PS#2 - Economics 352 – I.O. Wissink S05

1. Critically evaluate the following statements and explain in what way they are true, false, or uncertain.

a. Monopolists are never ever allocatively efficient.

b. Monopolists are never ever productively efficient.

c. Since monopolists produce less than what would be produced under competitive conditions, monopolists create shortages.

d. Monopolists will never earn zero economic profit since entry does not force profits down to zero as in perfect competition.

e. Monopoly is a bad thing for consumers and a good thing for producers. Therefore, on balance, we can't be sure that monopoly is responsible for any loss in economic efficiency.

f. A tax on the monopolist’s economic profit will force the monopolist to expand output to the allocatively efficient level.

g. A per unit tax on monopoly output will force the monopolist to expand output to the allocatively efficient level.

h. Rent seeking behavior only applies to monopolists in the real estate business.

2. Suppose that there are 1000 identical firms producing eggs. The total cost curve for each firm is given by \( tc_i = x_i^2 + 10x_i \), \( i = 1,\ldots,1000 \). (Note that \( x_i \) is firm \( i \)'s output.)

a. What is the typical firm's short-run supply curve? What is the industry short-run supply curve?

b. If the industry demand curve is \( P = 40 - (1/250)X \) what is the equilibrium price and quantity of eggs in the short-run? How many eggs is each firm that operates producing? How many firms are in operation? Are there profits? What is the value of net social surplus at the market equilibrium?

c. Suppose Donald Trump decides to buy out all 1000 egg firms at once and monopolize the egg market. Assume he successfully buys everyone’s firm and that there are no cost advantages associated with being a monopolist. What is the marginal cost curve of Trump eggs? What is the profit maximizing number of eggs and price? How many eggs are produced by each firm? What are Donald's profits as the monopolist? What is the value of net social surplus at the monopoly equilibrium? What is the value of the dead-weight-loss due to monopolization?
e. Show how a judiciously chosen price ceiling could get the monopolist to produce the allocatively efficient level of output.

3. Prove that a simple monopolist left alone to profit maximize will never choose to operate in the inelastic portion of his demand curve.

4. Testing for short-run positive economic profit is a sure-fire way to conclude whether or not a firm has monopoly power.

5. If possessing market power is defined to be the ability of the firm to charge a price in excess of marginal cost, then anytime there is only one firm in an industry, it follows that the firm has market power.

6. Would a profit-maximizing dominant firm ever produce more than if it were a monopoly?

7. In Key West Florida, one of the hottest bars to be seen at is Captain Tony's Saloon (run by the infamous Captain Tony) which is open every day from 7 P.M. to 2 A.M. Tony's total cost function for making and serving drinks is $\text{tc} = 2X$, where $X$ is the number of drinks. Note this implies his marginal costs are constant and equal to $2.00$.

   A slew of economists are in town living it up at the Red Roof Inn. Suppose that a group of them (affectionately known as the "Wild Bunch" and numbering 100) has persuaded Captain Tony to open his saloon exclusively for them from 5 P.M. to 7 P.M. Suppose that each member of the Wild Bunch has a demand function for drinks $x = 12 - 2P$ (P is the per unit price of a drink). On a graph, illustrate the Wild Bunch's demand curve; Captain Tony's marginal revenue curve; and Captain Tony's marginal cost curve. What is the profit maximizing number of drinks and price charged per drink to these rowdy economists? How much profit does Tony make? Calculate consumer and producer surplus.

8. Show how marginal revenue can be written as a function of the own price elasticity of demand.

9. Show how the Lerner index can be written as a function of the own price elasticity of demand.

10. Graphically demonstrate the equilibrium for a simple profit maximizing monopsonist.

11. Derive the short run supply curve for a simple profit maximizing monopolist.

12. If the demand curve is $X(P) = 5/P$, what is the own price elasticity of demand? What is the total revenue when $P = 1$ and when $P = 30$? If production costs $1$ per unit, and the smallest production level is 1 unit, how much should the monopoly produce?