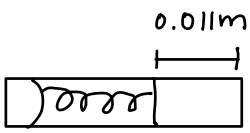
SW #1 TA: Xihe Han

1.1 cm = 0.011 m

27.0 cm = 0.27 m short of box center

$g = 10\ m/s^2$



How far should spring be compressed?

Spring force: $F = -Kx$ $\quad F = ma$

$F = (1\ kg)(10\ m/s^2)$

$x(+) = A\cos(\omega t + \phi)$

$-K = \frac{F}{x}$ $\quad \omega_0 = \sqrt{\frac{K}{m}}$

$-K = \frac{10\ N}{0.011\ m}$

$k = -909.091\ N/m$

2.2m + 0.27m = 2.47 m to box's center

0.011m + 0.27 m = 0.281 m

Spring should compress

0.281 m