Introduction to Microeconomics

Week 3

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Contents

Question 1

The market demand function for corn is given by $Q = a - bp$.

I) What is the price elasticity of demand for corn at price p? What is the price elasticity at $p = 10$ if $a = 60$, $b = 1$?

A) $bp/(a - bp)$, 1/2

B) $bp/(bp - a)$, -1/5

C) $-b$, -1

D) None of the above

Question 2

The market demand function for rice is given by $Q = 40p^{-2}$.

II) What is the price elasticity of demand for rice, in terms of p? What is the price elasticity of demand at $p = 5$ and at $p = 10$?

A) -1/2, -1/2, -2

B) -2, -2, -2

C) -1, -1/2, -1/4

D) None of the above

Question 3

Based on your answers in question 1 and 2, which demand is more elastic? Corn or rice?

A) Corn is more elastic.

B) Rice is more elastic.

C) Rice is more elastic for some values and corn is more elastic for other values of prices.

D) Can't be determined.

Question 4

Which of the following statements is/are TRUE?

I) For $\varepsilon > 1$, if P increases, Total revenue increases.

II) For $\varepsilon = 1$, there is no change in total revenue with change in P.

III) For $\varepsilon < 1$, if P increases, total revenue increases.

A) Only I

B) I and II

C) Only III

D) II and III

E) None

Question 5

Consider a mineral that is in fixed supply, $Q^s = 4$. The demand for the mineral is given by $Q^d = 10 - 2p$ where p is the price per pound, and Q^d is the quantity demanded. The government imposes a tax of $2 per pound on the consumer.

What is the equilibrium price-quantity bundle before the tax is imposed?

A) (4,4)

B) (1,8)

C) (3, 8)

D) (3, 4)

Question 6

Consider a mineral that is in fixed supply, $Q^s = 4$. The demand for the mineral is given by $Q^d = 10 - 2p$ where p is the price per pound, and Q^d is the quantity demanded. The government imposes a tax of \$2 per pound on the consumer.

What is the equilibrium quantity after tax is imposed?

A) 1

B) 2

C) 3

D) 4

Question 7

Consider a mineral that is in fixed supply, $Q^s = 4$. The demand for the mineral is given by $Q^d = 10 - 2p$ where p is the price per pound, and Q^d is the quantity demanded. The government imposes a tax of \$2 per pound on the consumer.

What is the price received by producer, after tax is imposed?

A) \$1

B) \$2

C) \$3

D) \$4

Question 8

Consider a mineral that is in fixed supply, $Q^s = 4$. The demand for the mineral is given by $Q^d = 10 - 2p$ where p is the price per pound, and Q^d is the quantity demanded. The government imposes a tax of \$2 per pound on the consumer.

Who pays the tax in this scenario?

A) Buyer

B) Seller

C) Shared between buyer and seller

D) None of the above

Question 9

Consider a mineral that is in fixed supply, $Q^s = 4$. The demand for the mineral is given by $Q^d = 10 - 2p$ where p is the price per pound, and Q^d is the quantity demanded. The government imposes a tax of \$2 per pound on the consumer.

What is the deadweight loss due to tax imposition?

A) \$10

B) \$8

C) \$4

D) \$3

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