A-Day: Due Wed., Sept 3 (Assigned: 8/29)
B-Day: Due Thurs., Sept 4 (Assigned: 9/2)

2008 Linear Motion 3

1) On the first day of class, I showed a demo with melted wax.
   A. When ice is placed in water, does it sink or float?
   B. When a piece of solid wax is placed in melted wax, does it sink or float?
   C. If a piece of solid iron were dropped into a vat of liquid iron, would the solid piece sink or float?

Use the "How to Solve Word Problems" notes to answer the following.

2) 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:

3) 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:

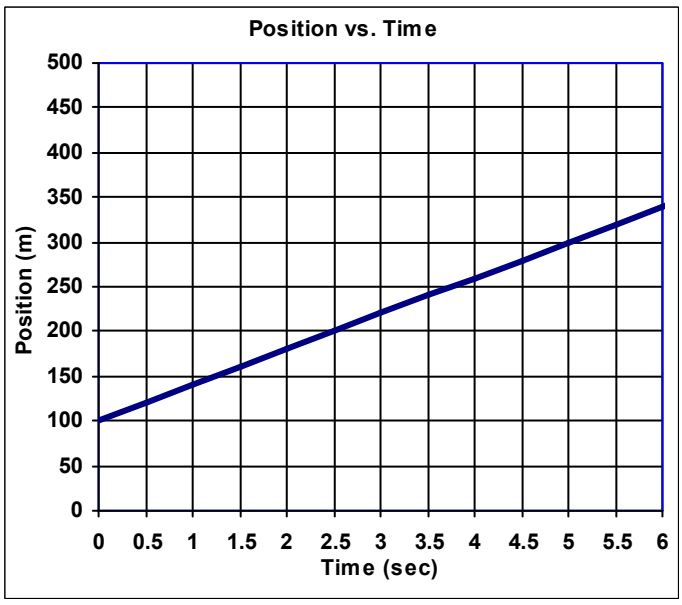
From your conversion notes:

4) Convert 18 miles per hour to miles per minute.

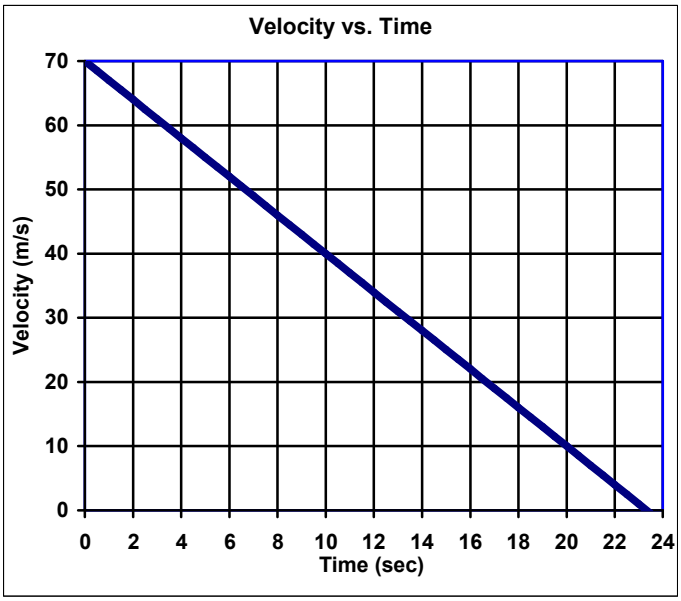
3.3 ft = 1 m
5280 ft = 1 mi
12 in = 1 ft
I assume you know about seconds, mins, etc

5) Using the above answer, convert to miles per second.

6) Use your Linear Equation Notes and the Graph at the right to answer the following:
   A. What is changing for the object on the graph?
   B. So, the slope of the graph tells what about the object?
   C. Calculate the slope of the object.
   D. For this graph b = ____.
   E. What is the y-axis variable?
   F. What is the x-axis variable?
   G. Write the linear equation for this graph.
   H. Where is the object at 7 seconds?
   I. What is the initial position of the object?
   J. What is the speed of the object?



7) Use the graph at the right to answer the following.
   A. Is the line going up or down?
   B. Is the slope positive or negative?
   C. Calculate the slope.



   D. What is changing on the graph?
   E. So, what does the slope mean?

   F. Write the linear equation for this graph (*including axis')*

   G. When is the object going 15 m/s?

8) An object moves 18 centimeters in 4 seconds. Calculate the object's speed.