#9 Bobby

$d = 2.2^m - .27m = 1.93m$

$\Delta x = 1.1cm = .0011m$

$U_s = \frac{1}{2}kx^2$

$k = \sqrt{\frac{x}{m}}$

$\frac{1}{2}\sqrt{\frac{x}{m}}\,x^2 = \frac{1}{2}mv_f^2$

$v_{F_x}^2 = v_{i_x}^2 + 2 \cdot a_x \cdot dx$

$\frac{1}{2}kx^2 + mgh = \frac{1}{2}mv_f^2$ → $v_f^2 =$

$v_f = \sqrt{\frac{2 \cdot (\frac{1}{2}kx^2 + mgh)}{m}}$

Rhoda