have access to the latest harvesting technology. Your analysis indicates you will harvest four more bushels per acre with custom harvesting. You project that the corn price will be $2.50 per bushel. Given this, what is the new break even number of acres?
   a. at least 3,666.67 acres
   b. at least 1,047.62 acres
   c. at least 846.15 acres
   d. at least 623 acres
   e. none of the above
The next two questions are based on the following information.

You are looking into purchasing a new machine for your farming business. You have pulled together the following information and want to calculate some ownership (fixed) costs.

- PTO Horsepower = 100
- Interest rate = 8%
- Purchase price = $60,000
- Years of useful life = 12 years
- Taxes = 1% of new cost
- Salvage value = $6,000
- Labor cost = $8.00/hour
- Labor amount = 300 hours
- Fuel cost = $1.00 per gallon
- Fuel use (gallon/hr) = 0.06 x PTO Horsepower

9. In a budget for machine operating cost, what is the fuel cost per acre? (You will use the tractor on 150 acres.)
   - a. $1.00
   - b. $12.00
   - c. $6.00
   - d. $18.00
   - e. none of the above

10. In a budget for machine ownership what is the annual interest cost?
    - a. $5,280
    - b. $2,640
    - c. $2,400
    - d. $4,800
    - e. none of the above

11. Which of the following would be best valued at purchase cost on the balance sheet? (Balance sheet is to reflect financial position at the time the balance sheet is completed.)
    - a. land
    - b. grain in storage which was produced on the farm
    - c. supplies such as fuel, etc.
    - d. machinery
    - e. equipment
    - f. none of the above

12. Those of you in hog production realize that the current price of market hogs is low: in the $30-$32 per hundred weight range in many communities. Information from the 1996 Swine Enterprise Record results showed the following production costs: variable costs such as feed, veterinary, utilities of $34 per hundred weight, and fixed costs such as depreciation, capital charge of $5 per hundred weight. Given this, an if you felt the market hog price would remain in $30-$32 per hundred weight range, what would you do in the short run?
    - a. Not place hogs in the facility, as your losses will be less if the system is idle.
    - b. Place hogs in the system to minimize your losses.
    - c. It is a break-even proposition on if you place hogs in the system or not.
13. If the rate of return on equity is less than the rate of return on assets, the rate of return on assets is:
   a. greater than the interest rate on borrowed money
   b. less than the interest rate on borrowed money
   c. negative
   d. equal to rate of return on equity
   e. none of the above

14. One measure for comparison of enterprises between farm operations is return per $100 feed fed. You have pulled the following information from your Beef Enterprise Record System. What is the return per $100 feed fed?
   Value of homegrown feed fed $  50,000
   Pig sales $200,000
   Pig inventory change + $  20,000
   Pig purchases $    5,000
   Value of purchased feed fed $  60,000

   a. $200.00
   b. $204.54
   c. $195.45
   d. $159.09
   e. $250.00
   f. none of the above

15. Feed represents a major part of livestock production. If feed represents 50 percent of the cost of feeding out a market steer (total cost is $700; feed cost is $350), what does your return per $100 of feed fed need to be to cover your total production costs?
   a. $150
   b. $100
   c. $200
   d. $175
   e. $125
   f. none of the above

16. You and your neighbor were talking the other day about the need to turn your capital over more rapidly. You did not feel your value of production was sufficient given the investment you had. During the past year your average investment (assets) in the farming operation was $400,000. You had a debt level of $150,000. The total value of production for your hog, cattle, and row crop operation was $100,000. What was your asset turnover ratio?
   a. 2.5
   b. 5.5
   c. 4.0
   d. 1.6
   e. 2.0
17. According to Jim Frevert, President of Hertz Farm Management Company, from Nevada, Iowa, a typical farm manager:
   a. manages 100,000 to 150,000 acres
   b. works with 40-50 agribusiness dealers
   c. works with 50-70 landowners
   d. works with 250 farms
   e. works in 25-30 counties

18. According to Jim Frevert, President of Hertz Farm Management Company, from Nevada, Iowa, types of service a professional farm manager offers include:
   a. land leasing
   b. production information
   c. marketing
   d. client communication
   e. all of the above

19. You are feeding out hogs. You can buy a 30 pound feeder pig and feed to 250 pounds and receive a profit of $10 per animal. The other alternative is to buy 50 pound pigs and feed them to 250 pounds and receive $12 profit. Which type of feeder will provide the highest profit for your feedlot over a given time period?
   a. the 30 pound feeder
   b. the 50 pound feeder
   c. not sufficient information to know

You have been provided the following information from the owner of "Clone Acres". She (he) is having problems making sense out of it.

Cash livestock sales 100,000
Cash crop sales $ 90,000
Cash farm expenses (including cash interest paid) 130,000
Market livestock inventory increase 2,000
Beginning crop inventory 10,000
Ending crop inventory 16,000
Depreciation 20,000

20. Given this, what is the net farm income from operations for "Clone Acres"?
   a. $60,000
   b. $36,000
   c. $48,000
   d. $68,000
   e. none of the above
The next five questions are based on the following information for Cy's Balance Sheet.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Fixed liabilities</td>
<td>$100,000</td>
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<tr>
<td>Current liability</td>
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<tr>
<td>Intermediate liability</td>
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<td>Total liabilities</td>
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<tr>
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<tr>
<td>Total assets</td>
<td>350,000</td>
</tr>
</tbody>
</table>

21. What is Cy's current ratio? (As calculated for Cy Acres in class and in the text.)
   a. 1.458
   b. .833
   c. 1.25
   d. 2.0
   e. none of the above

22. What is Cy's working capital?
   a. $10,000
   b. - $10,000
   c. $110,000
   d. $50,000
   e. $20,000
   f. none of the above

23. What is Cy's debt structure?
   a. 58.33
   b. 25.0
   c. 14.5
   d. 19.7
   e. 33.34
   f. 65.21
   g. none of the above

24. What is Cy's debt-to-asset (debt/asset) ratio?
   a. 1.458
   b. .50
   c. .6857
   d. .469
   e. none of the above

25. What is Cy's debt to equity (debt/equity) ratio?
   a. 1.25
   b. 2.0
   c. 2.18
   d. .89
   e. 1.69
   f. none of the above
The next four questions are based on the following information:

You have been provided the following information from "Clone Acres" and asked to provide assistance on the analysis.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest expense</td>
<td>$ 20,000</td>
</tr>
<tr>
<td>Net farm income from operations</td>
<td>40,000</td>
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<tr>
<td>Average assets</td>
<td>450,000</td>
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<tr>
<td>Average equity</td>
<td>250,000</td>
</tr>
<tr>
<td>Opportunity cost of capital</td>
<td>10%</td>
</tr>
<tr>
<td>Unpaid labor charge</td>
<td>22,000</td>
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<tr>
<td>Unpaid management charge</td>
<td>10,000</td>
</tr>
</tbody>
</table>

26. What is "Clone Acres" rate of return on assets (ROA)?
   a. 13.33%
   b. 8.89%
   c. 10%
   d. 1.78%
   e. 6.22%
   f. none of the above

27. What is "Clone Acres" return to equity?
   a. $40,000
   b. $25,000
   c. $8,000
   d. - $12,000
   e. $30,000
   f. none of the above

28. What is the return to labor and management for "Clone Acres"?
   a. $60,000
   b. $15,000
   c. $8,000
   d. $35,000
   e. $40,000
   f. none of the above

29. If the return to labor and management for "Clone Acres" was $50,000 (not the correct answer) what is "Clone Acres" return to management?
   a. $72,000
   b. $10,000
   c. $40,000
   d. $28,000
   e. $48,000
   f. none of the above

30. During Spring Break, which is a bit more than a week,
   a. you are going to get some time to get yourself fully charged and come back raring to go to finish off the semester full of energy.
   b. you are going to do some fun things.
   c. you are going to do some things that you enjoy.
   d. Hint: You are going to do all the above is the best answer.
   e. you are going to do all the above.
Part II. Problems, etc.

1. (2 pts.) Indicate how each of the following impacts net farm income from operations (accrual net farm income). Use "Inc" to indicate an increase in net farm income from operations, "Dec" to indicate a decrease in net farm income from operations and "NI" to indicate no impact on net farm income from operations. (1 pt. each)

   ______ Increase in inventory
   ______ Decrease the opportunity charge on unpaid family labor from $8.75 to $8.00.

2. (8 pts.) Use your knowledge of balance sheets and ratio analysis to complete the following balance sheet.

   The current asset/current debt ratio is 3.0.

   Your assets are structured so that total assets are four times the current assets.

   Debt to asset ratio = .4

   Fixed assets represent 40 percent of total assets.

   Intermediate liabilities represent one half (50%) of the intermediate assets.

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
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<tbody>
<tr>
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<td>_______</td>
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<tr>
<td>Total Intermediate Assets</td>
<td>_______</td>
</tr>
<tr>
<td>Total Fixed Assets</td>
<td>_______</td>
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<tr>
<td>Total Assets</td>
<td>_______</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Liabilities</td>
<td></td>
</tr>
</tbody>
</table>

BONUS: (2 points)

How do you spell the last name of your 330 lab instructor?___________________________________

The Old Sage Says:
• A smile is a gently curved line that sets a lot of things straight.
• Well done is better than well said.
• Calculating business analysis ratios is a lot like twirling a baton, turning handsprings or eating with chopsticks.  It looks easy until you try it.