

P3.1-2) The position of a particle is given by $x = t^4 - 1$ and $y = t^3 + t + 3$, where t is in seconds and, x and y are in meters. What is the particle's velocity?

Given:

Find:

Solution:

Derive the particle's velocity as a function of time.

Circle the equation that you will use?

$$\mathbf{v} = \frac{d\mathbf{r}}{dt} \quad \mathbf{a} = \frac{d\mathbf{v}}{dt} \quad \mathbf{a} d\mathbf{r} = \mathbf{v} d\mathbf{v}$$

$\mathbf{v}(t) =$ _____

Remember your units!