

Chapter N5 Practice: Statics

Physics I

College of the Atlantic

1. A 50 kg box hangs from a rope. If a horizontal, 100 N force is applied to the box, what angle does the rope make from the vertical?
2. A 3 meter ladder leans against a frictionless wall. The ladder makes an angle of 53 degrees from the horizontal. What is the friction and normal forces exerted on the ladder by the ground? The mass of the ladder is 50 kg.
3. A 30 kg sign is attached to a wall with a hinge and then suspended with a rope as shown. The sign is 1.5 meters long; the angle $\theta = 37$ degrees. Find the tension in the cord and the force that the hinge exerts on the sign.

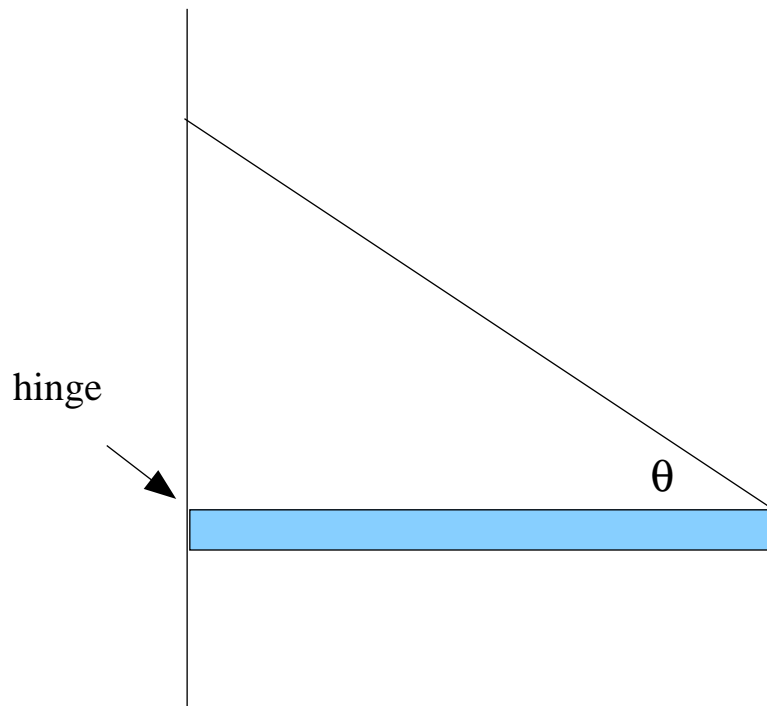


Figure 1: