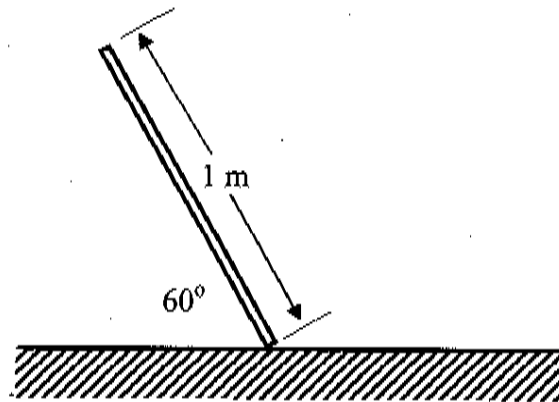


**Test 2 ME 230 Winter 07**  
Open Textbook, Open Notes

- 1) The 4 kg slender bar is released from rest in the position shown. The surface is smooth (i.e. no friction). Determine the normal force exerted on the bar by the surface at the instant it is released.



- 2) A 2 kg disk slides on a smooth horizontal table and is connected to an elastic cord whose tension is  $T = 6r$  Newtons, where  $r$  is the radial position of the disk in meters. If the disk is at  $r = 1$  m and is given an initial velocity of 4 m/s in the transverse direction, what are the magnitudes of the radial and transverse components of its velocity when  $r = 2$  m? Consider using angular momentum and conservation of energy.

