

CP- Oct 5

1. Adam v_0 v_f a t d

t	a
v_0	
v_f	

$$a = \frac{v_f - v_0}{\Delta t}$$

$$\left(\frac{10\text{m}}{\text{s}} - \frac{4\text{m}}{\text{s}} \right) \frac{3\text{s}}{6\text{m}} = \frac{2\text{m}}{\text{s}^2}$$

2. Betty v_0 v_f a t d

v_0	v_f
a	
t	

$$v_f = v_0 + at$$

$$= \frac{5\text{m}}{\text{s}} + \left(\frac{2.5\text{m}}{\text{s}^2} \right) (8\text{s})$$

$$= \frac{5\text{m}}{\text{s}} + \frac{20\text{m}}{\text{s}}$$

$$= \frac{25\text{m}}{\text{s}}$$

3. Carl

v_0	v_f	d
v_f		
t		

$$d = \left(\frac{v_0 + v_f}{2} \right) t$$

$$= \left(\frac{4\text{m}}{\text{s}} + \frac{16\text{m}}{\text{s}} \right) \left(\frac{2}{2} \right) \frac{12\text{s}}{1}$$

$$= \left(\frac{20\text{m}}{\text{s}} \right) \left(\frac{1}{2} \right) \left(\frac{12\text{s}}{1} \right)$$

$$= 120\text{m}$$

4. Deb

Big Kahuna

v_0	a	t	d
a			
t			

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

$$= \frac{1}{2} \left(\frac{3.7\text{m}}{\text{s}^2} \right) (5\text{s})^2$$

$$= \frac{1}{2} \left(\frac{3.7\text{m}}{\text{s}^2} \right) (25\text{s}^2)$$

$$= \frac{1}{2} (3.7\text{m}) (25)$$

$$= 46.25\text{m}$$

5. Eric

v_0	a	$d = v_0 t + \frac{1}{2} a t^2$
a		$\frac{-9 \text{ m}}{\cancel{5}} \frac{(2\cancel{5})}{1} + \frac{1}{2} \frac{(-9.8 \text{ m}) (2\cancel{5})^2}{\cancel{5^2}}$
t		$= -18 \text{ m} + \frac{1}{2} \frac{(-9.8 \text{ m}) (4\cancel{5^2})}{\cancel{5^2}}$
		$= -18 + -19.6 \text{ m}$
		$d = -37.6 \text{ m}$
		Height = 37.6 m

6. a rock

v_0	v_f	$v_f^2 = v_0^2 + 2ad$
a		$= 2 \frac{(-9.8 \text{ m}) (-40 \text{ m})}{\cancel{5^2}}$
d		$v_f^2 = 784 \frac{\text{m}^2}{\cancel{5^2}}$
		$= \boxed{-28 \frac{\text{m}}{\cancel{5}}}$

7. Fanny

v_0	v_f	$v_f^2 = v_0^2 + 2ad$
a		$= \left(\frac{2 \text{ m}}{\cancel{5}}\right)^2 + 2 \left(\frac{3.4 \text{ m}}{\cancel{5^2}}\right) \frac{25 \text{ m}}{1}$
		$= \frac{4 \text{ m}^2}{\cancel{5^2}} + \frac{170 \text{ m}^2}{\cancel{5^2}}$
		$v_f^2 = \frac{174 \text{ m}^2}{\cancel{5^2}}$
		$= \boxed{+13.19 \frac{\text{m}}{\cancel{5}}}$

8.

$14 \cancel{\text{ft}}$	$(12 \cancel{\text{m}})$	$(254 \cancel{\text{cm}})$	$= \boxed{\frac{426.72 \text{ cm}}{\cancel{5}}}$
$(\cancel{5})$	$(1 \cancel{\text{ft}})$	$(1 \cancel{\text{m}})$	