

Elasticity Coefficients

$$1. \quad \epsilon_d = \frac{\text{percentage change in quantity demanded}}{\text{percentage change in price}}$$

2. Midpoint or Arc Method

$$\epsilon_d = \frac{\frac{\Delta Q}{(Q + Q_1) / 2}}{\frac{\Delta P}{(P + P_1) / 2}}$$

Example: price x quantity = total revenue

$$\$10 \times 10 = \$100$$

$$\$9 \times 12 = \$108$$

$$\epsilon_d = \frac{\frac{2}{(10 + 12) / 2} = \frac{2}{11} = .18}{\frac{1}{(10 + 9) / 2} = \frac{1}{9.5} = .10} = 1.8 \text{ elastic}$$

3. What the coefficients mean:

$$\epsilon_d > 1 \quad \text{Elastic}$$

$$\epsilon_d < 1 \quad \text{Inelastic}$$

$$\epsilon_d = 1 \quad \text{Unit elastic}$$