Consumer and Producer Surplus

Learning Objectives

- Find the consumer's surplus at a certain price level
- Find the producer's surplus at a certain price level
- Find the equilibrium price and the consumer's and producer's surplus at that price

*Find the consumers' surplus at a certain price level*

1. Consider the demand equation $D(q) = 1200 - 12q$. Find the consumers' surplus when the price is $1020.

Find the producers' surplus at a certain price level

2. Find the producer's surplus for the supply equation $S(q) = 300 + 6x$ when the price is $420.

Find the equilibrium price and the consumers' and producers' surplus at that price

3. Find the equilibrium price for the demand equation $D(q) = 1200 - 12x$ and the supply equation $S(q) = 300 + 6x$, and then calculate the consumers' and producers' surpluses at that price.
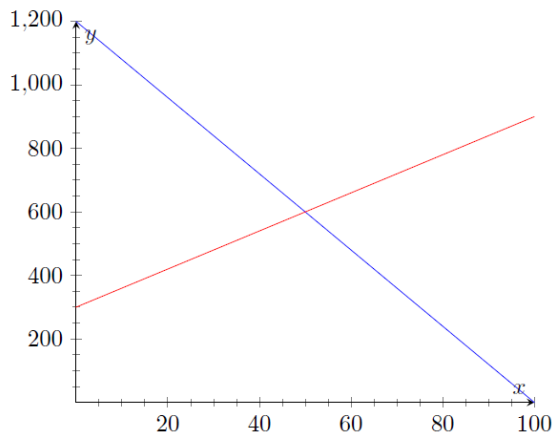
- Consumers' Surplus: $CS = \int_0^{q_p}[D(q) - p]\, dq$
- Producers' Surplus: $PS = \int_0^{q_p}[p - S(q)]dq$

ANSWER KEY

1. $1350

2. $1200

3. equilibrium is (50,600); CS=$15,000; PS=$7,500