Econcode- Problems and Answers

1. A local council raises the price of car parking from $3 per day to $5 per day and finds that usage of car parks contracts from 1,200 cars a day to 900 cars per day. Calculate the price elasticity of demand for this price change?

$$\text{Price elasticity of demand} = \frac{\% \text{ change in Quantity Demanded}}{\% \text{ change in Price}}$$

$$= \frac{900-1200}{5-3} \; x \; \frac{3}{1200}$$

$$= \frac{-0.25}{0.6667} = 0.375$$

Demand is inelastic.

2. If the quantity demanded of soda increases by 4% when the price of coffee increases by 16%, the cross-price elasticity of demand between soda and coffee is?

Cross elasticity of demand

$$= \frac{\text{Percentage change in quantity demanded of commodity X}}{\text{Percentage in price of commodity Y}}$$

$$= \frac{4\%}{16\%} = 0.25$$

Nature of the goods: Substitutable goods

3. Suppose the quantity demanded for coffee at AB Cafe increases from 5,000 to 6,000 cups per week when there is 4% increase in the income of AB students. Calculate the income elasticity of AB Cafe coffee and determine which category of goods it belong to.

$$\text{Income elasticity of demand} = \frac{\%\ change\ in\ Quantity\ Demanded}{\%\ change\ in\ Income}$$

$$= \frac{\frac{6000-5000}{5000} \times 100\%}{4\%} = 5.0$$

Nature of the Good: Normal and Luxuries

4. Calculate the value of price elasticity of supply of commodity A if the percentage change in price of the commodity is 10% and percentage change in its quantity supplied is 18%.

$$\text{Price elasticity of Supply} = \frac{\%\ change\ in\ Quantity\ supplied}{\%\ change\ in\ price}$$

$$= \frac{18\%}{10\%} = 1.8$$

Supply is elastic