

Problem Set 2

1.

Which of the following characteristics best explains why real estate markets are not considered perfectly competitive markets? *Note: The statements do not have to be false; you are asked to identify the best explanation.*

- (a) Only a few firms have the necessary know-how for residential construction.
- (b) Entering the real estate market requires a large amount of capital that is difficult to obtain.
- (c) Real estate prices fluctuate strongly and consumers often do not have complete price information.
- (d) The government restricts which firms are allowed to operate in the real estate market.

2.

Which of the following characteristics best explains why the market for electric cars is not a perfectly competitive market? *Note: The statements do not have to be false; you are asked to identify the best explanation.*

- (a) Only a few workers meet the requirements for building new electric motors.
- (b) It is difficult to compare cars produced by different manufacturers.
- (c) Some large buyers of electric vehicles have disproportionate influence on the market price.
- (d) The government influences the price at which electric vehicles can be sold.

3.

Which of the following conditions are inconsistent with a perfect competitive market?

- (a) Consumers can easily compare prices and product quality.

- (b) Producers can influence the price at which they obtain inputs.
- (c) New suppliers can easily enter the market.
- (d) Consumers have easy access to the product at a specific, observable price.

4.

Consider the following market. The demand curve is given by the equation

$$Q = 10 - 20P$$

and the supply curve by the equation

$$Q = 5 + 60P.$$

Here, P denotes the market price and Q the quantity demanded or supplied at that price.

- (a) Derive the inverse demand curve (i.e., price as a function of quantity).
- (b) Derive the inverse supply curve (i.e., price as a function of quantity).
- (c) Draw the inverse demand curve and the inverse supply curve in the same diagram.
- (d) What are the equilibrium price and equilibrium quantity in this market?
- (e) Suppose supply decreases (a leftward shift of the supply curve) and demand increases (a rightward shift of the demand curve). What happens to the equilibrium quantity?
- (f) Suppose both supply and demand decrease (both curves shift to the left). What happens to the equilibrium quantity?
- (g) Suppose both supply and demand decrease (both curves shift to the left). What happens to the equilibrium price?

5.

In a market with supply function

$$P = 10Q$$

and demand function

$$P = 90 - 20Q,$$

a per-unit tax of $T = 15$ is introduced and collected from buyers.

Calculate the market equilibrium before and after the introduction of the tax. Report both the gross price (paid by consumers) and the net price (received by producers).

How much of the tax burden is passed on to consumers and how much to producers? Report the respective shares of the tax burden in percent.

6.

Climate protection and sustainability play an increasingly important role when purchasing a car. According to surveys, more and more drivers are considering switching from a combustion engine vehicle to an electric car.

- (a) Holding everything else constant, how will the price of electricity likely change if the number of electric cars increases?
- (b) Holding everything else constant, how will the price of gasoline likely change if the number of electric cars increases?