A-Day: Due Fri., Aug 29 (Assigned: 8/29)
B-Day: Due Tues., Sept 4 (Assigned: 8/30)

Linear Motion 2

Have you turned in your signed Lab Safety and Class Rules? Do you have a calculator?

1) Given $E_k = \frac{1}{2} m v^2$ solve for "m".

(*Hint*: *Treat the v^2 as a single variable.)*

2) Given $\Delta x = v_f t - \frac{1}{2} a t^2$ solve for "a".

For the following word problems you MUST follow the method outlined in the "How to Solve Word Problems" notes!

3) A sliding block has 35 kgm/s of momentum, how much mass does it have if it is moving 10 m/s?
Variables: Equation: Solve:

4) A person pushes for 8 meters on an object, doing 40 J of work. How hard was the person pushing on the object?
Variables: Equation: Solve:

5) A car moving 30 m/s stops in 5 seconds.
A) What is its speed when it "stops"?
B) Find its acceleration:
Variables: Equation: Solve:

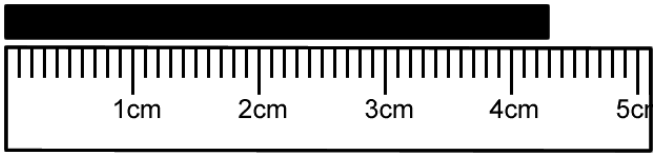
6) Person A drives a sports car 1,000 m in 20 seconds. How fast as person A traveling? (*Write variables, etc.)*

7) Person B drives more a more "sensible" car the same 1,000 m, but it take 200 seconds. How fast was person B moving?

8) Using your answers from Q14 and Q15 to answer the following questions.
A) Which car was faster: person A's or person B's?
B) Which car when farther?
C) True or false (and why): "A faster object can go farther."

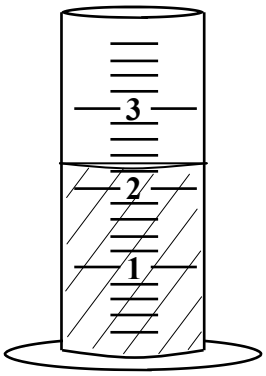
9) A) How many cents in a dollar? B) How many years in a century?
C) How many centimeters in a meter?
D) How many centimeters is the following black line?
E) How many millimeters is the line?

F) How many meters is the line?



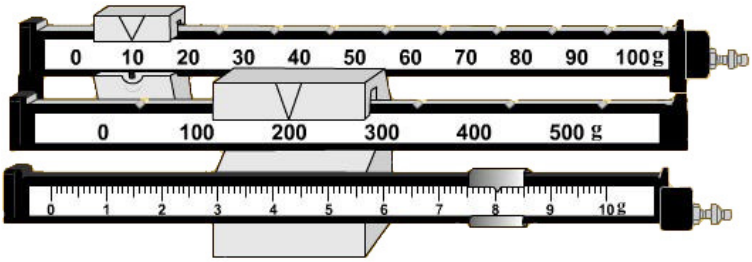
More questions on back

10) How many millimeters of water are in the graduated cylinder at the right?



11) How much mass does the triple beam balance below read in grams?

12) How much mass does the triple beam balance below read in kilograms?



13) Make sure the following is on the back of your variable list
(and don't make it too big—you'll be writing other information there later.)

Metric Prefixes

1 Mm = 1 x 10^{6} m	1 m = 1 x 10^{-6} Mm	M—Mega (million)
1 km = 1 x 10^{3} m	1 m = 1 x 10^{-3} km	k—kilo (thousand)
1 cm = 1 x 10^{-2} m	1 m = 1 x 10^{2} cm	c—centi (1 hundredth)
1 mm = 1 x 10^{-3} m	1 m = 1 x 10^{3} mm	m—milli (1 thousandth)
1 μm = 1 x 10^{-6} m	1 m = 1 x 10^{6} μm	μ—micro (1 millionth)
1 nm = 1 x 10^{-9} m	1 m = 1 x 10^{9} nm	n—nano (1 billionth)