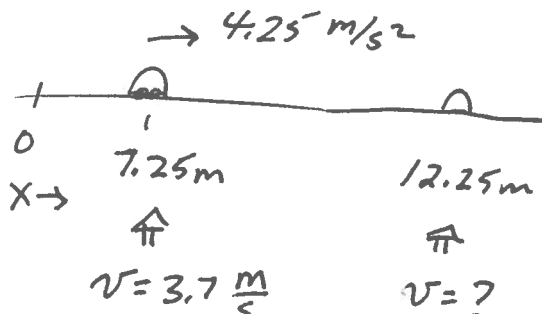


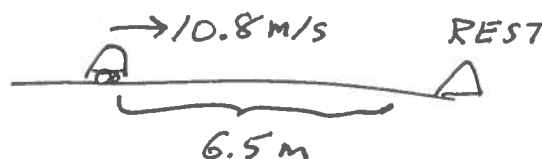
02-equations

1.



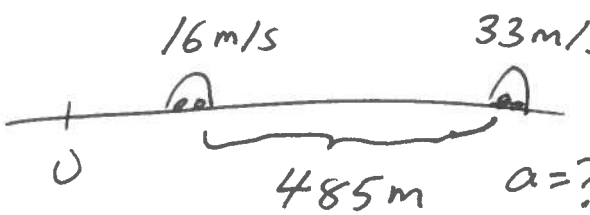
$\rightarrow 4.25 \text{ m/s}^2$
 $v^2 = v_0^2 + 2a \Delta x$
 $v^2 = (3.7)^2 + 2(4.25)(12.25 - 7.25)$
 $= 56.19$
 $\rightarrow \boxed{v = 7.5 \text{ m/s}}$

2.



$\rightarrow 10.8 \text{ m/s}$ REST
 6.5 m
 $v^2 = v_0^2 + 2a \Delta x$
 $0 = (10.8)^2 + 2a(6.5)$
 $\rightarrow a = \frac{-10.8^2}{2(6.5)} = -8.97 \text{ m/s}^2$ (negative acceleration)

3.



16 m/s 33 m/s
 485 m $a=?$
 $v^2 = v_0^2 + 2a \Delta x$
 $16^2 = 33^2 + 2a(485)$
 $\rightarrow a = \frac{33^2 - 16^2}{2(485)} = \boxed{-0.859 \text{ m/s}^2 = a}$

4.

$$a = \frac{\Delta v}{\Delta t} \Rightarrow \Delta t = \frac{\Delta v}{a}$$

$$\Delta t = \frac{1815 - 932}{11.25} = \boxed{78.49 \text{ s}} = \Delta t$$