PRACTICE

MA 110 QUIZ #1 SPRING 2012

SECTION 1.2

NAME ___Solutions_____ SCORE: _____

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Let the demand and supply functions be represented by D(p) and S(p), where p is the price in dollars.

D(p) = 3150 – 20p S(p) = 85p

A. Find the price when the demand is 1200. Is there a surplus or a shortage at this price?

Using D(p), 1200 = 3150 – 20 p

-1950 = -20p ➔ p = -1950/-20 = 97.5, price = $97.50

S(p) = S(97.50) = 85(97.50) = 8287.5

S = 8287.5 > D = 1200 when the price, p = $97.50 so there is a surplus.

**In general, you must support surplus with the statement S > D and shortage with the statement S < D.

B. Find the equilibrium price and demand (supply) for the given functions.

Solve D = S 3150 – 20p = 85p

3150 = 105p

P = 3150/105 = 30, $30.

C. At what prices is there a surplus?

For prices p > $30.

D. At what prices is there a shortage?

For prices p < $30.

** In general, for the Supply/Demand problems that are covered in this course, surplus is when p > equilibrium price and shortage is when p < equilibrium price.