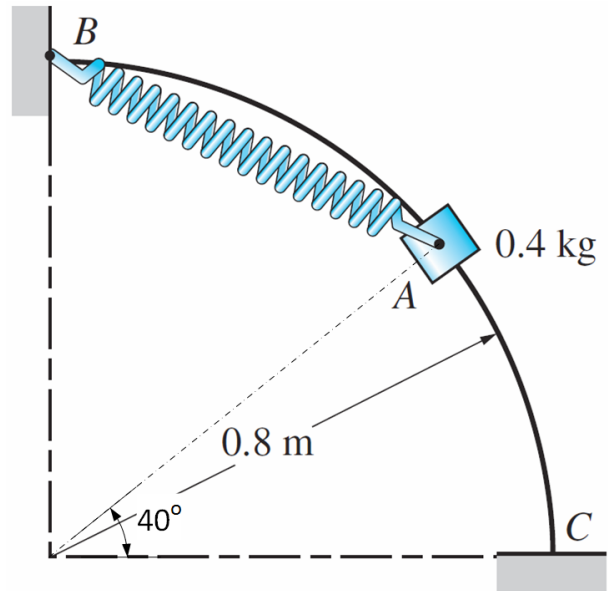
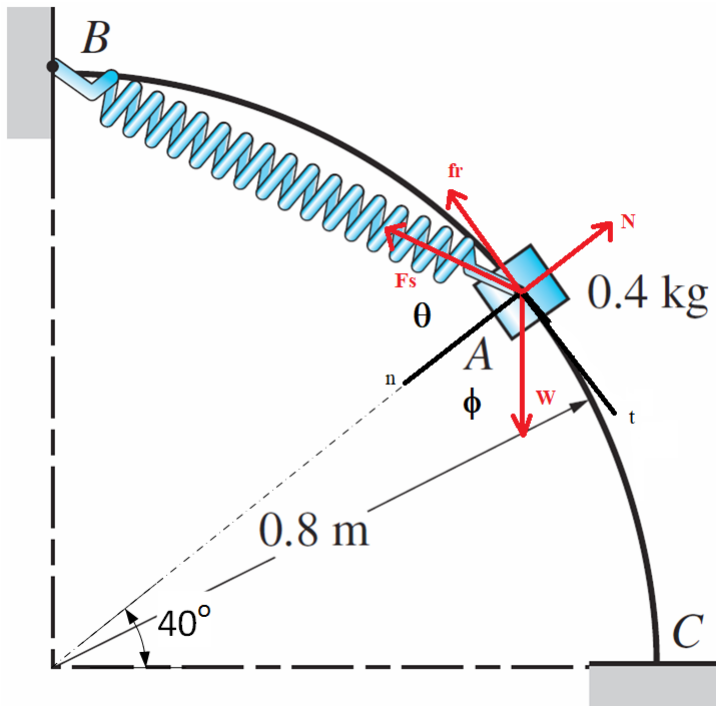


1) The 0.4 kg slider glides on the circular guide rod BC . The spring attached to the slider has an unstretched length of 0.4 m and a stiffness of 18 N/m . The slider has a velocity of 2.4 m/s at point A .

Determine the magnitude of the acceleration of the slider, and the normal force exerted by the guide rod on the slider at point A . The coefficient of kinetic friction between the slider and the guide rod is $\mu_k = 0.1$. Clearly label your coordinate system(s).



25 marks



(4 marks)

$$\phi = 90 - 40 = 50^\circ$$

(2 marks)

$$\theta = \frac{180 - 50}{2} = 65^\circ$$