

## Problem Set # 1

- 1) Suppose that the inverse market demand function for product is  $p = 10 - Q$  and that marginal cost is constant at 2. Determine the market equilibrium in a perfectly competitive market.
- 2) Give the above conditions compute the consumer surplus.
- 3) Suppose that a firm bear the following cost function:  $C = 2Q^2$ ; suppose that it sells 10 units at a price of 250; determine the producer surplus. How does the producer surplus change if the cost function is  $C = 2Q^2 + 20$ ?

1) Economists define a market to be competitive when the firms

- A) spend large amounts of money on advertising to lure customers away from the competition.
- B) watch each other's behavior closely.
- C) are price takers.
- D) All of the above.

2) Firms that exhibit price-taking behavior

- A) wait for other firms to set price, take it as given, and charge a higher price.
- B) have outputs that are too small to influence market price and thus take it as given.
- C) take pricing behavior in their own hands.
- D) are independently capable of setting price.

3) In the short run

- A) firms will shut down if operating at a loss.
- B) profit maximizing firms have identical short run supply curves.
- C) firms may choose to operate at a loss.
- D) most firms have short run supply curves that are the same as their long run supply curves.

4) If a competitive firm finds that it maximizes short-run profits by shutting down, which of the following must be true?

- A)  $p < AVC$  for all levels of output.
- B)  $p < AVC$  only for the level of output at which  $p = MC$ .
- C)  $p < AVC$  only if the firm has no fixed costs.

D) The firm will earn zero profit.

5) Suppose that for each firm in the competitive market for potatoes, long-run average cost is minimized at €0.20 per kilo when 500 kilos are grown. The demand for potatoes is  $Q = 10,000/p$ . If the long-run supply curve is horizontal, then how many kilos of potatoes will be consumed in total?

A) 0

B) 500

C) 10,000

D) 50,000