

Horiz. Practice

d, v, t

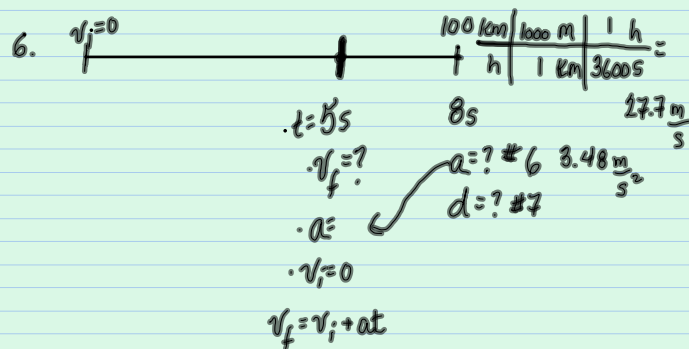
1. $v_i = \frac{5m}{s}$ $d = v_i t + \frac{1}{2} a t^2$
 $a = \frac{2m}{s^2}$ $= 5(6) + \frac{1}{2}(2)6^2$
 $d = ?$ $d = 66m$
 $t = 6s$

2. $v_i = 0$ $v_f^2 = v_i^2 + 2ad$ — write givens, unknown
 $v_f = \frac{30m}{s}$ $\frac{v_f^2 - v_i^2}{2d} = a$ — select formula
 $d = 45m$ $a = ?$ $a = \frac{30^2}{2(45)} = \frac{10m}{s^2}$ — rearrange formula
— substitute
— calculate

3. $v_i = \frac{60m}{s}$ $v_f^2 = v_i^2 + 2ad$
 $a = -7.5 \frac{m}{s^2}$ $\frac{v_f^2 - v_i^2}{2a} = d$ * 10pts
 $v_f = 0$ $\frac{-60^2}{2(-7.5)} = d$
 $d = ?$ $240m = \frac{3600}{15} = d$

4. $v_i = 0$ $d = (v_i + v_f) 0.5t$
 $d = 28m$ $\frac{d}{0.5t} = v_i + v_f$
 $t = 11s$ $\frac{d}{0.5t} - v_i = v_f$
 $v_f = ?$ $\frac{5.1m}{s} = \frac{28}{0.5(11)} = v_f$

5. $v_i = 0$ $d = v_i t + 0.5 a t^2$
 $d = 28m$ $\frac{d}{0.5 t^2} = a$
 $t = 11s$
 $a = ?$ $0.46 \frac{m}{s^2} = \frac{28}{0.5(11)^2} = a$



11. $v_f = \frac{120 km}{h} \frac{1000m}{1 km} \frac{1 h}{3600s} = 33.3 \frac{m}{s}$ $v_f^2 = v_i^2 + 2ad$
 $a = ?$ $\frac{v_f^2}{2d} = a$
 $d = 240m$ $2.3 \frac{m}{s^2} = \frac{33.3^2}{2(240)} = a$
 $v_i = 0$