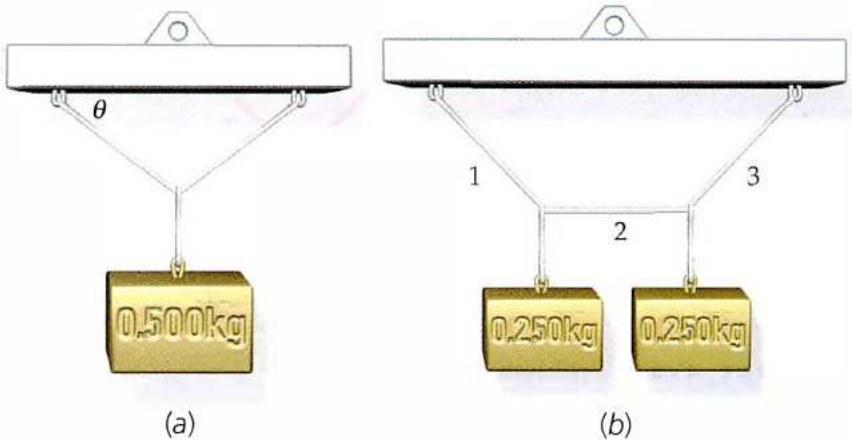
İzmir Kâtip Çelebi University
Department of Engineering Sciences
Phy101 Physics I
ONLINE Quiz5-Force and Motion I
October 29, 2026 14:00
Good Luck!

◇ Open Source Quiz
◇ Answer all the questions. Write the solutions explicitly and clearly. Use the physical terminology
◇ Calculator is allowed. You are not allowed to use any other electronic equipment in the exam

1. In Figure(a), a 0.500 kg block is suspended from a 1.25 m long string. The ends of the string are attached to the ceiling at points separated by 1.00 m.

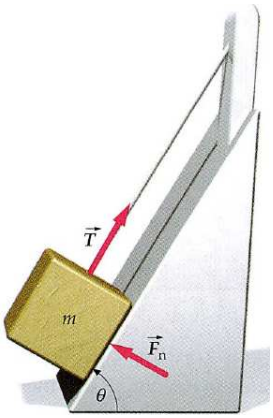


   i What angle does the string make with the ceiling?

   ii What is the tension in the string?

   iii The 0.500 kg block is removed and two 0.250 kg blocks are attached to the string such that the lengths of the three string segments are equal (see Figure (b)). What is the tension in each segment of the string?

2. A box is held in position by a cable along a frictionless incline.



i If $\theta = 60°$ and $m = 50\ kg$, find the tension in the cable and the normal force exerted by the incline,

ii Find the tension as a function of θ and m, and check your result for $\theta = 0°$ and $\theta = 90°$.