

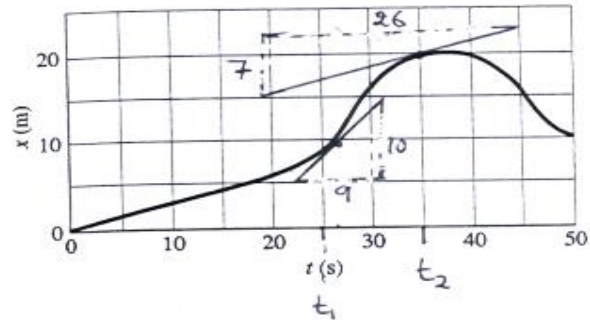
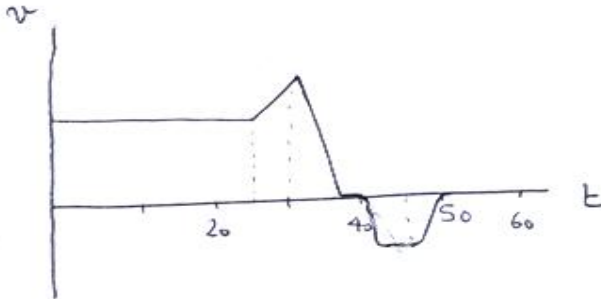
Physics 101 Rec  
Quiz #1a  
Chapter 2

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Name: Key Id: \_\_\_\_\_ Sect: \_\_\_\_\_

The position-time graph of a particle is shown in the figure.

(a) Sketch the velocity-time graph.



(b) Determine the average velocity between  $t = 0$  sec and  $t = 20$  sec.

$$\bar{v} = \frac{\Delta x}{\Delta t} = \frac{x_2 - x_1}{t_2 - t_1}$$

From the graph  $\Delta t = 20$  sec  $\Rightarrow \bar{v} = \frac{6}{20} = 0.30$  m/s  
 $\Delta x = 6$  m

(c) Determine the instantaneous <sup>velocity</sup> ~~acceleration~~ of the particle at  $t_1 = 26$  sec and  $t_2 = 35$  sec.

at  $t_1 = 26$  sec  $v_{int} = \text{slope} = \frac{10}{9} = 1.1$  m/s

at  $t_2 = 35$  sec  $v_{int} = \text{slope} = \frac{7}{26} = 0.26$  m/s