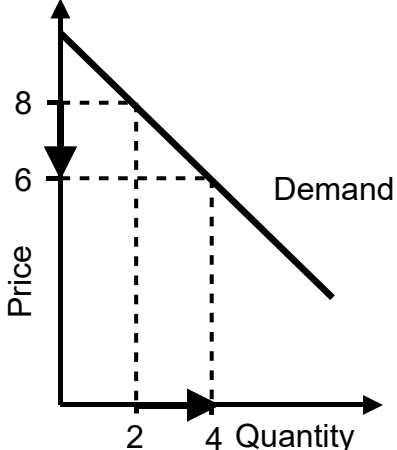
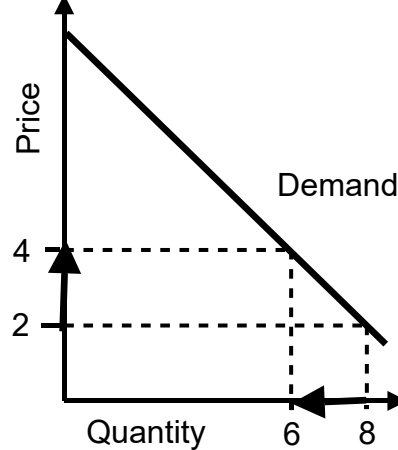
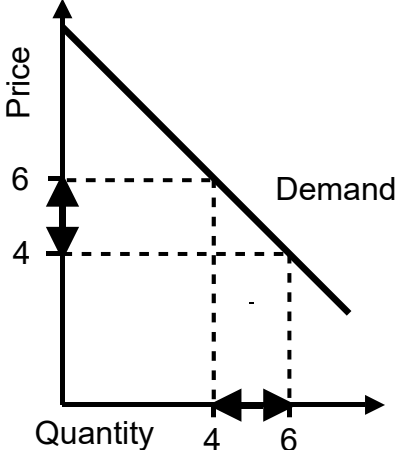


Price elasticity of demand 1_Overview

1 Formula

- **Price elasticity of demand (e)** = $\frac{\% \text{ change in quantity demanded}}{\% \text{ change in price}}$
- This elasticity **shows** how quantity demanded and total revenue are affected by changes in price. Question: Should prices be increased or decreased in order to maximize total revenue?
- **Absolute** values are used although the price elasticity of demand is actually negative if the demand curve is downward sloping.
- Demand is **elastic**, if $e > 1$, and **inelastic**, if $e < 1$.

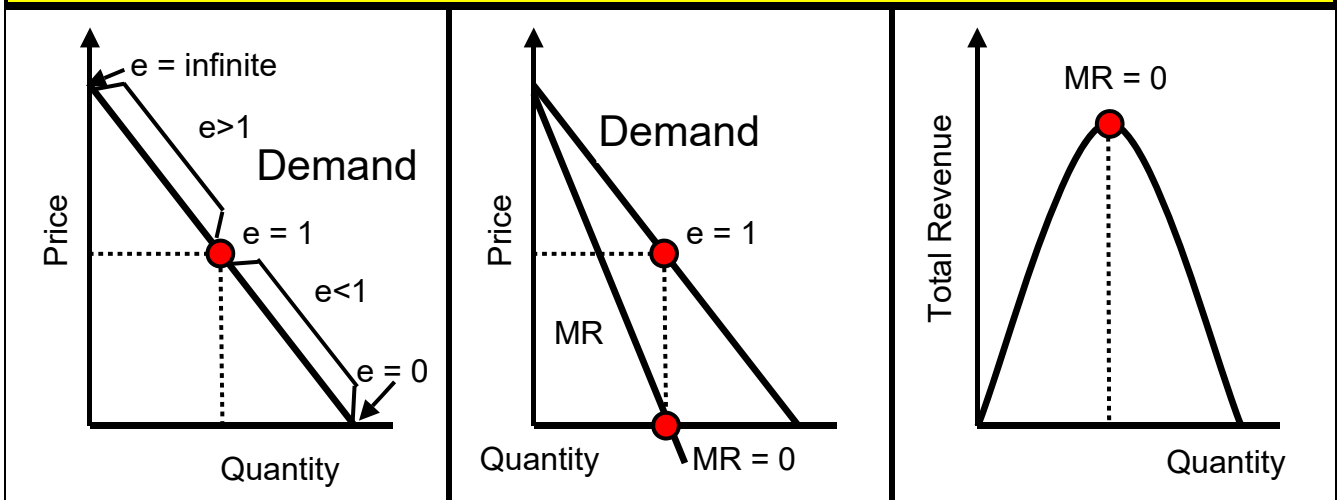
2 Elasticity and total revenue

elastic demand ($e > 1$)	inelastic demand ($e < 1$)	unit elastic demand ($e = 1$)
 <p>$e = \frac{2/3}{2/7} = 2.33$ (3 and 7 are midpoints)</p> <p>Total revenue (= P * Q): Price 8: 8 * 2 = 16 Price 6: 6 * 4 = 24</p> <p>➔ A lower price results in a higher total revenue.</p>	 <p>$e = \frac{2/7}{2/3} = 0.43$ (7 and 3 are midpoints)</p> <p>Total revenue (= P * Q): Price 2: 2 * 8 = 16 Price 4: 4 * 6 = 24</p> <p>➔ A higher price results in a higher total revenue.</p>	 <p>$e = \frac{2/5}{2/5} = 1$ (5 and 5 are midpoints)</p> <p>Total revenue (= P * Q): Price 4: 4 * 6 = 24 Price 6: 6 * 4 = 24</p> <p>➔ A change in price does not affect total revenue.</p>

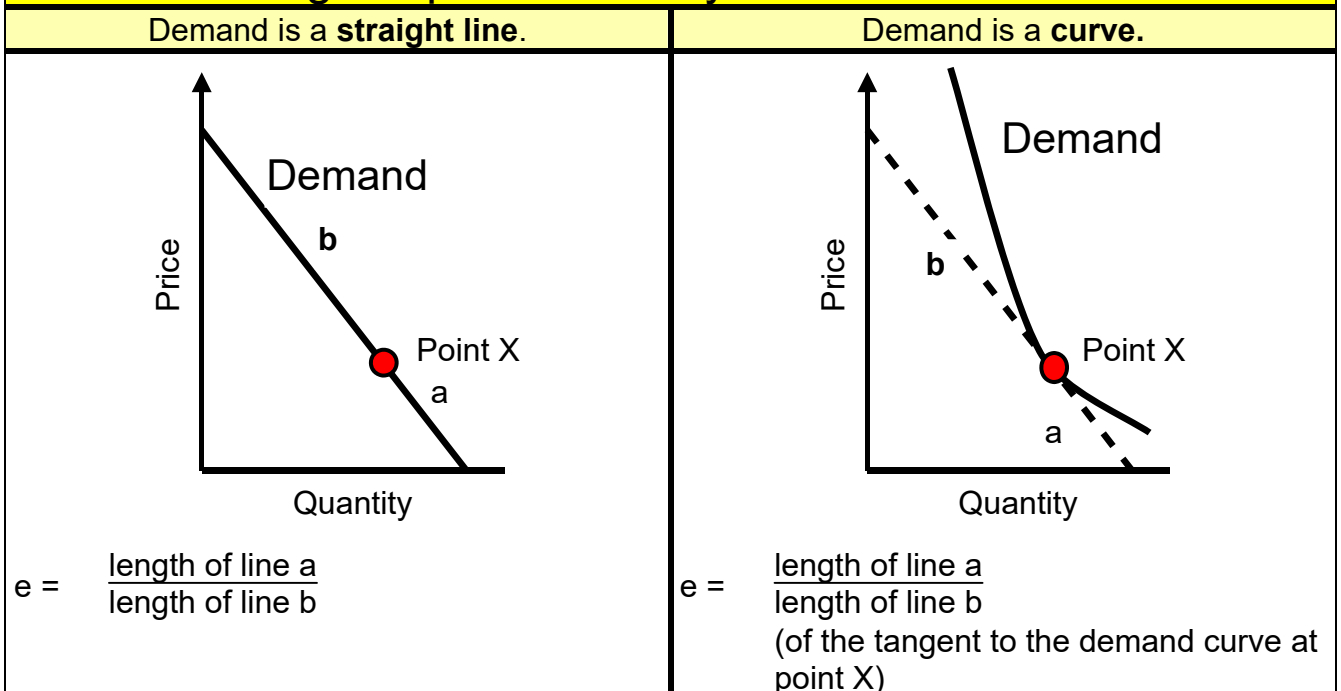
3 Effect of changes in price on total revenue (TR)

	Price Elasticity of Demand		
	$e > 1$	$e < 1$	$e = 1$
Price increase	TR falls	TR rises	TR unchanged
Price decrease	TR rises	TR falls	TR unchanged

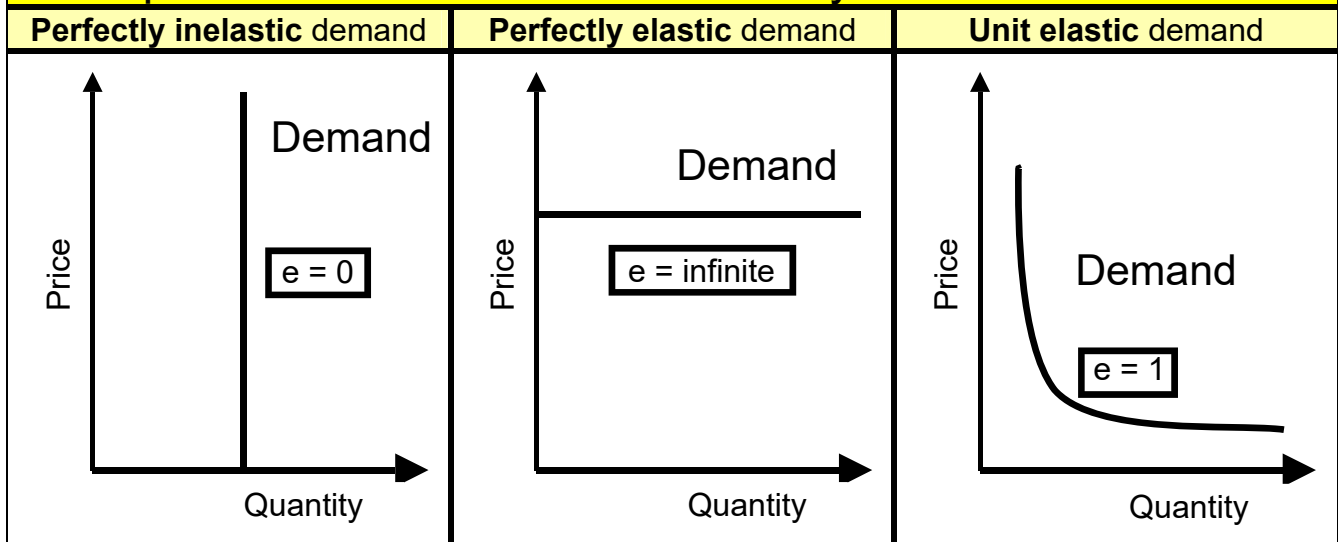
4 Elasticity, demand curve, marginal revenue (MR) and total revenue (TR)



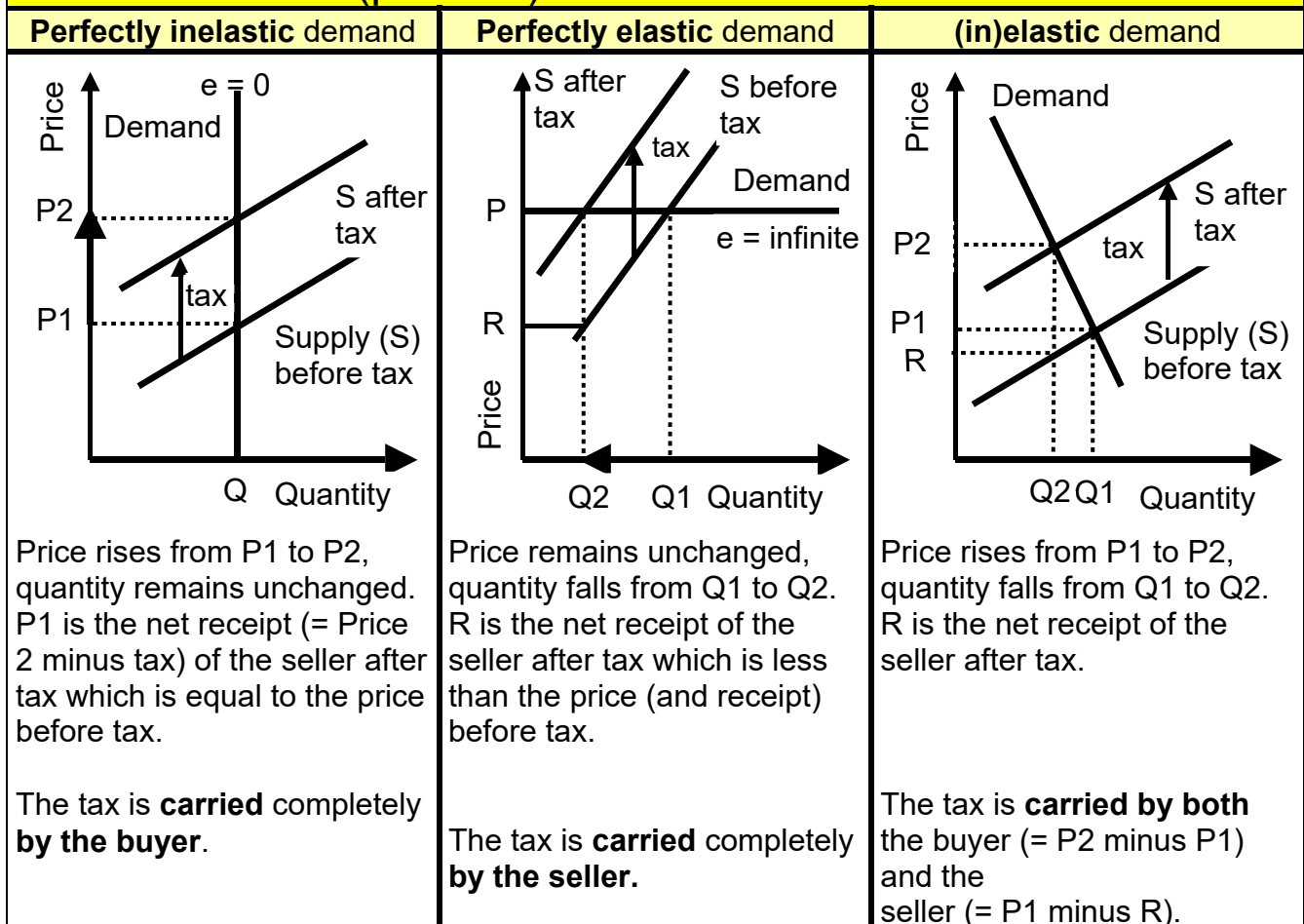
5 Measuring the price elasticity of demand



6 Special cases of constant elasticity



7 Effects of a (per unit) tax



Link to Youtube videos on "Price Elasticity of Demand, part 1 and 2". [Click here](#).