

## J99M.3—Rod Orbiting the Sun

### Problem

A rod of length  $L$ , mass  $m$  and uniform mass density is circling in an orbit around the Sun at distance  $R$  (between the center of the rod and the Sun). The mass of the Sun is  $M$ . Assume that the rod is always pointed in the radial direction. Calculate the tension at the center of the rod.