

**Finance 30210**  
**Quiz #3**

Name \_\_\_\_\_

Section \_\_\_\_\_

- 1) Suppose that you estimated the following demand curve (standard errors are in parentheses):

$$Q_d = 400 - 5P + \varepsilon$$

(8.5) (.15) (16.5)

- a) Assuming that the sample average for price is equal to \$40, calculate a forecast for demand at a price of \$10.

$$Q_d = 400 - 5(10) + 0 = 350$$

- b) Calculate the forecast error from part (a).

$$error = \sqrt{(8.5)^2 + (10^2 - 2(10)(40))(0.15)^2 + (16.5)^2} = 18.13$$

- c) Calculate your forecast for price elasticity at a price of \$10.

$$\varepsilon = \left( \frac{\Delta Q}{\Delta P} \right) \left( \frac{P}{Q} \right) = -5 \left( \frac{10}{350} \right) = -1.4$$

- 2) Now, suppose that you estimated the following demand curve:

$$LN(Q_d) = 8.5 - 1.4LN(P)$$

- a) Calculate a forecast for demand at a price of \$10.

$$LN(Q_d) = 8.5 - 1.4LN(10) = 5.28 \Rightarrow e^{5.28} = 196$$

- b) Calculate a forecast for price elasticity.

$$\varepsilon = \left( \frac{\Delta \ln Q}{\Delta \ln P} \right) = -1.4$$