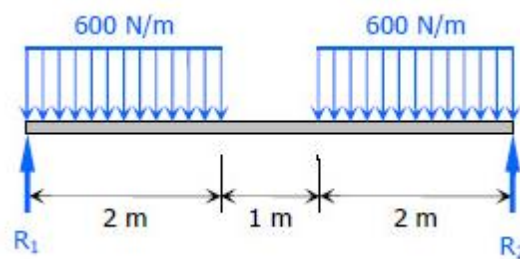


Case Study
Course : Solid Mechanics II
Course Code: CE 604

1. Determine the maximum shearing stress and elongation in a bronze helical spring composed of 20 turns of 1.0-in.-diameter wire on a mean radius of 4 in. when the spring is supporting a load of 500 lb. Use Eq. (3-10) and $G = 6 \times 10^6$ psi.
2. Compute the midspan value of $EI\delta$ for the beam shown in Fig. (Hint: Draw the M diagram by parts, starting from midspan toward the ends. Also take advantage of symmetry to note that the tangent drawn to the elastic curve at midspan is horizontal.)



3. The state of plane stress at a point is represented by the stress element below. Find the stresses on an element inclined at 30° clockwise and draw the corresponding stress elements.

