Answer on Question #50397 – Economics – Microeconomics

Using the midpoint method (show your work), calculate the price elasticity of demand when the price of an ice cream cone rises from $1 to $2. What does this estimate imply about the price elasticity of demand for ice cream cones?

We denote that:

Q_1 is the demand for ice cream cone with the price $1;

Q_2 is the demand for ice cream cone with the price $2.

The price elasticity of demand for ice cream cones is:

$$E = \frac{(Q_2 - Q_1) \Big/ \frac{Q_1 + Q_2}{2}}{(P_2 - P_1) \Big/ \frac{P_1 + P_2}{2}} = \frac{Q_2 - Q_1}{Q_1 + Q_2} * \frac{P_1 + P_2}{P_2 - P_1} = \frac{Q_2 - Q_1}{Q_1 + Q_2} * \frac{\$1 + \$2}{\$2 - \$1} = 3 * \frac{Q_2 - Q_1}{Q_1 + Q_2}$$

If E<1, than the demand is inelastic: the product price growth largely overlaps the decline in demand and the gross income increases.

If E=1, the product price growth only compensates for the reduction of demand for it and income does not change.

If E>1, than the demand is elastic: the product price growth does not cover a significant decrease in the demand for ice cream cone and, therefore, gross income of the seller reduces.