

Fall 2012

Homework Assignment # 1 answer key

- 1) This doesn't violate the law of demand. The price of Christmas trees sold rises and the quantity of trees sold rises are caused by the increase of **downward sloping** demand curve (demand curve shifts to the right) since there are more consumers for Christmas trees in December.
- Simply speaking, as long as the demand curve is downward sloping, it won't violate the law of demand.
- To observe how the law of demand is working in a demand & supply diagram, suppose the price stays at the original equilibrium price P_E and on the new shifted demand curve. At this price, there will be excess demand. Producers will increase their production and increase price along the supply curve (the law of supply works here also), and the consumers will decrease quantity demanded given higher price by moving along the demand curve. The market is clear when it reaches a new equilibrium quantity $Q_{E'}$ and price $P_{E'}$.
- 2)
- a) Draw out supply curve and demand curve on the graph
 Q^D intercepts Q(Quantity) axis at 2,400
 Q^D intercepts P(Price) axis at 8
 Q^S intercepts Q(Quantity) axis at 1,400
 Q^S intercepts P(Price) axis at -2)
- b) $Q^D = 2,400 - 300 * (P) = 1,400 + 700 * (P) = Q^S$
 $1,000 * (P) = 1,000$
 $P_E = 1$
 $Q_E = 2,400 - 300 * (1) = 2,100$
Check your answer with the other equation also.
 $Q_E = 1,400 + 700 * (1) = 2,100$
Therefore, Equilibrium Price = 1, Equilibrium Quantity = 2,100.
- c) This should be a price floor instead of price ceiling.
 $P_f = 3$
 $Q^D = 2,400 - 300 * (3) = 1,500$
 $Q^S = 1,400 + 700 * (3) = 3,500$
 $Q^S - Q^D = 2,000$
Therefore, there is excess supply or surplus of 2,000 snickers.
- d) New demand curve $Q^{D'}$
 $Q^{D'} = 3,400 - 300 * (P) = 1,400 + 700 * (P) = Q^S$
 $P_{E'} = 2$
 $Q_{E'} = 3,400 - 300 * (2) = 2,800$
Therefore, new equilibrium price = 2, new equilibrium quantity = 2,800.
- 3) The problem of the waiting in lift lines is not that price is not working. In fact, there are some economic forces other than market force that prevents the market force (invisible hand) to work. Simply speaking, the current situation of queuing is similar to a price ceiling created by the ski resort that creates excess demand. To solve the problem by market force meaning to ration the current disequilibrium by price, the ski resort can increase production (lift lines)

and increase price (Law of supply again). Consumers will also decrease their consumption which means less people are eager to wait since price has increased (Law of demand again). They will reach an equilibrium where no one needs to wait for the lift ride (i.e. quantity demanded is exactly equal to quantity supplied).

4)

- a) Determinant: Increase in production costs causing decrease in supply of sweatshirts (Supply curve shifts to the left).
Market equilibrium: Equilibrium price increases & Equilibrium quantity decreases.
- b) Determinant: Decrease in the price of substitute (leather jacket) causing decrease in demand of sweatshirts (Demand curve shifts to the left).
Market equilibrium: Equilibrium price decreases & Equilibrium quantity decreases.
- c) Determinant: Increase in the number of consumers causing increase in demand of sweatshirts (Demand curve shifts to the right).
Market equilibrium: Equilibrium price increases & Equilibrium quantity increases.
- d) Determinant: New technological innovations causing increase in supply of sweatshirts (Supply curve shifts to the right).
Market equilibrium: Equilibrium price decreases & Equilibrium quantity increases.

5)

- a) Determinant: Decrease in the production cost causing increase in supply of pizza (Supply curve shifts to the right).
Market equilibrium: Equilibrium price decreases & Equilibrium quantity increases.
- b) Determinant: Increase in consumers' income causing decrease in demand of pizza because pizza is inferior goods. (Demand curve shifts to the left).
Market equilibrium: Equilibrium price decreases & Equilibrium quantity decreases.
- c) There are two determinants.
Determinant (1): Increase in the production cost (price of mozzarella cheese) causing decrease in supply of pizza (Supply curve shifts to the left).
Determinant (2): Increase in the number of consumers causing increase in demand of pizza (Demand curve shifts to the right).
Market equilibrium: Equilibrium price increases & Equilibrium quantity is undetermined since it may increase, decrease or stay the same.
- d) Determinant: Consumers' expectation of lower price in the future causing decrease in demand of pizza (Demand curve shifts to the left).
Market equilibrium: Equilibrium price decreases & Equilibrium quantity decreases.