Problem Set 2, due Monday, February 16th, 2015

Equilibrium

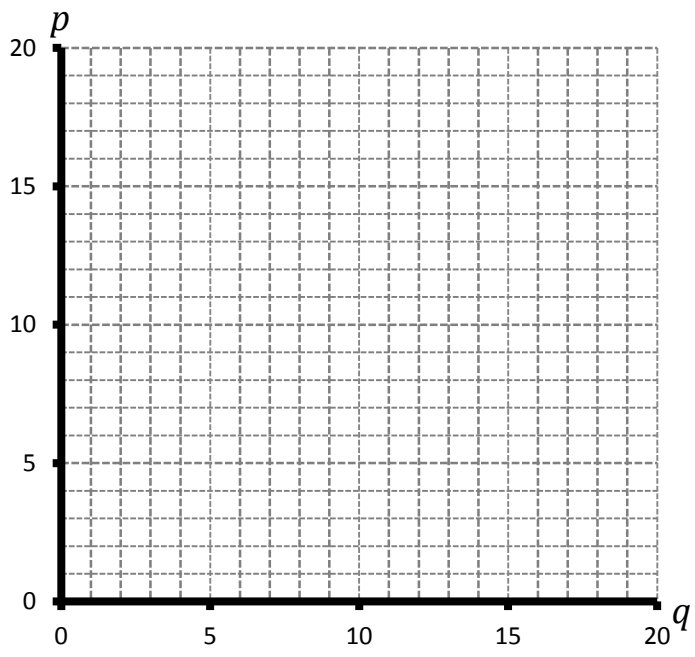
1. The market for blue fuzz is characterized by the marginal benefit function $MB = 20 - q$, and the marginal cost function $MC = 2 + 2q$, where q is the quantity of blue fuzz produced and consumed.

a) Assuming that the market is competitive, etc., the equilibrium quantity of blue fuzz is _____, and the equilibrium price is _____.

b) In the equilibrium, consumer surplus is _____, and producer surplus is _____.

c) The market demand curve can be represented by the equation q_d =_____, and the market supply curve can be represented by the equation q_s =_____.

d) On the graph to the right, draw the demand curve and the supply curve. Shade the areas that represent consumer surplus and producer surplus.



2. The market for purple goo is characterized by the marginal benefit function $MB = 100 - \frac{1}{5}q$, and the marginal cost function $MC = 10 + \frac{1}{10}q$, where q is the quantity of purple goo produced and consumed.

a) Assuming that the market is competitive, etc., the equilibrium quantity of purple goo is _____, and the equilibrium price is _____.

b) In the equilibrium, consumer surplus is _____, and producer surplus is _____.

c) The market demand curve can be represented by the equation q_d =_____, and the market supply curve can be represented by the equation q_s =_____.

d) On the graph to the right, draw the demand curve and the supply curve. Shade the areas that represent consumer surplus and producer surplus.