Let L be the natural length of the spring in meters. Then
$24 = \int_{0.13-L}^{0.17-L} kx\,dx = \left[\frac{1}{2}kx^2\right]_{0.13-L}^{0.17-L} = \frac{1}{2}k\left[(0.17-L)^2 - (0.13-L)^2\right]$ and
$40 = \int_{0.17-L}^{0.21-L} kx\,dx = \left[\frac{1}{2}kx^2\right]_{0.17-L}^{0.21-L} = \frac{1}{2}k\left[(0.21-L)^2 - (0.17-L)^2\right]$.
Simplifying gives us $48 = k(0.0120 - 0.08L)$ and
$80 = k(0.0152 - 0.08L)$. Subtracting the first equation from the second gives $32 = 0.0032k$, so $k = 10,000$. Now the second equation becomes $80 = 152 - 800L$, so $L = \frac{72}{800}$ m $= 9$ cm.