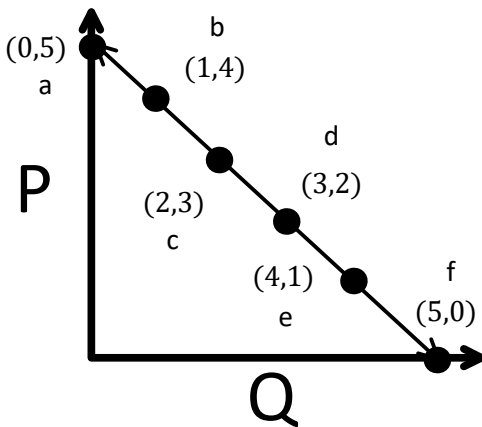


# E101 - 3.1 - Elasticity of Demand

Elasticity - Change in Quantity divided by Change in Price.

Total Revenue = Price × Quantity



Q	P	TR
0	5	0
1	4	4
2	3	6
3	2	6
4	1	4
5	0	0

Total revenue - The total receipts of the firm from its sales, calculated by its price multiplied by the quantity of the product's sold.

$$TR = PQ$$

Price Elasticity of Demand - A measure of the % change of quantity demanded due to a % change in price.

$$E = \frac{\% \Delta Q_D}{\% \Delta P}$$

$$\% \Delta Q = \frac{Q_2 - Q_1}{\frac{Q_2 + Q_1}{2}}$$

$$\% \Delta P = \frac{P_2 - P_1}{\frac{P_2 + P_1}{2}}$$

$$\frac{x}{y}$$

$$\frac{\text{Difference}}{\text{Average}}$$

$$\% \Delta Q = \frac{|1 - 0|}{\frac{1 + 0}{2}}$$

$$\% \Delta P = \frac{|4 - 5|}{\frac{4 + 5}{2}}$$

Absolute Value

$$\% \Delta Q = \frac{1}{\left(\frac{1}{2}\right)} \quad \% \Delta P = \frac{1}{\left(\frac{9}{2}\right)}$$

$$\frac{1}{\left(\frac{1}{2}\right)} = 1 \div \frac{1}{2} = 1 \times \frac{2}{1} = 2$$

$$E = \frac{2}{\left(\frac{2}{9}\right)}$$

$$E = 9$$

$E = 9$

$E = 2.33$

$E = 1$

$E = 0.43$

$E = 0.11$

a -> b
b -> c
c -> d
d -> e
e -> f

Elasticity Coefficient - A number that measures the responsiveness of quantity demanded the change price

Inelastic Demand - Quantity demanded that is not very responsive to a change in price  $E < 1$ . (Food).

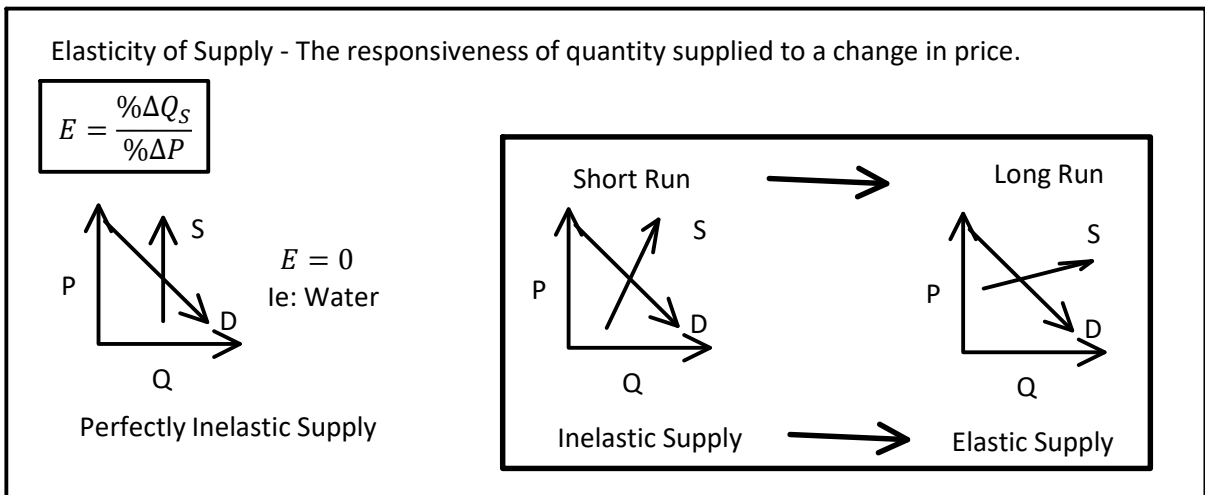
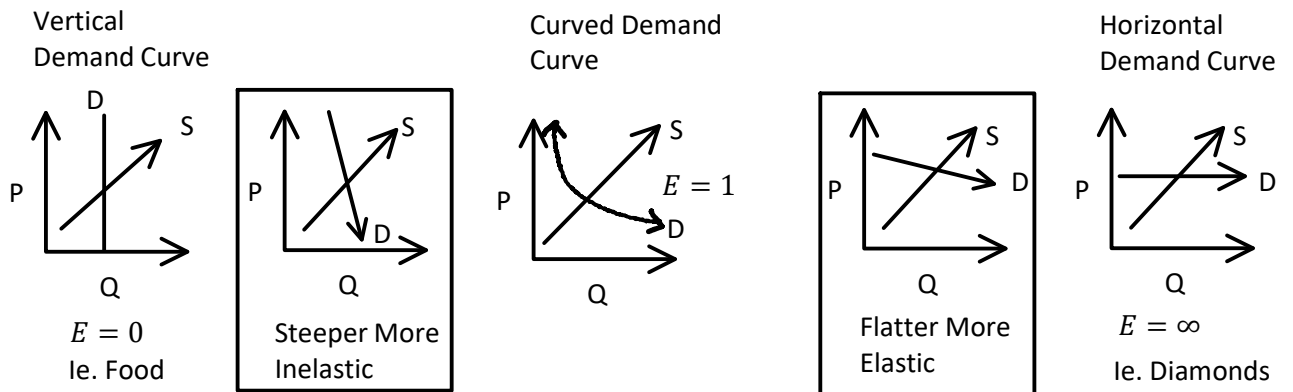
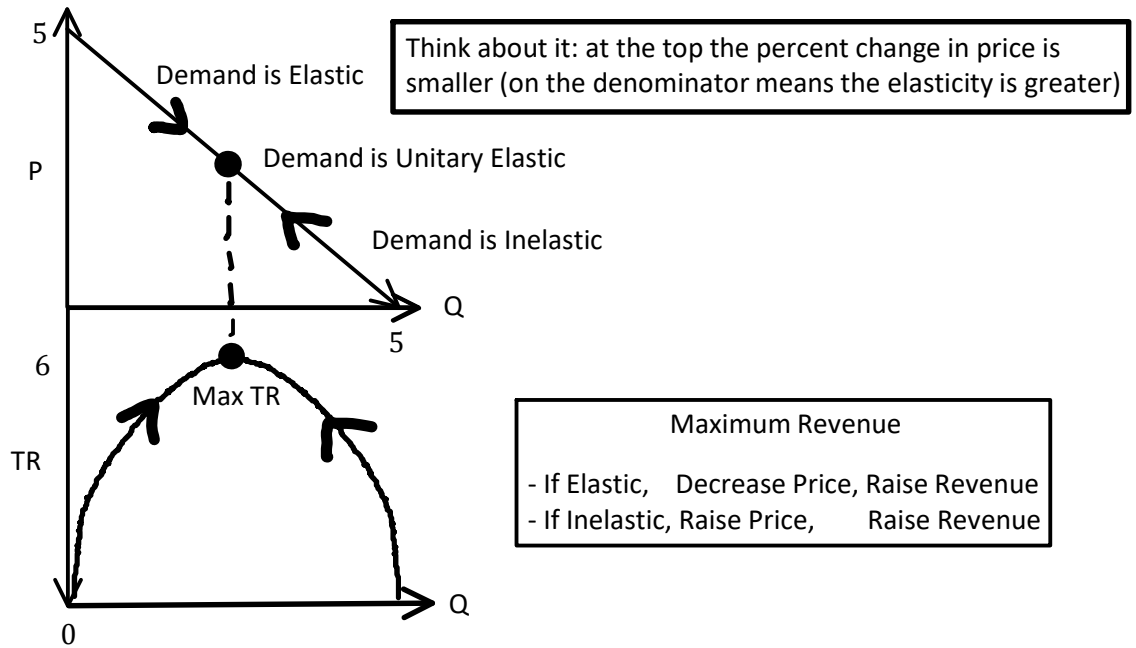
Elastic Demand - Quantity demanded that is quite responsive to a change in price  $E > 1$ . (Diamomds).

Unitary Elastic - The point where the % change in quantity is exactly equal to the % change in price.  $E = 1$ .

*Inelastic* -  $E < 1 \rightarrow$  Price falls, Total Revenue falls (Vice-versa)  
*Elastic* -  $E > 1 \rightarrow$  Price falls, Total Revenue rises (Vice-versa)  
*Unitary Elastic* -  $E = 1 \rightarrow$  Price changes, Total Revenue does not change

$E_D, E_S, E_Y, E_C$

# E101 - 3.2 - Elasticity of Demand/Supply



# E101 - 3.3 - Elasticity Income/Cross

Income Elasticity - The responsiveness of quantity demanded to change in income.

$$E = \frac{\% \Delta Q_D}{\% \Delta Y}$$

$Y = \text{Income}$

Causes a Shift in Demand.

Cross Elasticity of Demand - How the quantity demanded of product A responds to a change in the price of product B.

$$E_{AB} = \frac{\% \Delta Q_A}{\% \Delta P_B}$$

