

Solution Key: Homework for Chapter 3

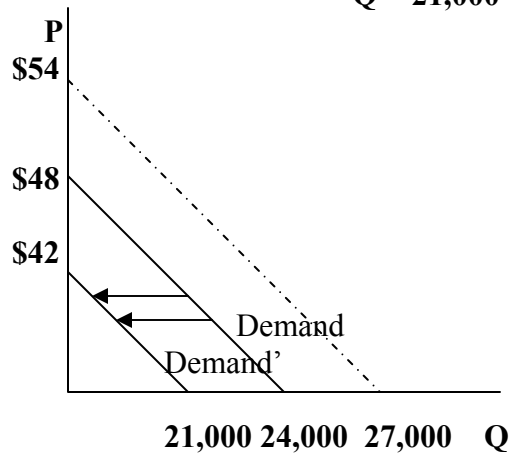
1)

a) $24,000 - 500P = 6,000 + 1,000P$
 $18,000 = 1,500P$
 $\$12 = P$

$Q = 24,000 - 500P$
 $Q = 24,000 - 500 \times 12$
 $Q = 18,000$

b) New Demand should shift to the left meaning lower intercept on the vertical/horizontal axis. Therefore the new demand curve should look like:

$Q = 21,000 - 500P$

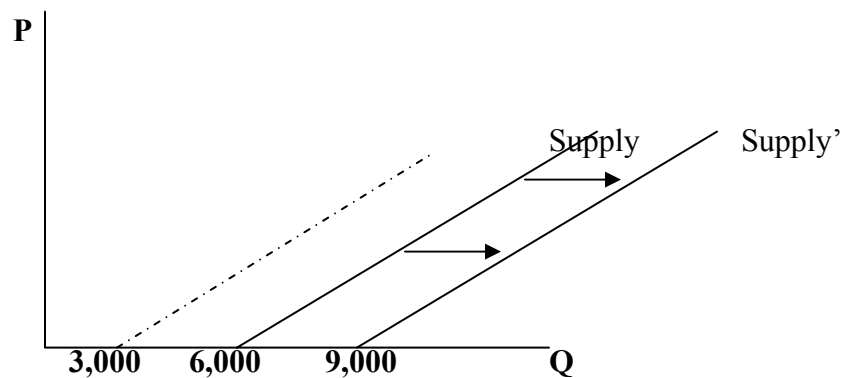


$21,000 - 500P = 6,000 + 1,000P$
 $15,000 = 1,500P$
 $\$10 = P$

$Q = 21,000 - 500P$
 $Q = 21,000 - 500 \times 10$
 $Q = 16,000$

c) New Supply curve should shift to the right meaning higher intercept on the horizontal axis. Therefore the new supply curve should look like:

$Q = 9,000 + 1,000P$



$$9,000 + 1,000P = 24,000 - 500P$$

$$15,000 = 1,500P$$

$$\mathbf{\$10 = P}$$

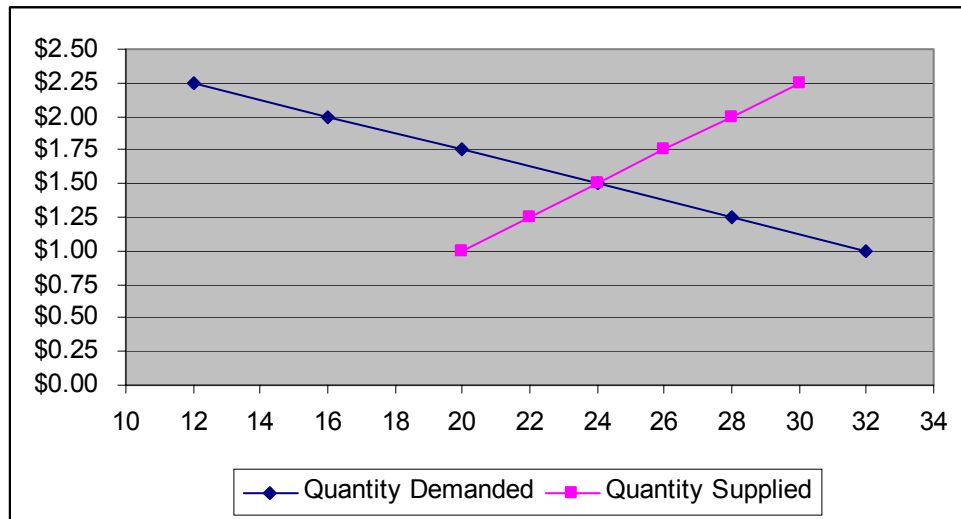
$$Q = 24,000 - 500P$$

$$Q = 24,000 - 500 \times 10$$

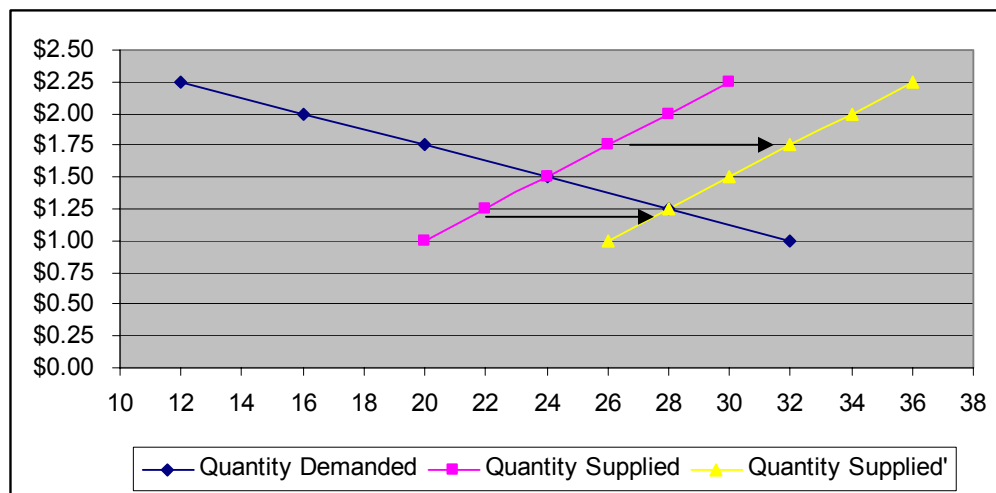
$$\mathbf{Q = 19,000}$$

2)

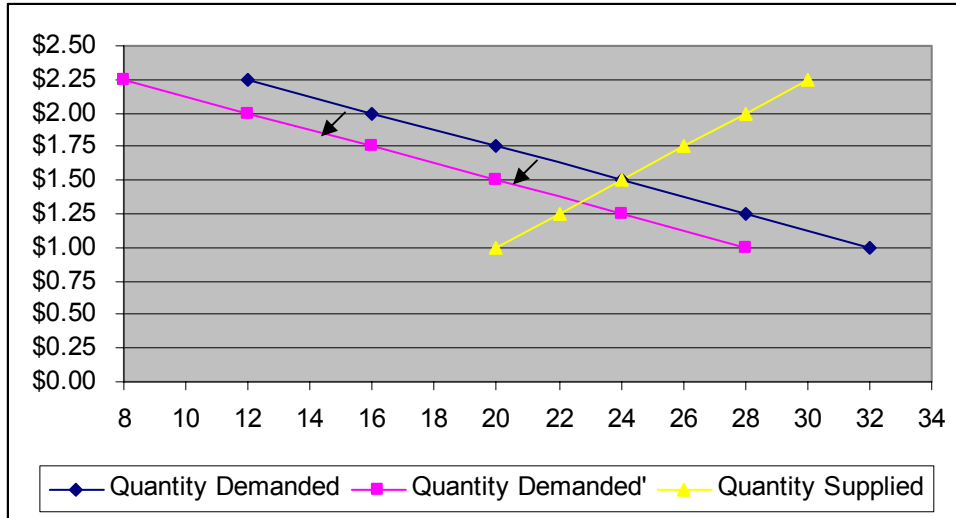
a) Equilibrium price is \$1.50 and equilibrium quantity is 24



b) Since beef is an input for hamburger, the total cost of producing hamburgers drops. As the cost of producing hamburger drops, hamburger producers will be able to produce more hamburgers for a given fixed cost. In short, supply of hamburgers increases as the price of an input drops. Equilibrium price drops and equilibrium quantity increases (**depicted below**)

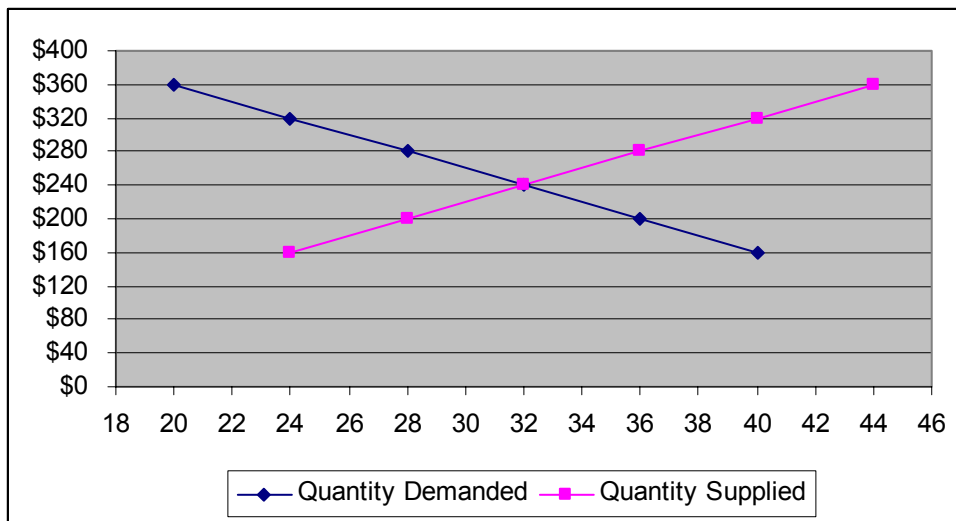


- c) Pizza is a substitute product for hamburger. As the price of a substitute product drops, consumers decide to substitute their initial consumption with the lower price one. In short, if the price of a substitute product drops, demand for initial product also drops. Equilibrium price and equilibrium quantity drops (**depicted below**)

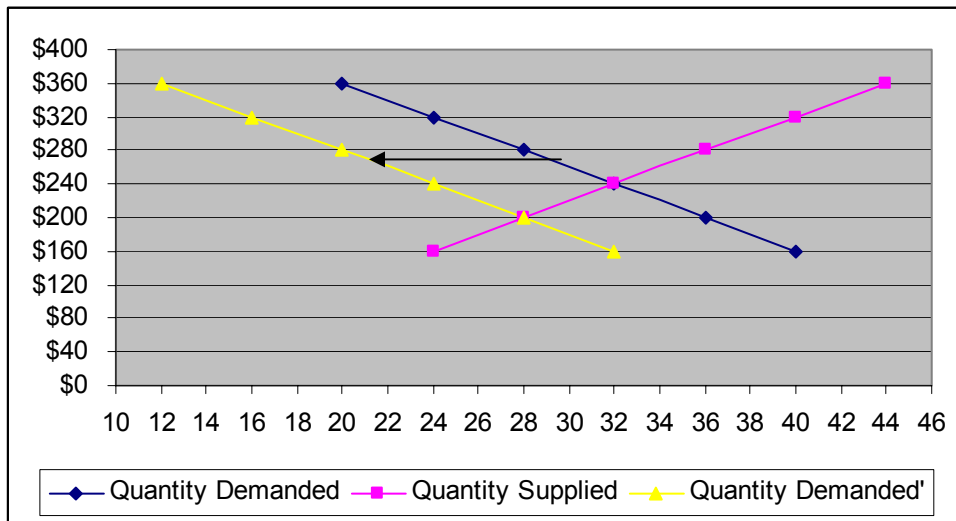


3)

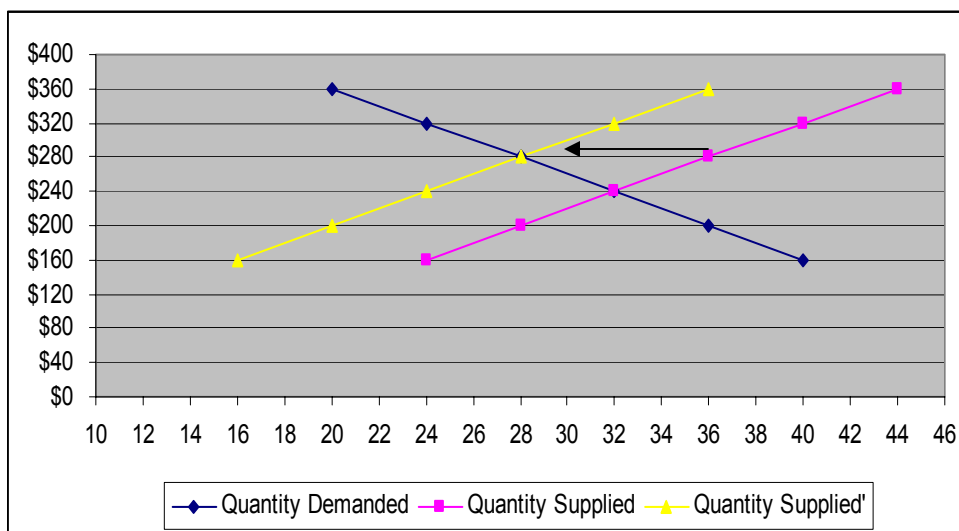
- a) Equilibrium price is \$240 and equilibrium quantity is 32M



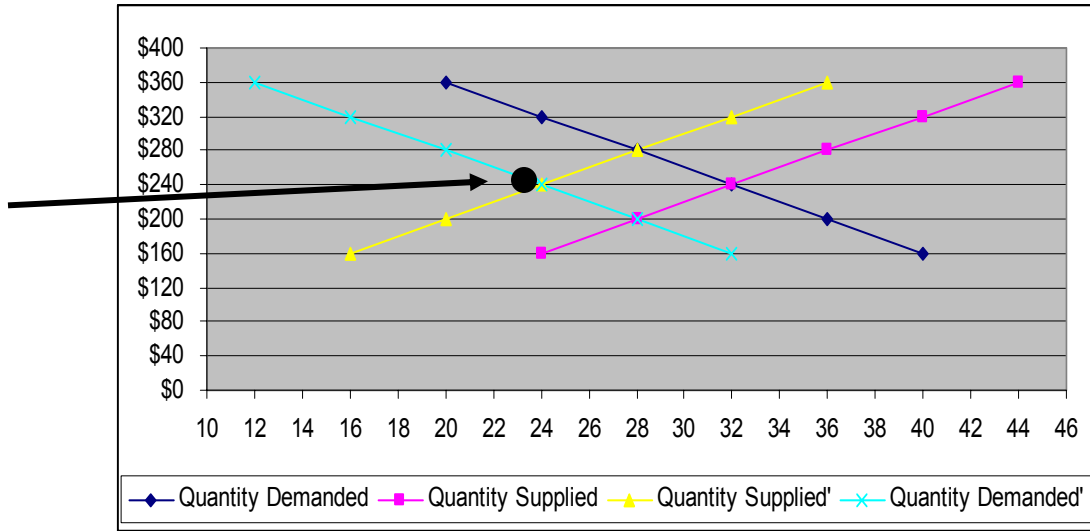
- b) New equilibrium price is \$200 and equilibrium quantity is 28M. The quantity drops less than 8M bikes because decrease in demand also triggered the equilibrium price to drop. At new equilibrium price of \$200 people demand 28M bikes



- c) Equilibrium price is \$280 and equilibrium quantity is 28M. The quantity drops less than 8M bikes because decrease in supply also triggered the equilibrium price to increase. At new equilibrium price of \$200 people demand 28M bikes

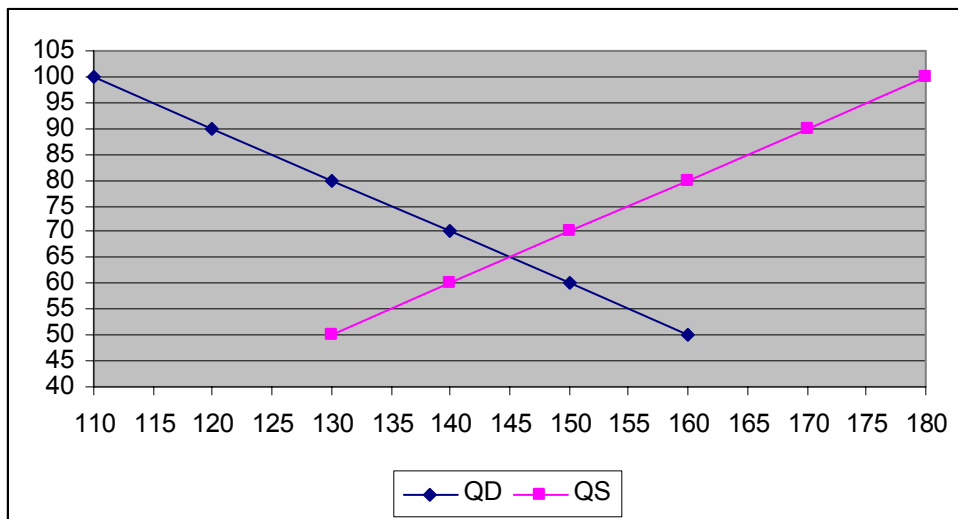


d) Equilibrium price is \$240 and equilibrium quantity is 24M

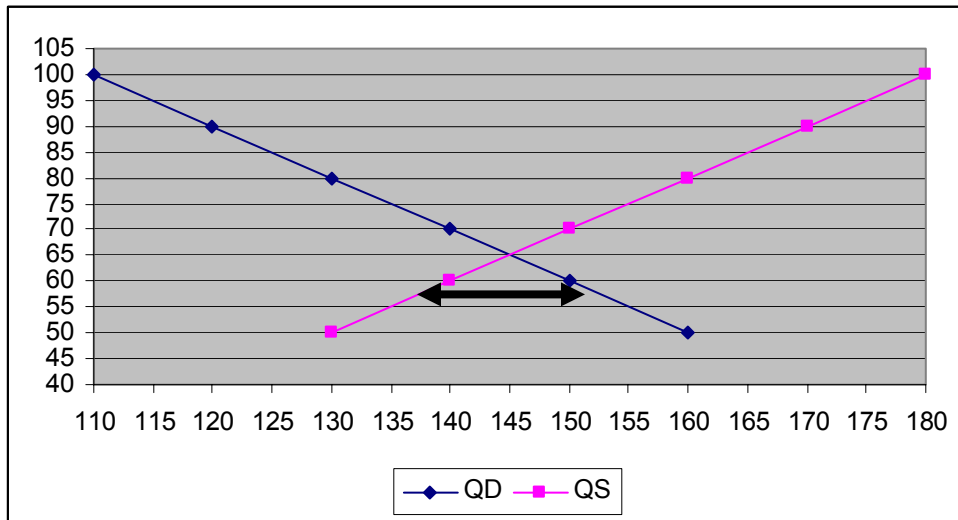


4)

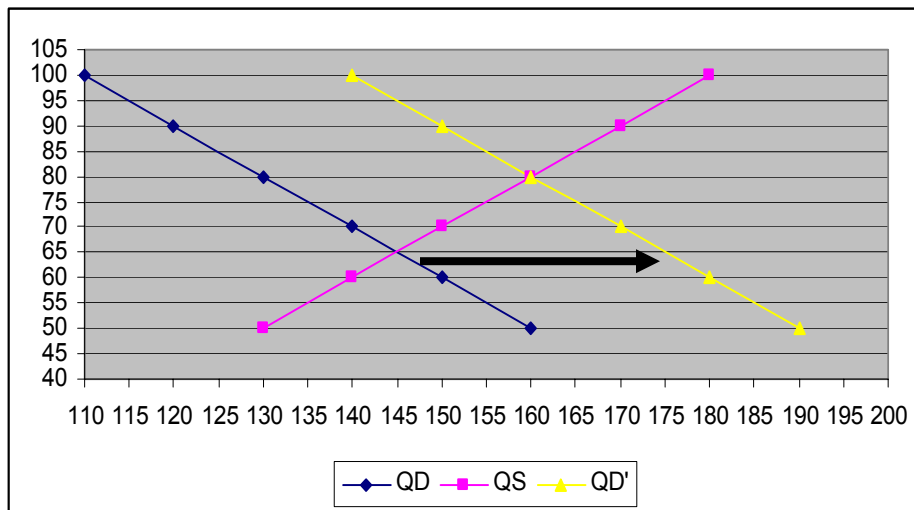
a) Equilibrium price is \$65 and equilibrium quantity is 145



b) Shortage in the market. Price will go up.



c) Slide along the supply curve. There is a shift in the demand curve. (depicted below)



d) Equilibrium price is \$80 and equilibrium quantity is 160