% change in Income

% change in Q^d

Size of the change in Q^d

Size of the change in Income

$eyd =$

Income

Demand

Formula to calculate the income elasticity of demand

$$\left(\frac{\text{Change in } Q^d}{\text{Average } Q^d} \right)$$

$$\left(\frac{\text{Change in Income}}{\text{Average Income}} \right)$$

$$e_y{}^d = \frac{\%\Delta Q^d}{\%\Delta Income}$$

Formula to calculate the income elasticity of demand

$$e_y^d = \frac{\text{Size of the change in } Q^d}{\text{Size of the change in Income}} = \frac{\% \text{ change in } Q^d \left(\dfrac{\text{Change in } Q^d}{\text{Average } Q^d}\right)}{\left(\dfrac{\text{Change in Income}}{\text{Average Income}}\right) \% \text{ change in Income}}$$

Demand

Income

$$e_y^d = \frac{\%\Delta Q^d}{\%\Delta \text{Income}}$$

Income	Quantity Demanded for Good X
1000	300
2000	400