

## Homework 2: Supply & Demand

ECON 102 – Microeconomics

Professor Schenk

Due: November 8, 2011

1. Consider the following market supply and demand schedule:

<u>Price</u>	<u>Quantity Demanded</u>	<u>Quantity Supplied</u>
10	100	20
20	75	50
30	50	80
40	25	110

- Draw the supply and demand curves with the y-axis labeled “price” and x-axis labeled “quantity.”
- What is the approximate equilibrium price?
- Approximately how many units will be sold at the equilibrium price?

2. Using your answer from above, plot the following demand curve on the same graph from question 1.

<u>Price</u>	<u>Quantity Supplied</u>
10	50
20	80
30	110
40	155

- What is the approximate new equilibrium price and quantity?
- Did the supply curve shift to the left or the right?
- What was the change in quantity demanded? What was the change in demand?
- Did price increase or decrease?

3. At an Iowa State football game, 40,000 tickets were sold at \$30 a piece. The game was sold out and some people did not get tickets even though those individual were willing to pay at least \$30. This suggests the selling price:

- was at equilibrium
- was below equilibrium
- was above equilibrium
- could not have been any higher

4. In 1990 the United Nations (UN) placed trade sanctions on Iraqi oil. In 1996, Iraq was allowed limited exports of oil to make war reparations. What was the effect of the two events on equilibrium price and quantity of oil?
- Price fell initially, then rose; quantity fell and then rose.
  - Price fell initially, then rose; quantity rose and then fell.
  - Price rose initially, then fell; quantity fell and then rose.
  - Price rose initially, then fell; quantity rose and then fell
5. When the UN allowed Iraq to export some oil, was there a change in demand or quantity demanded? Was there a change in supply or quantity supplied?
6. On August 9, 2011, the *Des Moines Register* reported gas prices will fall from \$3.90 to \$3.41 per gallon. The textbook reported the elasticity of demand for gasoline in 0.08. The United States consumed 9 million barrels of oil per day.
- Calculate the percent change in price for gasoline per gallon.
  - Will gasoline consumption rise or fall?
  - By how much? (as a percentage)?
  - How many barrels of oil will the U.S. consume with the price change?
  - Will total revenue for gasoline manufacturers rise or fall? Explain why using supply, demand, and elasticities.
  - Name a substitute good for gasoline. Will the price of that good increase or decrease with the price change? Draw a graph to support your answer.
  - Name a complementary good. Will the price of that good increase or decrease with the price change? Draw a graph to support your answer.

7. Presume the market demand curve can be written:

$$Q_d = 31 - \frac{p}{2}$$

where  $Q_d$  is the amount demanded at price  $p$ . Also, let the supply curve be:

$$Q_s = -3 + 8p$$

where  $Q_s$  is the amount supplied at price  $p$ .

- Draw the demand curve for prices between \$0 and \$10.
- Draw the supply curve for prices between \$0 and \$10.
- What is the price where there will be no leftover goods in the market?
- How many goods will be sold at that price?

You're done!