PreAP: due Mon., Nov 27 (Assigned: Thurs., Nov 17)
Reg: due Tues., Nov 28 (Assigned: Fri., Nov 18)

Momentum 1

Put this equation on your equation sheet: p = mv
Add this to your variable chart:

Page #	Variable	Units	Variable Name	Notes:
	p (small)		momentum	How hard it is to stop something. p =0, if v = 0.

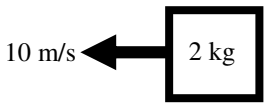
1) A 250 kg object is moving 3.4 m/s. Use the equation to find the momentum AND the units. (There is no special units for momentum.)

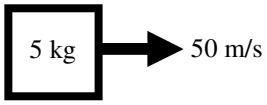
2) A 35 kg object has -450 kgm/s of momentum. Find its velocity.

3) Which has more momentum? (choose one for each)
A. a car when going fast or slow?
B. a heavy or light object going 10 m/s?

As a vector, momentum has both magnitude and direction and can be either positive and negative. We will call an object moving left or down negative and an object moving to the right or up, positive.

5) Find the momentum of the following objects (remember the above statement):





A. _____ B. _____ C. _____

6) Which of the objects in #5 has the momentum with the greatest magnitude (disregard direction)?

7) Which of the objects in #5 has the most inertia?

8) Find the TOTAL (net) momentum in #5 (find Σp).

9) A 10 kg object is 5 m/s moving to the left while a 3 kg object is going 4 m/s to the right.
(Remember that left is negative.)
A) Find the momentum of the 10 kg object (we'll call this momentum 1 or "p_1"):

B) Find the momentum of the 3 kg object (p_2):

C) Find the total momentum of both objects (Σp).

10) A 25 kg object moving 3 m/s to the right while a 30 kg object is moving 4 m/s to the right (yes, same direction). Find Σp for this system.

11) A 2 kg object initially going 4 m/s to the right is later going 8 m/s. Find Δv.

12) An object going 6 m/s to the right ends up going 3 m/s to the left. Being careful of negatives and positive:
   A) Vi=
   B) Vf =
   C) Δv =

13) A 500 N force pushes on an object for 6 seconds. Find the Δp on the object. (Use impulse.)

14) How long would it take a 30 N force to get the same Δp.