Answer on Question #73568 -Economics - Microeconomics

The demand equation is estimated to be 50 – 3P + 2Po, where Po is the price of some other good. Assume the average value of P is $ 3 and the average value of Po is $ 6.

a. what is the price elasticity at the average values of P and Po? how should the price of the good be changed to increase total revenues?

b. what is the cross elasticity at the average values of P and Po? what is the relationship between the two goods?

c. if the equation is correctly estimated, is the good inferior, a necessity, or a luxury? Explain

Answer.

a) Find the first derivative of the demand function with respect to P and P0

$$Q'(P) = -3$$
$$Q'(P0) = 2$$

Then

$$K_{d(P)} = -3 \times \frac{3}{50 - 9 + 12} = -0.17$$
$$K_{d(P0)} = 2 \times \frac{6}{50 - 9 + 12} = 0.23$$

b)

$$K_{d(x,y)} = \frac{dQx}{dPy} \div \frac{Qx}{Py}$$

$$K_{d(x,y)} = 2 \div \frac{50 - 9 + 12}{6} = 0.23$$

The goods are substitutes (K>0)

c) The coefficient near P is negative, so demand increases when price decreases, so the good is normal. As Kd<1, it is necessity good