

20-P-KM-AF-020

Fang Cylindrical Components: Beginner

Q: The particle has moves with a speed of A m/s. Find the angular velocity $\dot{\theta}$ if the radius of travel is B m at this instant.

A: $V_r = \dot{r} = 0$
 $V_\theta = r\dot{\theta} = (B\dot{\theta})$

$$V = \sqrt{(V_r)^2 + (V_\theta)^2}$$

$$A = \sqrt{0 + (B\dot{\theta})^2} = B\dot{\theta} \Rightarrow \dot{\theta} = A/B$$