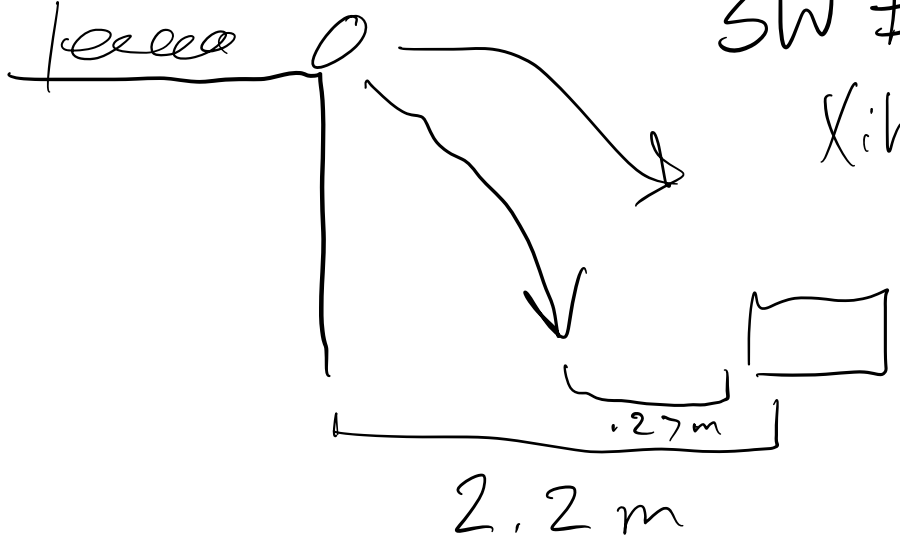
Matt Wolcott
SW #1
Xihe Han



Bobby compresses 1.1 cm = .011 m

$PE_I = KE_F$ $\quad k = \sqrt{\frac{g}{1}}$

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

$v_f = \sqrt{\frac{kx^2}{m}}$

$\Delta x = t \cdot v_f$

$t = \frac{v_f}{\Delta x}$

time is equal due to free fall
So solve for velocity in order to reach 2.2 m
then plug back into

$\frac{1}{2}kx^2 = \frac{1}{2}mv^2$ and solve for x

$$x = \sqrt{\frac{m v_f^2}{k}}$$

$$x = 3.2 \text{ cm}$$