Econ2010 – Practice Assignment #5

SECTION I.

1. Define marginal cost. Why does marginal cost eventually increase as total product increases?
2. What is the relationship between the long-run average cost curve and the short-run average cost curves? What do economies of scale and diseconomies of scale have on the shape of the long-run average cost curve?
3. What are the two main differences between the short-run and long-run? Why does diminishing marginal product exist in the short-run, but not the long run?
4. Why is marginal revenue equal to both average revenue and price in a perfectly competitive setting?
5. Why can't a perfectly competitive firm influence industry price?
6. How can the shape of a firm's long-run average cost curve determine the optimal size of the firm?

SECTION II.

1. Jennifer's Carpet Cleaners has fixed costs of $100 per month and a total cost curve as given in the table below. Output is the number of carpets cleaned. Given this data, answer
the questions below.

Output	Total Cost
10	$200
20	$320
30	$460
40	$620
50	$800
60	$1000

a. The current price for cleaning a carpet is $18. How many carpets must be cleaned to maximize profits? What will the profit be?
b. Suppose the price falls to $14. Calculate the profit-maximizing output and the total profits.

6. For each of the following two situations, determine: i) Profit-maximizing output level, and ii) total profits

A. Fixed costs = $40,000; price = $600

Output	Total Cost	Marginal Cost
100	$80,000	
200	$120,000	
300	$170,000	
400	$230,000	
500	$300,000	
600	$380,000	
700	$470,000	

B. Fixed Costs = $0; price = $80

Output	Total Cost	Marginal Cost
1	$40	
2	$90	
3	$150	
4	$210	
5	$280	
6	$360	
7	$450	
8	$550	