

## Answer on Question #50396 – 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 \$3 to \$4. 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 \$3;

$Q_2$  is the demand for ice cream cone with the price \$4.

The price elasticity of demand for ice cream cones is:

$$E = \frac{(Q_2 - Q_1) / \frac{Q_1 + Q_2}{2}}{(P_2 - P_1) / \frac{P_1 + P_2}{2}} = \frac{Q_2 - Q_1}{Q_1 + Q_2} * \frac{P_1 + P_2}{P_2 - P_1} = \frac{Q_2 - Q_1}{Q_1 + Q_2} * \frac{\$3 + \$4}{\$4 - \$3} = 7 * \frac{Q_2 - Q_1}{Q_1 + Q_2}$$

If  $E < 1$ , then 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 the reduction of demand for it and income does not change.

If  $E > 1$ , then 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.