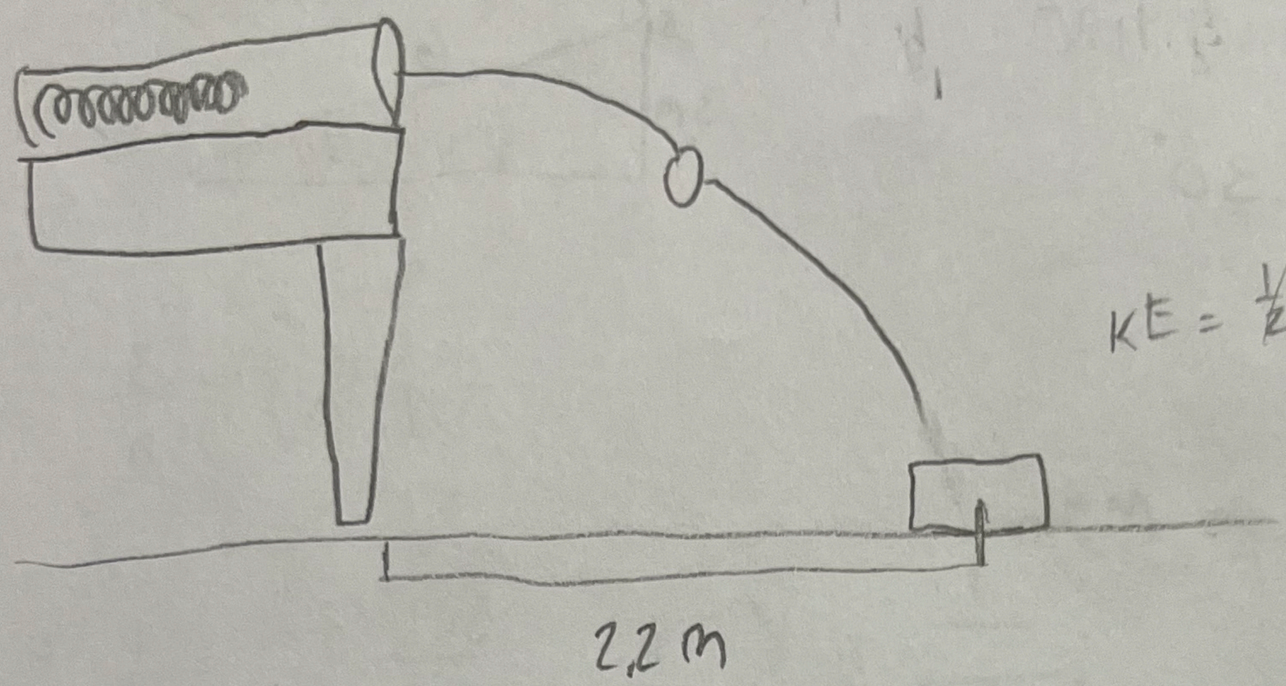
Question 9.

$$x = V_i \sqrt{\frac{2h}{g}}$$



$$KE = \frac{1}{2}kx^2 = \frac{1}{2}mv^2$$

$$kx^2 = mv^2$$

$$V_{i2} = \left(\frac{x_2}{x_1}\right) V_{i1}$$

Spring = 1.1cm 27cm off

$$d_1 = (2.2 - .27) = 1.93$$

$$x_2 = x_1\left(\frac{d}{d_1}\right) \qquad x_2 = (1.1\,cm)\left(\frac{2.2\ m}{1.93\ m}\right)$$

$$x_2 = 1.25\,cm$$