

5 points.

Name: ANSWER KEY

ECON 300
In-class assignment

1. Calculate the demand curve given the following information:

3 points

- a. The price elasticity of gas, $\epsilon_{Q_D, P}$, equals -0.2 .
- b. 2 million gallons of gas are sold daily at a price of \$3.
- c. $\epsilon_{Q_D, P} = \frac{\Delta Q_D}{\Delta P} * \frac{P}{Q_D}$.

round to 3 decimal places.

Note: It is easier to solve for the slope of the demand curve first, and then solve for the intercept.

$$\text{Elasticity} = \text{slope} \left(\frac{P}{Q} \right); \text{slope} \left(\frac{3}{2} \right) = -0.2$$

1 pt
Slope

$$\text{Slope} = -0.133$$

$$\text{Thus, } Q = a - 0.133P \text{ or } 2 = a - 0.133(3)$$

1 pt
intercept

$$a = 2.399$$

1 pt
writing
equation

$$Q_D = 2.399 - 0.133P$$

2. Solve for the income elasticity of coke. Assume the demand for coke, Q_D^C , is given by the follow equation

2 points

$$Q_D^C = 174 - 5.48P_C + 1.4I$$

where

P_C = price per 10 cases of Coke

I = disposable income in U.S.

Let

$$P_C = 12.96$$

$$I = 20.63$$

1 pt for Q_D

$$Q_D = 174 - 5.48(12.96) + 1.4(20.63) = 131.861$$

1 pt for elasticity

$$\sum_{Q_D, I} \epsilon = \frac{\Delta Q_D}{\Delta I} \cdot \frac{I}{Q_D} = 1.4 \left(\frac{20.63}{131.861} \right) = 0.219$$