

20-P-KM-AF-009

Curvilinear Motion : Beginner

Q: A particle travels in a path described as $y = A \cdot x$. The y component is described as $v_y = Bt$, determine the magnitude of the velocity at $t = C$.

A:

$$y = Ax$$

$$y' = Ax'$$

$$v_y = Bt$$

$$x' = y'/A$$

$$v_x = \frac{B}{A} t$$

@ C

$$V = \sqrt{v_x^2 + v_y^2} = \sqrt{\frac{B(C)^2}{A^2} + B(C)^2}$$