1. _____/20	4._____/10
2. _____/20	5._____/30
3. _____/20	6._____/10
Total: _____/110	

Name: _____

Period: _____

Graded by: _____

Unit 7: Costs of Production and Perfect Competition
Problem Set

1. Explain an example that demonstrates the "real world" application of each of the following. Define the terms in your own words and use examples that clearly demonstrate your understanding of each concept.
   a. Explicit and Implicit Costs (_____/5)
   b. The Law of Diminishing Marginal Returns (_____/5)
   c. Fixed Costs, Variable Costs, and Total Cost (_____/5)
   d. Economies of Scale and Diseconomies of Scale (_____/5)

2. Productivity and Costs
   a. Complete the worksheet "Production Function for Tony's Hat Store" (_____/15)

   b. Explain the relationship between the marginal product curve and the marginal cost curve. In your response, explain why the marginal cost curve is "U" shaped (_____/5)

3. Below is information regarding Cory's Surfboard Inc. Complete the table and do the following (_____/5):
   a. On a large graph, plot the MC, AFC, AVC, and ATC curves from this data (_____/5)
   b. EXPLAIN what would happen to each of Cory's per unit cost curves if the price of Styrofoam blanks (a variable input) increases. How would the cost curves change if there were an increase in his rent (a fixed input)? Explain why the results are different. (_____/5)
   c. If the market for surfboards was perfectly competitive and the market price was $150, how many surfboards should Cory make and how much profit will he make for EACH surfboard? Draw the firms demand on your graph in a. Explain how you got your answer. (_____/5)

Total Product	Variable Costs (TVC)	Total Cost (TC)	Average Fixed Cost (AFC)	Average Variable Cost (AVC)	Average Total Cost (ATC)	Marginal Cost (MC)
0	$0	$100				
1	60					
2	90					
3	130					
4	180					
5	250					
6	340					
7	490					
8	680					

4. Assume that apples are an inferior good. Draw a perfectly competitive market for apples and a firm selling apples in the long run equilibrium where price is $10 and the firm's equilibrium quantity is 50. Explain the following situations graphically and in words (Draw and label side-by-side graphs for each).
   a. EXPLAIN what happens in the short-run if incomes increases by 15%? (_____/5)
   b. EXPLAIN the process by which this market returns to the long-run equilibrium (_____/5)

   5. Complete the following practice FRQs (Both will be graded in class):
      FRQ 1 (_____/12)   b. FRQ 2 (_____/18)

6. Utility Maximization (_____/10)

You just won a $100 shopping spree at a store that sells only DVDs and CDs. You are trying to determine what combination of these two goods would maximize your utility. The price of CDs is $10 and DVDs are $20. Below is the total utility you receive from consuming these goods.

CDs	Total Utility
1	60
2	110
3	150
4	180
5	200
6	210

DVDs	Total Utility
1	160
2	300
3	420
4	520
5	600
6	660

a. Calculate the marginal utility and marginal utility per dollar for each unit of each good. (_____/4)

b. If you only had $100, EXPLAIN how you determine the utility maximizing combination of CDs and DVDs? (_____/3)

c. If your reward increased and your income constraint became $130, EXPLAIN how you determine the utility maximizing combination of CDs and DVDs? (_____/3)