
Review problem

A cord holds a 10 kg, 1.2-m tall rod vertically in a cart as shown in the figure. The rod is pinned to the cart at A. The cart itself has a mass of 35 kg and rolls without friction on the horizontal surface.

If the cord will break when the tension in it reaches 12 N, find the maximum force P that can be exerted on the cart without breaking the cord. You may assume that the center of mass of the rod is at the geometric center.

