Finance 30210
Problem Set #1

1) Consider two individuals- Lisa and Mitch. We have the following information about each person's productivity:

Task	Lisa	Mitch
Ironing Clothes	4 hours	5 hours
Washing Clothes	3 hours	6 hours

a) Calculate Lisa's opportunity cost of ironing clothes and washing clothes
b) Calculate Mitch's opportunity cost of ironing and washing clothes
c) Who has the comparative advantage in ironing?

2) Suppose that we have the following price data

Year	Price of Gasoline	Price of Soda
1987	$.89 per gallon	$.35 per 16 oz. bottle
2005	$ 2.39 per gallon	$1.49 per 16 oz. bottle

a) Calculate the percentage change in the price of each good.
b) Calculate the percentage change in the *relative* price of gasoline in terms of soda.
c) Why do we only worry about relative prices in economics?

3) Suppose that we have the following information about wheat production:

Producer	Capacity	Cost per bushel
1	100	$3
2	300	$4
3	200	$5
4	400	$6

Further, we also have some consumer information:

Consumer	Reservation Price	Wheat Purchases
1	$2	50
2	$3	40
3	$4	20
4	$5	40
5	$6	30
6	$7	30

a) Sketch out the demand/supply for wheat
b) Calculate the equilibrium price/quantity of wheat
c) Calculate the profits of the wheat producers

4) Explain how each of the following events would influence market prices/quantities
   a) The surgeon general announces that eating oranges lowers the risk of a heart attack (market for oranges)
   b) Terrorists destroy a major oil pipeline in Iraq (market for oil)
   c) Immigration increases in the US by 20% (market for labor – what's the price here?)
   d) Consumers start getting their news from the internet (market for newspapers)
   e) Real income in the US increases (the market for BMW's)

5) Suppose that you have the following demand and supply curve for rental cars:

$$Q_d = 500 - 2P$$
$$Q_s = 100 + 6P$$

   a) Solve for the equilibrium price and quantity.
   b) Calculate consumer expenditures on rental cars

6) Suppose that you have the following demand curve:

$$Q_d = 150 - 3P + .001I$$

Where I represents average income and P is the market price.

   a) Suppose that average income equals $30,000. Calculate quantity demanded at a market price of $20.
   b) Calculate the price elasticity of demand at a market price of $20 and average income equal to $30,000.
   c) Calculate the income elasticity of demand at a market price of $20 and income equal to $30,000.
   d) If income equals $30,000. Calculate the price at which demand falls to zero.
   e) Using your answer to (d), calculate consumer surplus.