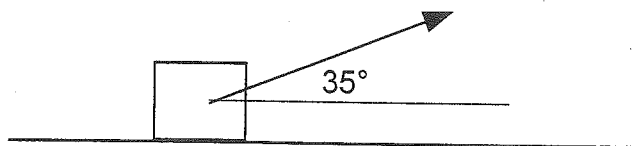
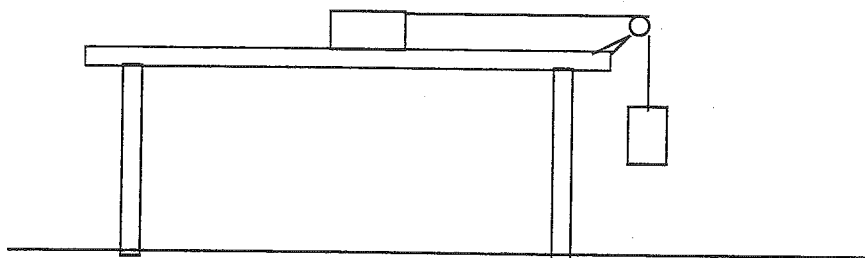


Phys 12 : Practice : Ch 4

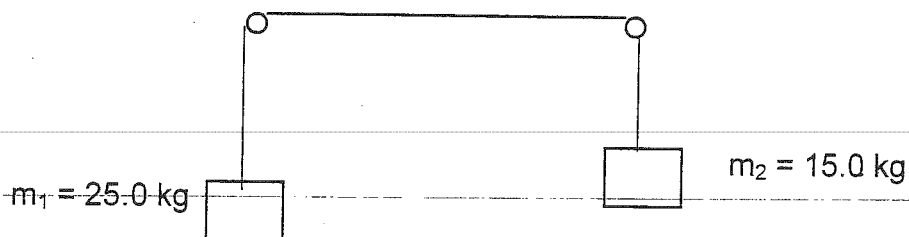
1. ~~1~~ The diagram below shows a box of mass 4.6 kg being pulled along a horizontal sidewalk by a force of 51 N as shown. The coefficient of friction between the box and the sidewalk is 0.70.
- What is the magnitude of the normal force exerted by the sidewalk on the box?
 - What is the magnitude of the net force on the box?



2. ~~2~~ A 10.0 kg block hangs by a string connected to a 7.0 kg block on a table.



- What is the minimum coefficient of static friction needed to keep the system at rest?
 - If the true coefficient of friction is 0.35, what is the acceleration of the system?
 - For the situation in (b), what is the tension in the string?
3. ~~3~~ For the diagram shown:
- What is the acceleration of the system if friction may be ignored?
 - What is the tension on the string?



4. ~~4~~ The coefficient of static friction between your physics text ($m=0.450$ kg) and the desk is 0.30. If you tilt your desk, at what angle to the horizontal will your book start to slide?
5. ~~5~~ A car is traveling at a constant speed of 50.0 km/h up a slope that is 9.0° to the horizontal.
- Draw the free body diagram for the car.
 - What is the horizontal component of the car's velocity?
 - What is the net force on the car?