

Challenge Problem 21

A thin rod of mass M and length ℓ is connected to a wall by a hinge. The rod is horizontal, and it is held stationary by a massless cable running from its free end to the wall. The cable makes an angle ϕ with the horizontal.

- (a) What is the tension in the cable?
(b) What are the components of the force of the rod on the hinge?

