Circular Motion
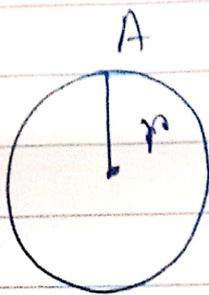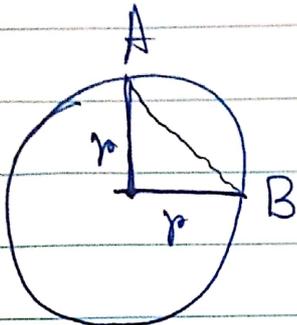

A to A

Distance $= 2\pi r$

Displacement $= 0$

A to B
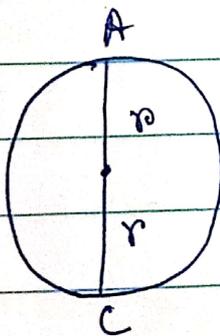
Distance $= 2\pi r \times \dfrac{1}{4}$

$= \dfrac{1}{2}\pi r$

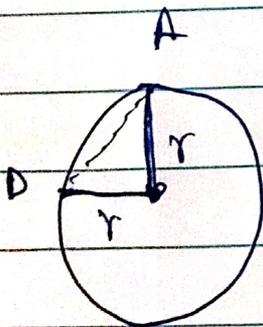Displacement

$AB^2 = r^2 + r^2 = 2r^2$

$AB = r\sqrt{2}$

A to C

Distance $= 2\pi r \times \dfrac{1}{2}$

$= \pi r$

Displacement $= AC = 2r$

A to D

Distance $= \dfrac{3}{4} \times \dfrac{2\pi r}{2} = \dfrac{3}{2}\pi r$

Displacement $= r\sqrt{2}$