Econ_101_Spring 2007_IVY Tech College
Chapter_06_Solutions to Sample Questions

4. Consider the Slappers, a hockey team that plays in an arena with 8,000 seats. The only cost associated with staging a hockey game is a fixed cost of $6,000: the team incurs this regardless of how many people attend a game. The demand curve for hockey tickets has a slope of [$1/1,000]: each $1 increase in price decreases the number of tickets sold by 1,000. For example, here are some combinations of price and quantity:

Price	$4	$5	$6	$7
Quantity	8,000	7,000	6,000	5,000

The owner's objective is to maximize the profit per hockey game (total revenue less the $6,000 fixed cost). (a) What price will maximize profit? (b) If the owner picks the price that maximizes profit, how many seats in the arena will be empty? (c) Is it rational to leave some seats empty?

Marginal cost is zero. Thus, the goal is to maximize revenue. This occurs at the point where MR is equal to zero, which is at a price of $6 and a quantity of 6,000 seats. There will be 2,000 empty seats, but this is rational since profits would actually be lower if all seats were sold at a price of $4.

6. Consider a natural monopolist. Here is some data on prices and quantities.

Price	$20	$19	$18	$17	$16
Quantity	100	120	140	160	180
MR	**$15**	**$13**	**$11**	**$9**	**$7**

a. Complete the table: for each quantity, use the formula for marginal revenue to compute the marginal revenue.
b. Draw the monopolist's demand curve and its marginal-revenue curve.
c. Suppose the firm's long-run marginal cost is $9. How much output should the firm produce?
   First, notice that the slope of the demand curve is .05. The firm will produce 160 units at a price of $17.

7. Consider a regulated natural monopoly with an initial price (equal to average cost) of $3 per unit. Suppose the demand for the monopolist's product decreases. What will happen to the price? How does this differ from the effects of a decrease in demand for a product produced in a perfectly competitive industry?
   The price will increase, because the average cost curve for a natural monopolist is downward sloping. Thus, a lower output must be associated with a higher average cost. In a perfectly competitive industry, a fall in demand would cause a decrease in price.

8. Consider a monopolist who owns a natural spring that produces water that, according to nearby residents, has a unique taste and healing properties. The monopolist has a fixed cost of installing plumbing to tap the water, but no marginal cost. The demand curve for spring water is linear. Depict graphically the monopolist's choice of a price and quantity. At the profit-maximizing quantity, what is the price elasticity of demand? If the spring were owned by the government, what price would it charge?

   The monopolist will produce at the point where marginal revenue equals marginal cost. Because MC = 0, this is the point at which the MR curve intersects the horizontal axis. Price is then found at the corresponding point on the demand curve. Since this must be the midpoint of the demand curve (since MR = 0), elasticity is –1. The government would charge a price equal to average cost.