

Quiz #2 (answer key)  
ECNS 432  
Spring 2020

Name \_\_\_\_\_

1.) (15 points) Suppose that the current market equilibrium for a good is such at  $p^* = \$70$  and  $q^* = 20$ . Also suppose that the elasticity of supply is 1.5 and the supply curve is linear.

a.) Use the price elasticity of supply and market equilibrium to solve for the supply curve.

·In general, a linear supply curve can be represented by

$$q = a + (\Delta q / \Delta p)p \quad (1)$$

·Using the formula for the elasticity of supply, we can solve for the slope of the supply curve

$$\epsilon_s = (\Delta q / \Delta p)(p/q)$$

$$\Rightarrow 1.5 = (\Delta q / \Delta p)(70/20)$$

$$\Rightarrow \Delta q / \Delta p = 3/7$$

·Plugging the slope and market equilibrium points into (1), we can solve for the intercept:

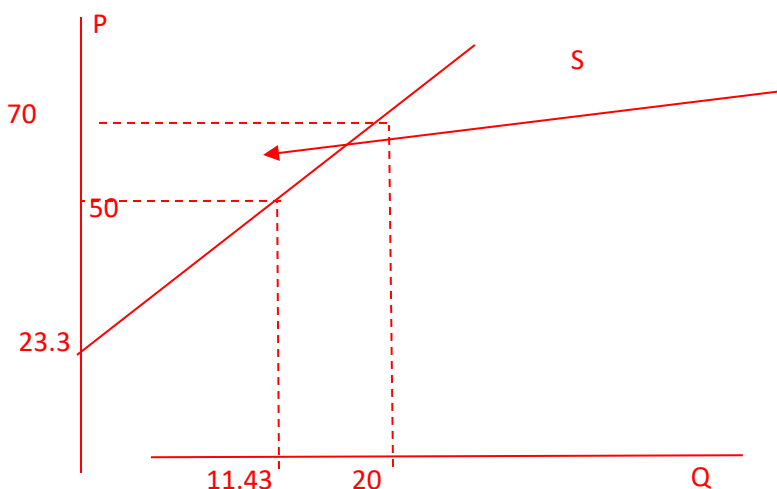
$$20 = a + (3/7)(70)$$

$$\Rightarrow a = -10$$

·Finally, we can write the supply curve as

$$q = -10 + (3/7)p$$

b.) Suppose a policy is enacted such that the price falls from \$70 to \$50. By how much does producer surplus fall? Show this graphically and calculate the  $\Delta ps$ .



Area represents loss in PS due to price fall.

$$\Delta ps = -[(1/2)(20-11.43)(20) + (20)(11.43)] = -\$314.30$$

2.) (5 points) Give two reasons why conceptually correct measures of benefits might differ from the measures actually used in Cost-Benefit Analysis? (Hint: Consider that the true marginal value for a good is reflected by the competitive market price.)

-Market failure may exist such that the observed price is not the conceptually correct measure of marginal value

e.g. Externalities, monopoly

-Non-market goods do not have a price

e.g. demand for recreation sites