QUESTION XM 9

2.20 m
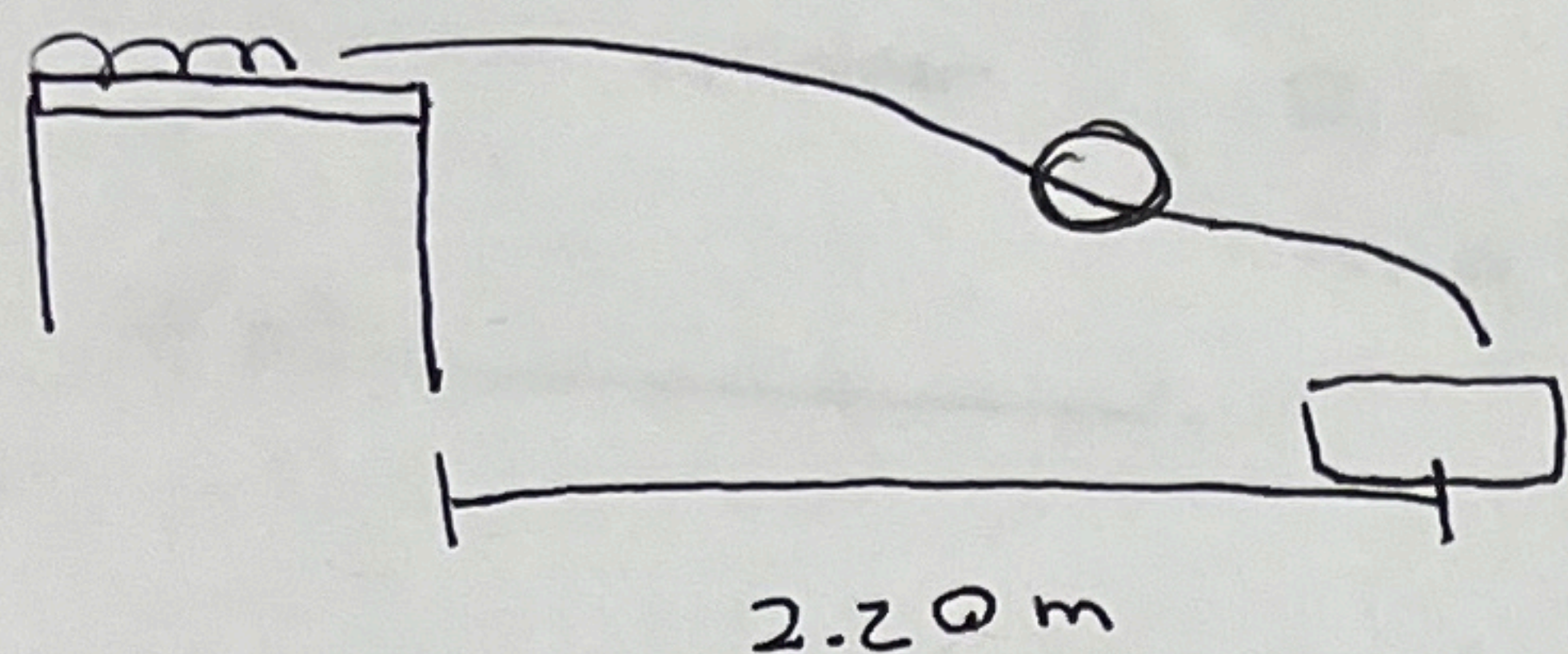
FORMULAS

Spring Potential energy: $U_S = \frac{1}{2}kx^2$

when Bobby compresses it by .011 m, it land 1.03 m away

~~CONSERVATION OF ENERGY~~

$$V_f^2 = V_0^2 + 2ax$$
$$\quad\quad\quad 0$$

$$V_f^2 = (2)(10)(1.03) \longrightarrow V_f = 6.21 \text{ m/s}$$

CONSERVATION OF ENERGY

$$\frac{1}{2}kx^2 = \frac{1}{2}mv_f^2 \text{ ~~mgh~~}$$