

B
(purple)

Elasticity Problems (19 points)

Credit will only be given if you show your work.

1. Suppose when Nike charges \$135 for a pair of athletic shoes they sell 800 pairs, but when they raise the price to \$160 they sell 700 pairs.

a. What is the price elasticity of demand for the athletic shoes? (3) .79 (round to two decimal places)

$$\frac{\% \Delta Q_D}{\% \Delta P} = \frac{(800 - 700)}{(800 + 700) / 2} = \frac{100}{750} = \frac{-133}{169} = -.787$$

Always Negative

b. Is demand for athletic shoes elastic, inelastic, or unit elastic? inelastic (< 1) (2)

c. A one percent increase in the price of athletic shoes would be expected to result in a .79 percent decrease (increase, decrease) in the quantity demanded of athletic shoes. (2)

d. A 5 percent increase in the price of athletic shoes would be expected to result in a 3.94 percent decrease (increase, decrease) in the quantity demanded of athletic shoes. (2)

e. Did total revenue for Nike increase, decrease, or remain the same as a result of the price increase, ceteris paribus?
increase (3)

2. Suppose your income decreases from \$35,000 to \$26,000. As a result, you decrease your consumption of a particular good from 25 to 20.

a. What is the income elasticity of demand for this good? (3) .75 (round to two decimal places)

$$\frac{\% \Delta Q_D}{\% \Delta \text{Income}} = \frac{(25 - 20)}{(25 + 20) / 2} = \frac{5}{22.5} = \frac{22.2}{29.5} = .753$$

Sign matters!

b. Is this good a normal good or an inferior good? Normal (2) (Became positive sign)

c. A 2 percent decrease in income would be expected to result in a 1.5 percent decrease (increase, decrease) in the quantity demanded of the good. (2)

A
(white)

Elasticity Problems (19 points)

Credit will only be given if you show your work.

1. Suppose when Nike charges \$150 for a pair of athletic shoes they sell 800 pairs, but when they raise the price to \$185 they sell 600 pairs.

a. What is the price elasticity of demand for the athletic shoes? (3) 1.37 (round to two decimal places)

$$\frac{\% \Delta Q_D}{\% \Delta P} = \frac{(800-600)}{(800+600)/2} = \frac{200}{700} = \frac{.286}{.209} = 1.368$$

Sign is always negative

b. Is demand for athletic shoes elastic, inelastic, or unit elastic? Elastic (>1) (2)

c. A one percent increase in the price of athletic shoes would be expected to result in a 1.37 percent decrease (increase, decrease) in the quantity demanded of athletic shoes. (2)

d. A 5 percent increase in the price of athletic shoes would be expected to result in a 6.85 percent decrease (increase, decrease) in the quantity demanded of athletic shoes. (2)

e. Did total revenue for Nike increase, decrease, or remain the same as a result of the price increase, ceteris paribus?

decrease (3)

2. Suppose the price of Good A increases from \$35 to \$48. As a result, your purchases of Good B decrease from 20 units to 10 units.

a. What is the cross price elasticity of demand for this good? (3) -2.13 (round to two decimal places)

$$\frac{\% \Delta Q \text{ (of a good)}}{\% \Delta P \text{ (of another good)}} = \frac{(20-10)}{(20+10)/2} = \frac{10}{15} = \frac{.666}{-.313} = -2.128$$

Sign matters!

b. Are Good A and Good B more likely to be complements or substitutes? Complements (2)

c. A 5 percent increase in the price of Good A would be expected to result in a 10.64 percent decrease (increase, decrease) in the quantity demanded of Good B. (2)

Because of Negative elasticity

