

**FIGURE P10-3**

Problems 10-18 to 10-19

- †10-18 The cam in Figure P10-3 is a pure eccentric with eccentricity = 20 mm and turns at 200 rpm. The mass of the follower is 1 kg. The spring has a rate of 10 N/m and a preload of 0.2 N. Use the method of virtual work to find the torque required to rotate the cam through one revolution.
- †10-19 Repeat Problem 10-18 using a cam with a 20-mm, symmetric, double harmonic rise in 180° and double harmonic fall in 180°. See Chapter 8 for cam formulas.

† These problems are suited to solution using *Mathcad*, *Matlab*, or *TKSolver* equation solver programs.