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# Phy101 Physics I
# ONLINE Quiz6-Force and Motion II
# October 29, 2026 15:00
# Good Luck!

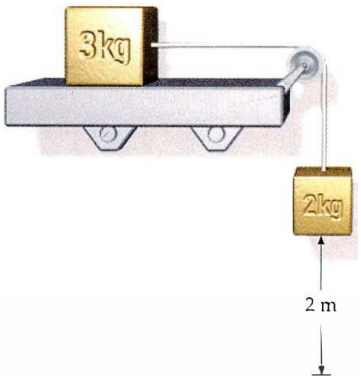
**◇ Open Source Quiz**
**◇ Answer all the questions. Write the solutions explicitly and clearly. Use the physical terminology**
**◇ Calculator is allowed. You are not allowed to use any other electronic equipment in the exam**

1. A 20-N block rests on a horizontal surface. The coefficients of static and kinetic friction between the surface and the block are $\mu_s = 0.8$ and $\mu_k = 0.6$. A horizontal string is attached to the block and a constant tension $T$ is maintained in the string. What is the force of friction acting on the block if

   i T = 15 N,

   ii T = 20 N.

2. A 3-kg block rests on a horizontal table, attached to a 2-kg block by a light string as shown in Figure.




   i What is the minimum coefficient of static friction such that the objects remain at rest?

   ii If the coefficient of static friction is less than that found in part (i), and if the coefficient of kinetic friction between the block and the table is 0.3, find the time it takes for the 2-kg mass to fall 2 m to the floor if the system starts from rest.