

Practice Problems from Chapter 3 Study Guide
Managerial Economics
Prof. Jepsen

- #9. The Byron Company's marketing vice president concludes that the demand function for its product is

$$Q = 50P^{-1.3}I^{0.9}A^{0.2}$$

where Q is the quantity demanded per month, P is the product's price (in dollars), I is disposable income (in dollars), and A is the firm's advertising expenditure (in thousands of dollars).

- a. What is the price elasticity of demand?
 - b. Will an increase in price result in increases or decreases in the amount spent on Byron's product?
 - c. What is the income elasticity of demand? What does this imply about the type of product?
 - d. What is the advertising elasticity of demand?
- #10. The Keats Corporation estimates that its demand function is as follows:

$$Q = 200 - 2P + 3I + 0.5A,$$

where Q is the quantity demanded per month, P is the product's price (in dollars), I is disposable income (in thousands of dollars), and A is the firm's advertising expenditure (in thousands of dollars). (In all parts of this problem, population is assumed to remain constant.)

- a. During the next decade, per capita disposable income is expected to increase by about \$3,000. What effect will this have on the firm's sales?
- b. If Keats wants to raise its price by enough to offset the effect of the increase in per capita disposable income, by how much must it raise its price?
- c. If Keats raises its price by this amount, will it increase or decrease the price elasticity of demand? Explain.