Illustration :-

Price	Quantity demanded
10 (P_1)	4 (Q_1)
2 (P_2)	5 (Q_2)

On this ;

$\Delta P = P_2 - P_1 = 2 - 10 = -8$

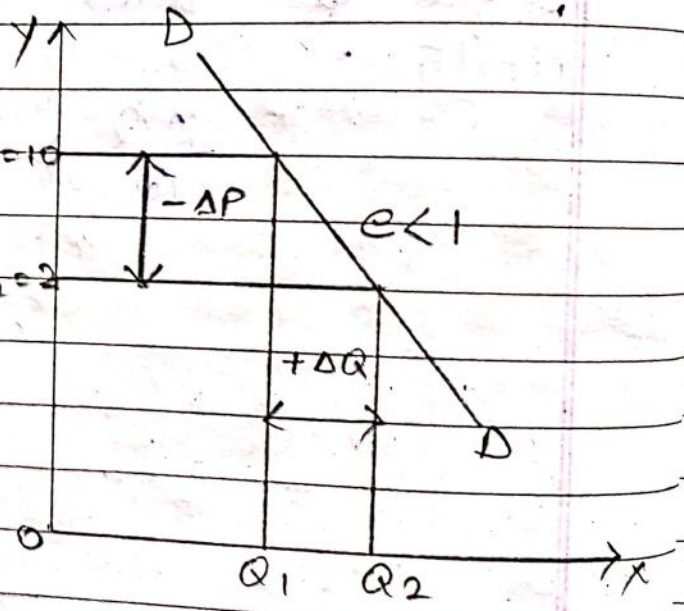
$\Delta Q = Q_2 - Q_1 = 5 - 4 = 1$

$$ed = \frac{\Delta Q}{Q_1} \div \frac{\Delta P}{P_1}$$

$$= \frac{1}{4} \div \frac{-8}{10}$$

$$= \frac{1}{4} \times \frac{10}{-8}$$

$$= -0.3125$$



ed is less than unity

$\therefore \frac{\Delta P}{P} > \frac{\Delta Q}{Q}$

(iii) Unit elasticity of demand → In this situation proportionate change in demand is equall to proportionate change in price.

OR

$$\frac{\Delta Q}{Q} = \frac{\Delta P}{P}$$

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Illustration :-

Price	Quantity demanded
10 (P_1)	100 (Q_1)
15 (P_2)	50 (Q_2)

In this;

$\Delta P = P_2 - P_1$

$= 15 - 10$

$= 5$

$\Delta Q = Q_2 - Q_1$

$= 50 - 100$

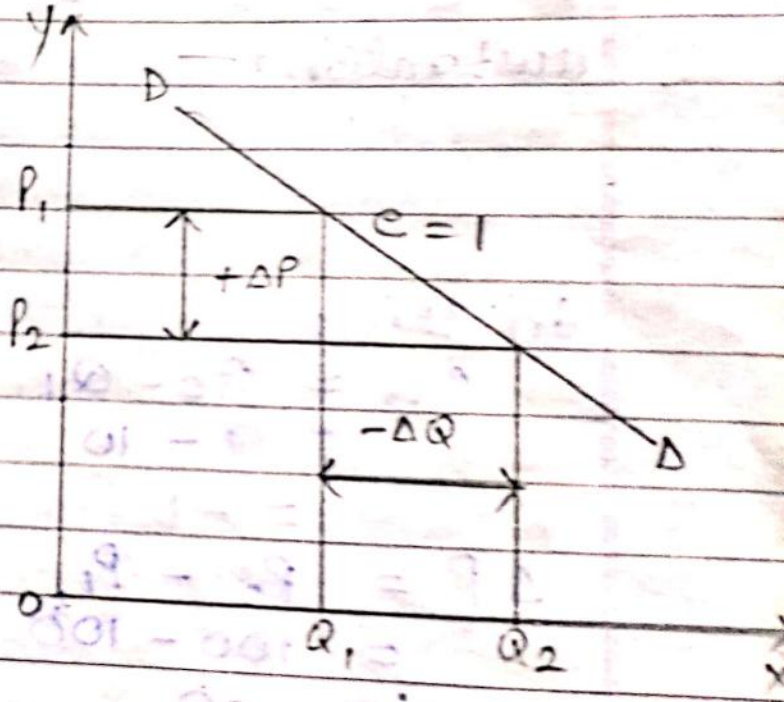
$= -50$

$ed = \frac{\Delta Q}{Q_1} \div \frac{\Delta P}{P_1}$

$= \frac{-50}{100} \div \frac{5}{10}$

$= \frac{-50}{100} \times \frac{10}{5}$

$= -1$



Therefore;

$\frac{\Delta Q}{Q} = \frac{\Delta P}{P}$