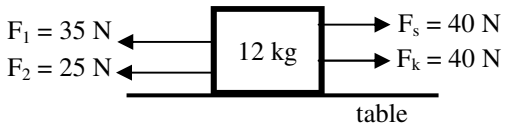
A-Day Due Tues., Oct 24 (Assigned: 10/20)
B-Day: Due Wed., Oct 25 (Assigned: 10/23)

Forces 4

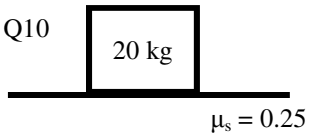
1. How much force is necessary to move the object?
2. What do we call this force? (Be specific.)
3. How much force will resist it once it moves?
4. What do we call this force? (Be specific.)
5. There are two forces missing on the object. What are they?
6. Find the weight of the object.
7. Will the object move (and why)?
8. Calculate the object's acceleration.



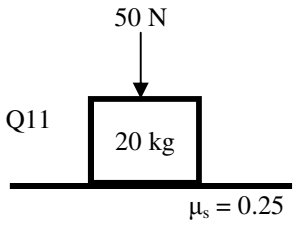
9. Calculate μ_s and μ_k for this situation (and "yes" you do have enough information).

More about Normal force…

10. A 20 kg object sits on a desk.
    A) What is the normal force pushing up on the object?

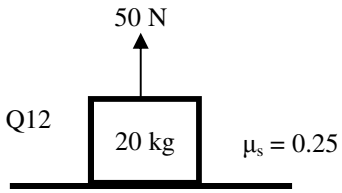


    B) Find F_s.



11. A person pushes down on the 20 kg object with 50 N of force.
    A) What is the normal force pushing up on the object?

    B) Find F_s.

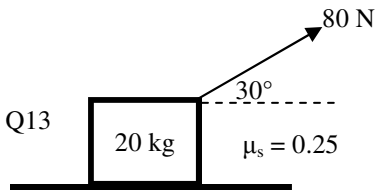


12. A person pulls up on the object with 50 N of force.
    How much normal force does the table have to give the object now?
    A) What is the normal force pushing up on the object?

    B) Find F_s.

Using what you just learned…

13. If the force is pulling up on the object at a 30° angle.
    A) The normal force is in what direction?
    B) Is the 80 N force increasing or decreasing the normal force?
    C) What portion of the force is pulling in the normal force direction?



    D) Calculate the normal force pushing up on the object.

    E) Find F_s.

MORE ON BACK

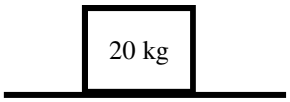
BIG HINT: Redraw the diagram with the Fn and Fs you just found.

F) What portion of the 80 N force is pulling to the right? Find it and draw it.

G) At this point you should have Fs and a Fx (pulling to the right).
Find the acceleration of the acceleration of the object.

(If you followed all of the above steps (including redrawing the diagram with what you found, then you ought to be able to solve this problem. Just be sure to keep x and y directions straight. If you ABSOLUTELY need it, see "Friction and Angles".)

y-direction



x-direction