

Funyoumentals.com – Episode 1
Particle Motion

The velocity of a particle moving along the x-axis from $t = 0$ to $t = 8$ is given by:

$$v(t) = -x \cos\left(\frac{x}{5} + 1\right) - 2.$$

The position of the particle at $t = 0$ is 5.

- a) When is the particle moving left?
- b) What is the particle's acceleration at $t = 1$?
- c) Is the SPEED of the particle increasing or decreasing at $t = 1$?
- d) Find the total distance that the particle traveled from $t = 0$ to $t = 8$.
- e) Find the closest distance that the particle is from the origin over the interval $t = 0$ to $t = 8$.

