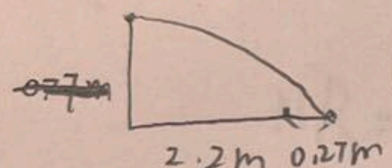
Yang Shen

9)



$E = \frac{1}{2}k^2 x = \frac{1}{2}m v_1^2$

$\frac{1}{2}\cdot(1.1\times10^{-2})\cdot k^2 = \frac{1}{2}m v_1^2$

$2.2 - 0.27 = 1.93\ m$ $\quad \Delta x = 1.1\ cm = 1.1\times10^{-2} m$

$v_1 \cdot t = 1.93\ m = L'$

$v_2 = \frac{2.2}{t}$

$h = \frac{1}{2}gt^2 \Rightarrow t = \sqrt{\frac{2h}{g}}$

$L' = V \times t = \sqrt{\frac{2hk}{mg}}\,\Delta x$

$\frac{L'}{L} = \frac{2.2\ cm}{1.93\ cm}\cdot 1.1\ cm$

$\approx 1.254\ cm$