

Answer on 40288, Physics, Mechanics | Kinematics | Dynamics

Question: A string of natural length L extends to a new length L' under tensile force F . If Hooke's law applies, the work done in stretching the spring is $1/2FL$, $1/2FL$, $1/2 F(L-L')$ or $F(L-L')$

Solution. The work is **average** force multiplied by difference in length, hence, the work will be

$$1/2F(L - L')$$