CP - Jan 18

Start Review for final

1. Bob walks 1 mile east, 2 miles south, 3 miles North, 1 mile west. What was his distance? 7 miles

2. What was his displacement?

1 mile North

Speed = $\frac{\text{distance}}{\text{time}} = \frac{7 \text{ mile}}{60 \text{ min}}$

$.12 \frac{\text{mile}}{\text{min}}$

3. Velocity = $\frac{\text{displacement}}{\text{time}}$ $\frac{1 \text{ mile North}}{60 \text{ min}}$

$.02 \frac{\text{mile}}{\text{min}}$ North

acceleration – rate at which your velocity is changing.

$a = \frac{V_f - V_i}{\Delta t}$

4. Example. Joe is going $20 \frac{m}{s}$ (V_i) and accelerates to $35 \frac{m}{s}$ (V_f) in 3 sec (t). What is his acc?

$a = \frac{V_f - V_i}{\Delta t} = \frac{35 \frac{m}{s} - 20 \frac{m}{s}}{3 \text{ sec}}$

$\left(\frac{15 \text{ m}}{s}\right)\left(\frac{1}{3 \text{ sec}}\right)$

$5 \frac{m}{s \cdot s}$ or $5 \frac{m}{s^2}$

5. How much time does it take to fall?

d	t
$-9.8 \frac{m}{s^2}$	
$V_0 = 0$	

d	t
a	
v	

$a = \frac{V_F - V_0}{t}$

$V_f = V_0 + at = \frac{-42}{-9.8}$

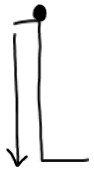
$d = V_i t + \frac{1}{2} a t^2$

$\frac{2d}{a} = t^2 = \frac{2(-21m)s^2}{-9.8m}$

$t^2 = \frac{-42}{-9.8}$

$t^2 = 4.2$

$t = 2.07s$



takes 2.3s to hit ground. How high was it?

v_0	d
a	
t	

$d = v_0 t + \frac{1}{2} a t^2$

$= \frac{1}{2} \left(-9.8 \frac{m}{s^2}\right)(2.3\,s)^2$

$= \frac{1}{2} \left(-9.8 \frac{m}{s^2}\right)(5.29\,s^2)$

$d = -25.92\,m$

how high = 25.92m

Sep 6 HWK

Oct 7 1st Motion test

29 Sept acc worksheet

10/31 test