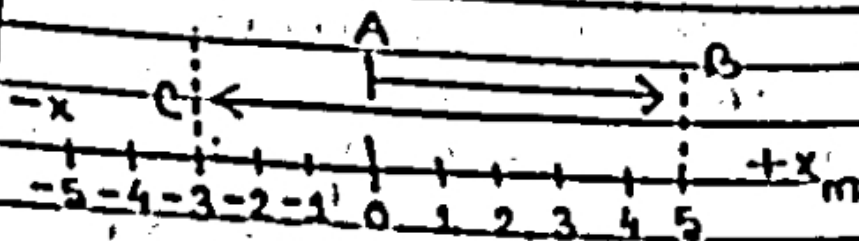


### Case I

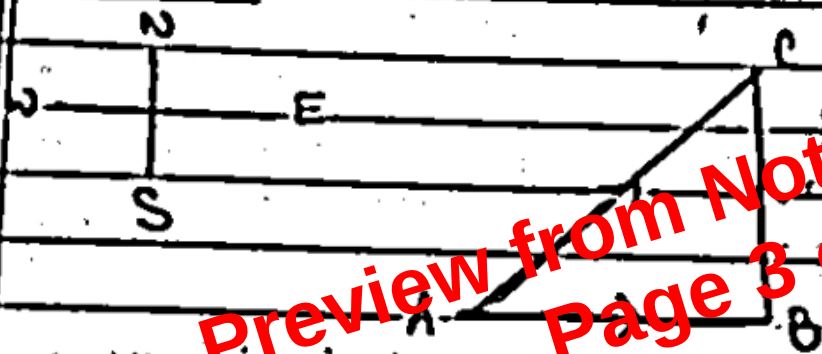


$$\text{Distance} = AB + BC \\ = 5 + 8 = 13 \text{ m}$$

$$\text{Displacement} = C - A \\ = -3 - 0 \\ = -3 \text{ m}$$

∴ Displacement is 3m in (-)ve x axis

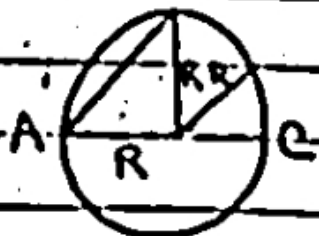
### Case II



$$\text{Distance} = AB + BC$$

$$\text{Displacement} = AC$$

### Case III



$$A \rightarrow B$$

$$\text{Distance} = \frac{1}{4} \times 2\pi R$$

$$\text{Displacement} = AB = \sqrt{R^2 + R^2} = \sqrt{2} R$$

$$A \rightarrow C$$