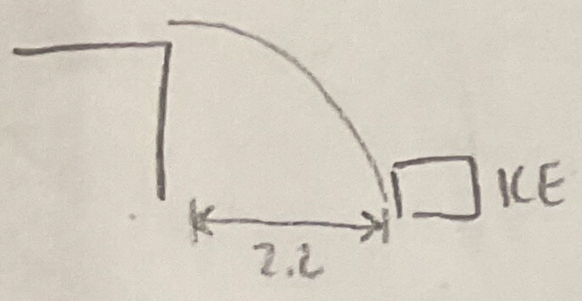
#9 SW1



EPE + GPE = KE

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

$h = \frac{1}{2}gt^2$

$t = \sqrt{\frac{2h}{g}}$

$\Delta x = v\sqrt{\frac{2h}{g}}$

$v = \frac{\Delta x}{\sqrt{\frac{2h}{g}}}$

$\frac{1}{2}kx^2 + mgh = \frac{1}{2}mv_1^2$

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

$\frac{1}{2}kx_1^2 - \frac{1}{2}mv_1^2 = \frac{1}{2}kx_2^2 - \frac{1}{2}mv_2^2$

Spring KE:

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

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

$\lambda = \frac{2.2}{1.93} =$