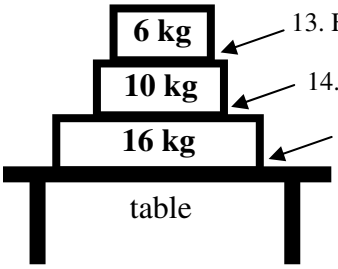
A-Day: due Wed., 10/20 (Assigned 10/18)
B-Day: due Thurs., 10/21 (Assigned 10/17)

Forces 2

1. Normal force 2. Static friction 3. Friction 4. Kinetic friction 5. Net force	A. Friction when an object is moving. B. Total of all of the forces on an object. C. Any force that opposes motion. D. How much an object is pressed against a surface. E. Friction that keeps an object stationary (not moving).	Which of Newton's Three Laws Applies? ___ 7. I throw a ball on the ground and it comes back up. ___ 8. A 4 newton force is applied to three objects, the one with the most mass does move as fast. ___ 9. I push on a car, how much acceleration will it have? ___ 10. At the end of the 100-meter dash the runners take another 20 or 30 meters to stop. ___ 11. When you are on a roller coaster your stomach feels strange at the top of the track.
6. Which is harder to stop; a 20 kg object or a 40 kg object and why?		

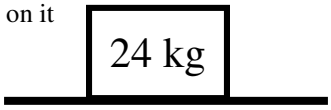
Understanding Net Force	**A. Find F_{net} (include direction)**	**B. Find its acceleration**	**C. Is it at equilibrium and why?**
8 N, 18 N, **8 kg**, 2 N 12.			



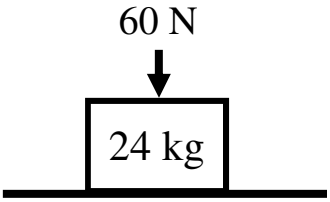
13. Fn = _____
14. Fn = _____
15. Fn = _____

Study Helps available "Understanding Normal Force"
13-15. Find the normal force at each of the surfaces.

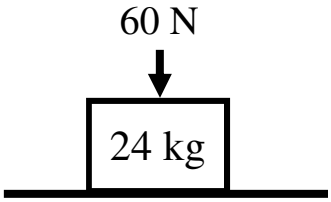
16. If the 24 kg object is not moving, mark all forces on it (with magnitudes and directions).



17. If a 60 N force pushes down on the 24 kg mass, find the normal force.



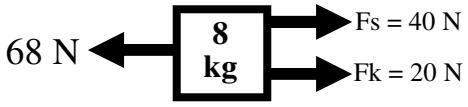
18. If the 60 N force pulls up on the 24 kg mass, find the normal force.



19. Which kind of friction tries to keep an object from moving?

20. Which kind of friction tries to stop an object when it is moving?

21. Do these forces ever combine?



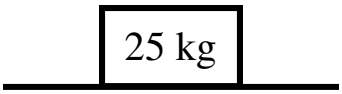
22. How much force tries to keep the above object from moving?

23. How much force tries to stop the above object from moving?

24. Will the above object move?

25. If it does move, find the acceleration.

Use the diagram at the right to answer the following:



26. Find and mark the weight of the object.

27. Find and mark the normal force on the object.

28. Using the equations I gave you:
    A) If $\mu_s = 0.75$, find the force of static friction.

    B) If $\mu_k = 0.45$, find the force of kinetic friction.

29. Is a virus alive?

30. How does a virus "reproduce"?

31. Give two examples of how we have a metabolism.

32. Give two examples of you maintaining homeostasis.

33. (Actual TAKS question) "One characteristic shared by a virus and a living cell is that both -
    A. store genetic information in nucleic acids.
    B. have a crystalline structure.
    C. gain energy directly from the sun.
    D. use glucose for respiration."