a point p is the contact point of wheel on ground which roll on ground without slipping the value of displacement of point p when wheel completes half rotation ( if radius is 1m)

**Solution:**

$\mathrm{R} = 1\mathrm{m} - \text{radius of the wheel.}$

In one rotation of the wheel point p moves a distance equal to the circumference of the wheel:

$$\mathrm{D}_{\mathrm{rotation}} = 2\pi\mathrm{R}$$

Hence, if the wheel completes half rotation, the value of the displacement of the point p will be equal to the half of the total displacement of the point p:

$$\mathrm{D}_{\mathrm{halfrotation}} = \frac{\mathrm{D}_{\mathrm{rotation}}}{2} = \frac{2\pi\mathrm{R}}{2} = \pi\mathrm{R} = 3.14\mathrm{m}$$

**Answer:** slipping the value of displacement of point p when wheel completes half rotation is 3.14m