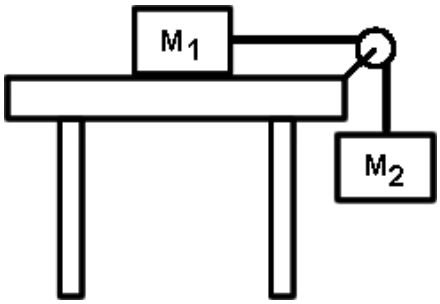
A-Day Due Thurs., Oct 26 (Assigned: 10/24)
B-Day: Due Fri., Oct 27 (Assigned: 10/25)

Forces 5

1. If the table at the right has NO friction, draw all of the forces on Mass 1.



M_1

2. Draw all of the forces on Mass 2.

M_2

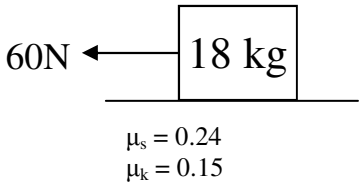
3. Which direction will Mass 1 move: left or right?
   (Treat this direction as positive for mass 1—mark it on your diagram in Question 1)
4. Which direction will Mass 2 move: up or down?
   (Treat this direction as positive for mass 2—mark it on your diagram in Question 2)
5. Write the F = ma equation for Mass 1 in the x-direction (the direction of motion).
   (Make sure you keep positive and negatives straight.)

6. Write the F = ma equation for Mass 2 in the y-direction (the direction of motion). (Keep + and -'s straight.)

7. Since there is only one rope, the tension is the same. Also, it should be obvious that the two objects will have the same acceleration, because they are connected. So, use these facts to solve for the acceleration of the system.
   (T = T and a =a Use $m_1 = 3$ kg and $m_2 = 6$ kg).

8. For the above problem, how would it change if there was friction on the table?

9. A 18 kg object sits on a table. If $\mu s = 0.24$ and $\mu k = 0.15$,
   A) Find how much force is necessary to start the object moving.



   B) Find how much force tries to stop the object when it is moving.

   C) If a 60 N force pulls to the left, find the acceleration of the object. (Use the equation!)

More on Back

10. Which organelle?
    A. In what part of the cell is energy produced?
    B. Using your kingdom chart again, what is the cell wall of fungi made of?
    C. Where is DNA stored in the cell?
    D. Where does RNA **go** to in order for the cell to have the proper genetic code to make proteins?