

Intermediate Microeconomics

First Midterm

Name: _____

1. (2 points) Consider the following supply and demand functions:

$$Q^d = -2P + 20$$

$$Q^s = 2P - 4$$

Suppose at each price individuals now demand four more units of output because of stronger preferences. Compute the equilibrium price and quantity given this change.

2. (8 points) Tom and Harry constitute the entire market for orange juice. They face identical demand curves. Tom's demand curve is given by

$$P = 6 - \frac{Q_1}{2}$$

Harry's demand curve is given by

$$P = 6 - \frac{Q_2}{2}$$

(a) Obtain the total market demand function for orange juice.

(b) Find the price and market quantity demanded that maximize total revenue R. What is the maximum R? (Hint: construct a table and use the following values for P: 0,1,2,3,4,5, and 6)

(c) Compute the point elasticity of demand when price is 4. If price decreases 1%, what happens to quantity demanded?

(d) If equilibrium price is equal to 4, compute the consumer surplus.