Spring Energy Problems - Basic

Name: _____ Date: _____

$$E_s = \frac{kx^2}{2}$$

$$F_s = kx$$

1. A spring with a spring constant of 400 N/m is stretched 40 cm. Calculate the energy stored in the spring.

2. A spring is compressed by 20 cm storing 1000 J of energy in the spring. Calculate the k (spring constant) value of the spring.

3. A rubber band (which obeys Hooke's law) has a spring constant of 5 N/m and is stretched so that 89 J of energy is stored in it. Calculate the amount of stretch.

4. A spring requires 20 N of force to compress it by 3 cm.
   a) Calculate the spring constant.

   b) Calculate the amount of energy stored in the spring if the spring it stretched by 11 cm.