**NTU SSS Economics HE1001**

**Problem Set 2: Perfect Competition and Monopoly I**

**This problem set will be discussed during the tutorials in Week 10 (23-24 Oct)**

**Perfect Competition**

1. An increase in the demand for movies also increases the salaries of actors and actresses. Is the long-run supply curve for films likely to be horizontal, download sloping or upward sloping? Please use a graph to explain.

2. Suppose you are given the following information about a particular industry:



Assume that all firms are identical, and that the market is characterized by perfect competition.

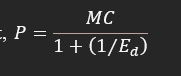
1. Find the equilibrium price, the equilibrium quantity, the output supplied by the firm, and the profit of each firm.
2. Would you expect to see entry into or exit from the industry in the long run? Explain. What effect will entry or exit have on market equilibrium?
3. What is the price at which each firm would sell its output in the long run equilibrium? Is profit positive, negative, or zero at this price?

**Monopoly I**

3. A monopolist faces the following demand Q=100-2P and has the total cost TC=5Q+Q2.

1. Derive the expression for the marginal revenue function.
2. Calculate the profit maximizing output.

4. Please prove that, in a monopolistic market,



5. A firm's demand curve is given by P = 500 - 2Q. The firm's current price is $300 and

the firm sells 100 units of output per week. If the firm’s marginal cost is zero, is the firm maximizing profit? If your answer is not, what should be the optimal quantity?