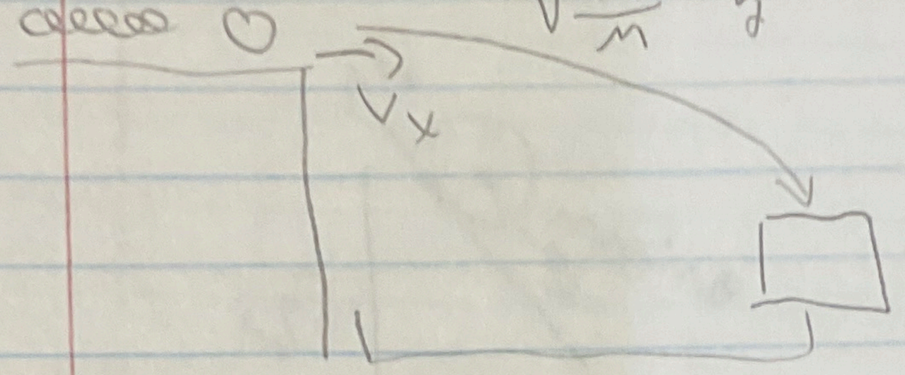
9.

$\frac{1}{2}kx_2^2 = \frac{1}{2}mv_2^2$

$\sqrt{\frac{kx_2^2}{m}} = v_2$



$D_2 = v_2 t$

$\frac{D_2}{v_2} = t$

relate time

$D_1 = v_1 t$

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

$\frac{1}{2}kx_1^2 = \frac{1}{2}mv_1^2$

$\sqrt{\frac{kx_1^2}{m}} = v_1$

$D_1 = D_2 \frac{v_1}{v_2}$

$D_1 = D_2 \frac{\sqrt{\frac{kx_1^2}{m}}}{\sqrt{\frac{kv_2^2}{m}}}$

$D_1 = D_2 \frac{x_1}{x_2}$

$x_2 = \frac{D_2 x_1}{D_1}$

$x_2 = \frac{(1.1m)(.011m)}{(1.93m)}$

$x_2 = .0125m$