

For all three: $v_0 = 10 \text{ m/s}$ at $t=0$. WB 2-5
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Particle A: Graph in x vs. t

$$\begin{aligned}\text{So, } v(t=7) &= \frac{dx}{dt}(t=7) = \text{slope at } t=7 \\ &= \frac{-30 - 30}{8 - 2} = \underline{-10 \text{ m/s}}\end{aligned}$$

Particle B: Graph in v vs. t

So read from graph $v(t=7) = \underline{-20 \text{ m/s}}$

Particle C: Graph in a vs. t

$$\begin{aligned}\text{So: } v(t=7) &= v_0 + \int_0^7 a dt \quad v_0 = 10 \text{ m/s} \\ &= v_0 + \text{area}(t=0 \rightarrow 7) \\ &= 10 + \frac{1}{2}(4)(20) + 4(10) + \frac{1}{2}(1)(10) \\ &\quad - \frac{1}{2}(2)(20) \\ &= 10 + 40 + 40 + 5 - 20\end{aligned}$$

oo

$$v(t=7) = \underline{75 \text{ m/s}}$$