Financial Mathematics

Price Elasticity of Demand

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Price Elasticity of Demand

The Price Elasticity of Demand (ϵ) is computed as follows:

$$\epsilon = \frac{\mathrm{d}\, Q/Q}{\mathrm{d}\, P/P}$$

Price Elasticity of Demand

$E_d = 0$	Perfectly inelastic demand
$-1 < E_d < 0$	Inelastic or relatively inelastic demand
$E_d = -1$	Unit elastic
$-\infty < E_d < -1$	Elastic or relatively elastic demand
$E_d = \infty$	Perfectly elastic demand

Price Elasticity of Demand

Example 1: Given x = f(p) = -2p+15 , determine if demand is elastic, inelastic or unitary when p = 4.

Recall:

$f(4) = -2(4) + 15 = 7$ $f'(p) = -2$

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$$\epsilon = -\frac{4 \times -2}{7} = \frac{8}{7}$$

$$\epsilon \geq 1$$