PreAP: due Wed., Oct 12 (Assigned: Thur, Oct 6)
Reg: due Thur., Oct 13 (Assigned: Tues., Oct 11)

Friction and More Forces

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).

6. Which is harder to stop; a 20 kg object or a 40 kg object and why?

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.

Understanding Net Force	**A. Find F_{net} (include direction)**	**B. Find its acceleration**	**C. Is it at equilibrium and why?**
40 N ← **10 kg** → 60 N	12.		
8 N ← **8 kg** → 2 N 18 N ←	13.		
20 N ← **6 kg** → 15 N → 5 N	14.		

15. What do these variables stand for: μ_s; F_f; μ_k; Fn?

16. Can friction by itself cause something to move?

17. Can friction stop an object?

18. Give two examples of friction being useful.

19. Which is usually bigger μ_s or μ_k?

20. A 15 kg object is sitting on a desk. (From now on you can use g = 10 m/s^2 instead of 9.8 m/s^2)
    A. Find its weight.
    B. What is the normal force of the desk.

21. What is another way to think of the normal force?

22. A 10 N object (*mass or weight?)* sits on a desk with a 4 N object on top of it. What is the normal force of the desk?

23. A 30 N object is on a surface with $\mu_s = 0.5$ and $\mu_k = 0.15$.
    A. Find the normal force of the surface.
    B. Find the friction on the object when it is moving.
    C. Find the friction on the object when it comes to rest.