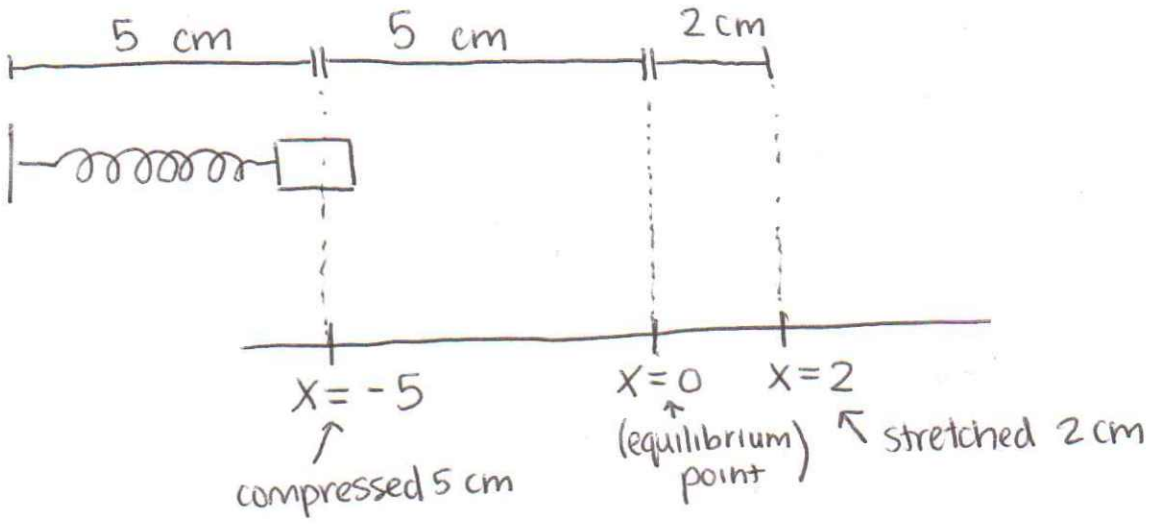
2.



$W = \int_a^b F(x)\,dx = \int_a^b kx\,dx$

$6(10)^7 = \int_0^{-5} kx\,dx$] 10 points for set up to find k (4 points for correct limits)

$= \frac{1}{2}kx^2\Big|_0^{-5}$

$6(10)^7 = \frac{25}{2}k$] 2 points for finding k

$\frac{12}{25}(10)^7 = k$

$W = \int_0^2 \frac{12}{25}(10)^7 x\,dx$] 10 points for set up (4 for correct limits

$= \frac{6}{25}(10)^7 x^2\Big|_0^2$

$= \boxed{\frac{24}{25}(10)^7 \text{ ergs}}$] 3 points for correctly calculating work