$h = \frac{v_f}{2} \cdot \frac{-v}{g}$ $\quad 0 = v + g t$

$h = \frac{-2v}{2g}$ $\quad h = \frac{-v}{g}$

8+) $h_c = \Delta x$

$h_c = v t - \frac{1}{2} g t^2$

$v t + \frac{1}{2} g t^2 = h + \frac{1}{2} g t^2$

$v t = h$

$t = \frac{h}{v}$

$h_c = h - \frac{1}{2} g t^2$

$h_c = x \frac{h}{x} - \frac{1}{2} g \frac{h^2}{v^2}$

$h_c = h - \frac{g h^2}{2v^2}$

$0 = h - \frac{g h^2}{2v^2}$

$h = \frac{g h^2}{2v^2}$

$\frac{-2v}{2g} = h - \frac{g h^2}{2v^2}$

a) $h - \frac{g h^2}{2v^2}$

b) $\frac{g h^2}{2v^2}$

c) $\frac{v^2}{g}$

4) a) greater b/c the slope is more
b) No because their speed is constant

7) a) C
b) F
c) B, F
d) E

12) a) equal bc it's in free fall
b) 0 because it is switching btwn $-g$ & g
c) equal bc in free fall

14) a) A, C
b) B
c) A
d) C