Introduction to Microeconomics

Week 2

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February 6, 2024

Contents

Question 1

The market demand curve for a good X is $P_X = 2000 - 4Q$ and the market supply curve is $P_X = 300 + 6Q$. The government fixes the price ceiling at INR 500. Based on this answer the following questions.

I) What is the equilibrium price and quantity before price ceiling?

A) INR 1320, 170 units

B) INR 1300, 160 units

C) INR 1400, 150 units

D) INR 1600, 130 units

Question 1

The market demand curve for a good X is $P_X = 2000 - 4Q$ and the market supply curve is $P_X = 300 + 6Q$. The government fixes the price ceiling at INR 500. Based on this answer the following questions.

II) What is the consumer surplus before price ceiling?

A) INR 60,000

B) INR 80,000

C) INR 57,800

D) INR 70,000

Question 1

The market demand curve for a good X is $P_X = 2000 - 4Q$ and the market supply curve is $P_X = 300 + 6Q$. The government fixes the price ceiling at INR 500. Based on this answer the following questions.

III) How much quantity is traded in the market after price ceiling?

A) 30 units

B) 33.3 units

C) 40 units

D) 45 units

Question 1

The market demand curve for a good X is $P_X = 2000 - 4Q$ and the market supply curve is $P_X = 300 + 6Q$. The government fixes the price ceiling at INR 500. Based on this answer the following questions.

IV) How much is the quantity shortage after imposition of price ceiling?

A) 300 units

B) 341.67 units

C) 350 units

D) 342.67 units

Question 2

A company produces sewing machines of type A and B for two different markets, industrial use and personal use. Both sewing machines are manufactured in the same factory. If there is a sudden growth in textile industry, leading to a surge in demand for sewing machines of type A for industry, what happens to the supply curve of sewing machines for personal use, type B?

A) It remains the same

B) It shifts to the left

C) It shifts to the right

D) It changes its shape

Question 3

In Question 2, from the supply perspective, how are sewing machines of type A related to type B?

A) Type A is complement for type B

B) Type A is substitute for type B

C) Neither

D) Can't determine with given information

Question 4

The estimated supply function for avocados is given by $Q_S = 58 + 15p - 20p_f$ where p is price of avocados and p_f is price of fertilizer. What happens to the supply curve if the price of fertilizer increases by 1.8\$? Assume initial $p_f = 0.4$. Illustrate your answer on a diagram.

A) Curve remains the same.

B) Curve shifts to the left.

C) Curve shifts to the right.

D) Indeterminate.

Question 5

The demand function for a good is $Q_D = a - bp$, and the supply function is $Q_S = c + ep$ where a, b, c, e are positive constants and p is price. The equilibrium price and quantity are given by:

A) $Q^* = \frac{ae+cb}{b+e}$, $p^* = \frac{a-c}{b+e}$

B) $Q^* = \frac{ae-cb}{b+e}$, $p^* = \frac{a+c}{b+e}$

C) $Q^* = \frac{ae-cb}{b+e}$, $p^* = \frac{a-c}{b+e}$

D) $Q^* = \frac{ae+cb}{b+e}$, $p^* = \frac{a+c}{b+e}$

Question 6

A manufacturer of bicycles decides to sell bicycles in a new market. He manufactures them in batches of 10, and the marginal cost of one batch is the same for all bicycles in that batch. The table gives his marginal cost (in INR) for producing the ith bicycle. How many bicycles will he sell?

i	1-10	11-20	21-30	31-40	41-50	51-60	61-70
MC	4000	4200	4500	5000	5500	5800	6000

Table 1: Marginal Cost of Bicycles

If the market price of a bicycle is INR 5700, how many bicycles does he sell?

Question 7

In question 6, if a typical buyer is willing to buy the cycle for INR 6000, what is the total consumer surplus and total producer surplus for the seller?

Reference Reading

1. *The Economy 2.0: Microeconomics* by CORE Econ.
2. *Introduction to Economic Analysis v. 1.0*
3. *Workouts in Intermediate Microeconomics 6e* by Hal Varian
4. *Microeconomics* by Jeffrey Perloff

Thank you!

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