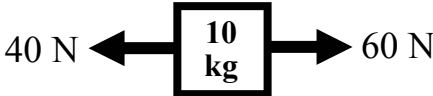
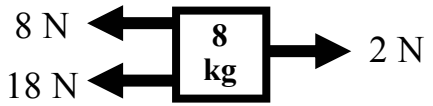
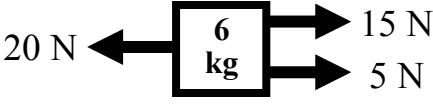


PreAP: due Wed., Oct 12 (Assigned: Thur, Oct 6)
 Reg: due Thur., Oct 13 (Assigned: Tues., Oct 11)

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). | 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? |
|---|--|--------------------------|----------------------------------|
|  | 12. | | |
|  | 13. | | |
|  | 14. | | |

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

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 $g = 10 \text{ m/s}^2$ 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.