SUNY-Binghamton Economics 160, Principles of Microeconomics, Christopher Hanes
Problem set 3 Supply and demand

1) Suppose the market for beer in the United States is perfectly competitive.
a) The supply and demand schedules for beer are given below. Using the numbers, draw the demand and supply curves. Mark the equilibrium price and quantity.

| Price	Quantity Supplied	Quantity Demanded
1	80	200
2	90	190
3	100	160
4	120	150
5	125	125
6	130	120
7	132	112
8	140	110
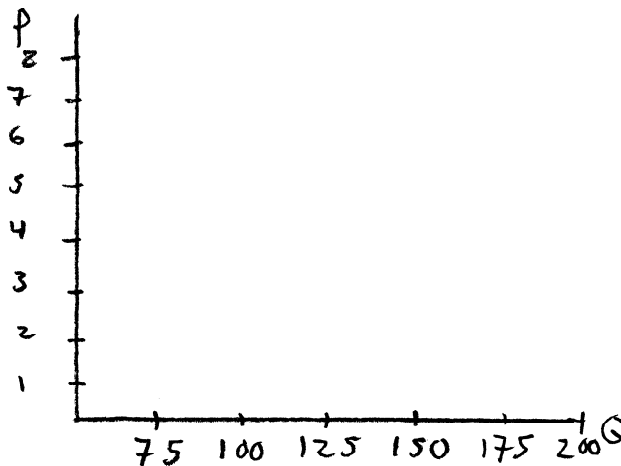
b) The drinking age is lowered to 18, so a lot of new customers enter the market. These new customers' demand for beer is described below:

| Price	New buyers' demand
1	15
2	14
3	13
4	12
5	11
6	10
7	8
8	6

Now that these new buyers have entered the market, what is the equilibrium price of beer? _____

2) Assume the market for jelly is perfectly competitive. Suppose that bad weather in peanut-growing areas raises the cost of raw peanuts.

a) On the graph, draw what happens to the *jelly* market if jelly is a *complement* for peanut butter.
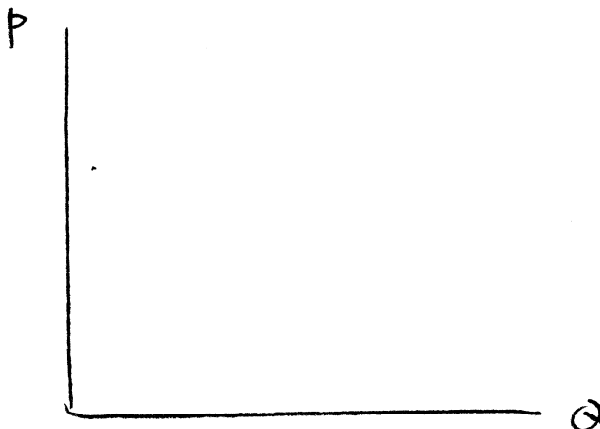
b) On the graph, draw what happens to the *jelly* market if jelly is a *substitute* for peanut butter.
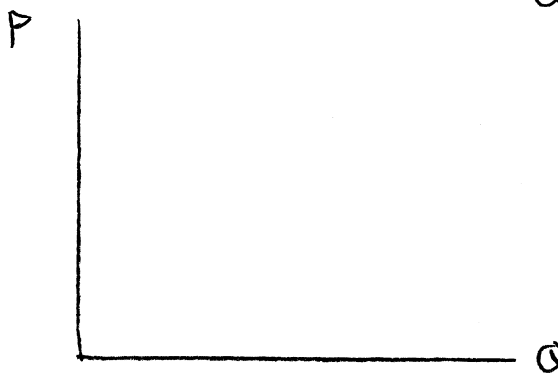
P

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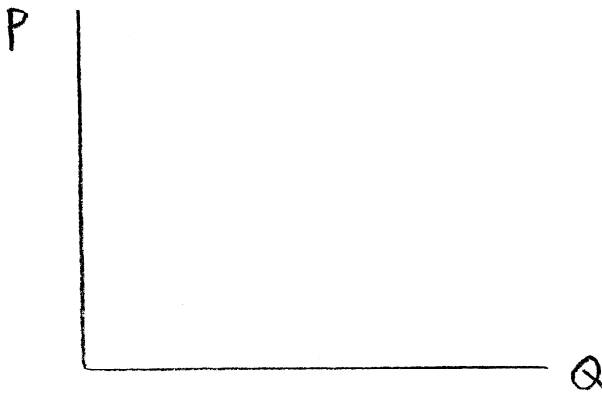
3) Assume the market for gasoline is perfectly competitive. Suppose that a recession reduces Americans' incomes.

a) On the graph, draw what happens to the gasoline market if gasoline is a *normal* good.

P

Q

a) On the graph, draw what happens to the gasoline market if gasoline is an *inferior* good.

P

Q

4) Assume the market for ink is perfectly competitive. Suppose that an increase in wages simultaneously increases peoples' incomes, and the wages inkmakers have to pay workers. Consider two cases: ink is a normal good; ink is an inferior good. Play around with graphs on a piece of scratch paper - we don't need to see the graphs - and fill out the table below.

If ink is a _____ good, then the price will definitely rise, but the change in quantity is ambiguous.

If ink is a _____ good, then the quantity will definitely decrease, but the change in price is ambiguous.

5) Suppose the demand schedule for a good can be described by an equation: $Q^D = 20 - 2P$
        and the demand schedule can be described by an equation: $Q^S = 10 + 3P$
What is the equilibrium price and quantity of peanut butter? Hint: you do not have to make a graph to answer this question. Remember that the equilibrium price is the price that equates quantity supplied to quantity demanded.

The equilibrium price is: _____

The equilibrium quantity is: _____