Due Fri., Aug 26

2011 PreAP Linear Motion 4

1. * Your calculator answer is: 14.156. The answer is supposed to have 3 sig figs. Give the correct answer.

   Use these rules for sig figs: For multiplication and division use the least # of sig figs. For addition and subtraction use the least precise measurement. Ex. 1406,000 m + 60.2 m Calculator answer = 1406,060.2, but the 406,000 is the least precise, so round to 1,406,000. It doesn't matter that the 60.2 is only 3 sig figs, because it is addition.

2. How many sig figs are in the following measurements?

   A. * 0.0304
   B. 7.20×10^{4}
   C. * 0.002430
   D. 8900
   E. 124.020
   F. 450.01

3. Using the above numbers, do the following operations and give your answers with the correct number of sig figs.

   A. A + C
   B. B × E
   * C. D – F

4. * Give your answer with the correct number of significant figures. 8.52 km + 10.463 m – 4056 cm =

5. Convert the following:

   A. 2.8 weeks to minutes

   B. * 945×10^{-5} MHz to mHz (mega to milli):

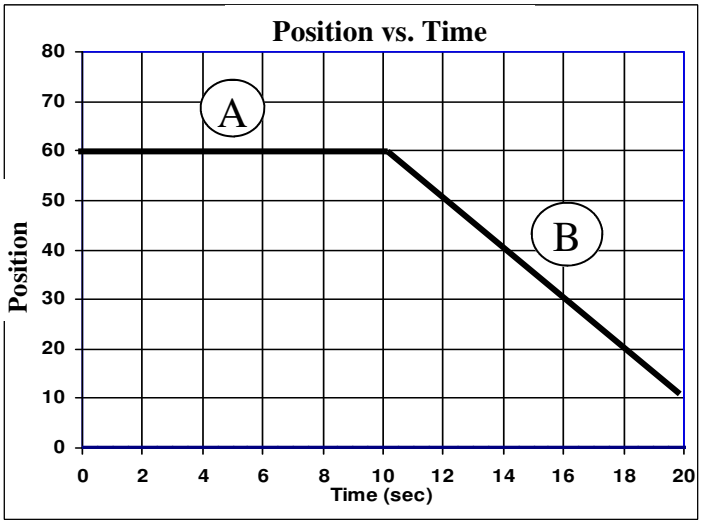
   C. $1{,}506\times10^{4}$ cL to GL:

3.3 ft = 1 m	5280 ft = 1 mi
12 in = 1 ft	2.54 cm = 1 in.

I assume you know about seconds, mins, etc

6. Which axis: vertical or horizontal?

   A. ___ Is the dependent variable?
   B. ___ Is the manipulated variable?
   C. ___Is the independent variable?
   D. ___Is the responsive variable?

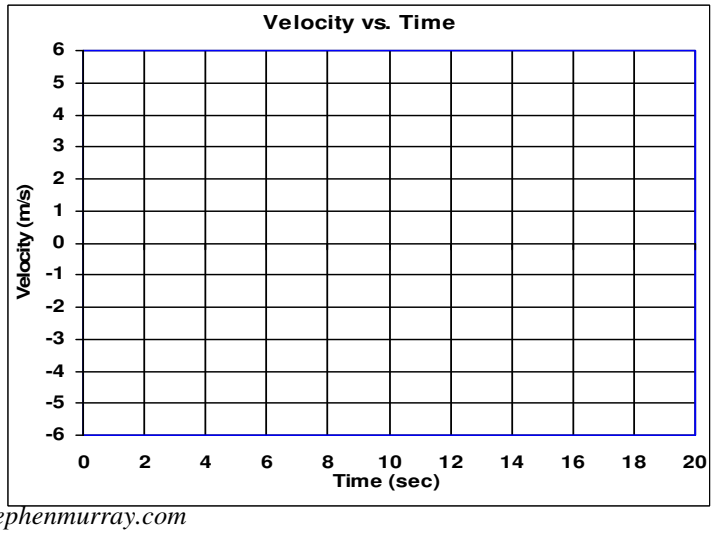


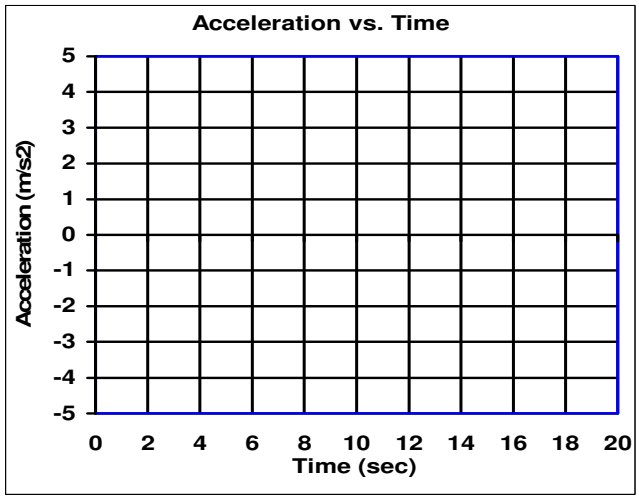
7. A. Find the slope of line segment A.

   B. Find the slope of line segment B.

   C. Graph both of these line segments on the velocity graph below.

   D. Determine the acceleration of each line segment and graph them on the acceleration graph below.





Answers:

1) 14.2 (5's round up) 2A) 3 SF 2C) 4 SF 3C) 8449.99 rounds to 8400

4) 8489.9 rounds to 8490 with 3 SF, so write it as 8.49×10^{3} m

5B) Answer: 9.45×10^{6} mHz. If you didn't get the answer, try again. If you STILL don't get it, HOW to do the problem is at the bottom of this page.

B. 945×10^{-5} MHz to mHz (mega to milli):

$$9.45\times10^{2}\ \text{MHz} \left(\frac{10^{3}\ \text{mHz}}{1\ \text{Hz}}\right) = 9.45\times10^{2-5+6+3}\ \text{mHz} = 9.45\times10^{6}\ \text{mHz}$$

$$9.45(10^{2})(10^{-5})(10^{6})\ \text{Hz}$$

$$1$$