

**Vasquez High School -- Physical Science -- Test #1 -- Chapters 1, 2 and Basics -- 100 points**

Write TRUE if the statement is true OR write the word that substitutes for the underlined word that would make it true. Writing false only earns partial credit. Three points each.

- \_\_\_\_\_ 1) The metric system is based on the number ten because our number system is too.
- \_\_\_\_\_ 2) The measure of how repeatable a measurement is is called its precision.
- \_\_\_\_\_ 3) The metric prefix "nano" means one-millionth.
- \_\_\_\_\_ 4) The substance burned in demonstration that was bright white was phenolphthalein.
- \_\_\_\_\_ 5) The reason that we round 6500 up to 7000 when rounding to the nearest thousand is because all the mathematicians agreed to do it by convention.
- \_\_\_\_\_ 6) The very first real scientist, the one given credit for the Scientific Method, was a man named Albert Einstein.
- \_\_\_\_\_ 7) On a velocity vs. time motion graph, a horizontal line means the person is not moving.
- \_\_\_\_\_ 8) A fire speeds up a chemical reaction by lowering the energy necessary to start it.
- \_\_\_\_\_ 9) We added carbonic acid to the sodium hydroxide in demo to neutralize it.
- \_\_\_\_\_ 10) I can succeed in this class (and anything else) if I put my sincere effort into it.

Short Answer/Fill-in Section. Write complete answers here. Three points each.

- 11) The first three steps in the scientific method are: \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.
- 12) A woman goes shopping for lamb chops and wishes to do an experiment on her total cost. What are the independent and dependent variables in this case? \_\_\_\_\_  
\_\_\_\_\_.
- 13) Describe what scientific notation is, why we use it and how we use it: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.
- 14) The difference between speed and velocity is that velocity contains the \_\_\_\_\_ and speed does not.
- 15) Name three qualities of a scientist from the list I gave you (no making them up!):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

16) Give two branches/careers of physics AND a definition or description of each:

\_\_\_\_\_

\_\_\_\_\_

17) As to the origins of the SI system...SI stands for \_\_\_\_\_. It was brought into existence by \_\_\_\_\_, because he realized that all scientists needed to \_\_\_\_\_.

18) Describe the four features of every good graph: \_\_\_\_\_

\_\_\_\_\_

19) For six points total, list the three types of experimental errors AND give an example of each:

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_

**Calculation Section. Show all your work here** -- writing the proper equations gets partial credit. Five points.

20) At the Indianapolis 500 automobile car race, a car travels around four complete laps. If each lap is exactly 2.5 miles, what is his distance traveled and what is his displacement?

21) 12.8 seconds is how many milliseconds? \_\_\_\_\_

22) 459,000,000 nanoliters is how many deciliters? \_\_\_\_\_

23) In SI units, what is the average speed of a Firefox jet aircraft that can cover three hundred thousand meters in only ten minutes?

25) A 40 kg cheetah is running at 25 m/s. A nearby elephant, whose mass is 5000 kg is slowly walking at 0.25 m/s. Which animal has the greatest momentum, AND by how much?

26) For one point each, express these decimal numbers in scientific notation and vice-versa:

2,815,000

0.00004669

$3.62 \times 10^8$

$9.53 \times 10^{-3}$

27) For one point each, round the number 854,354,985 to the nearest

a) ten million

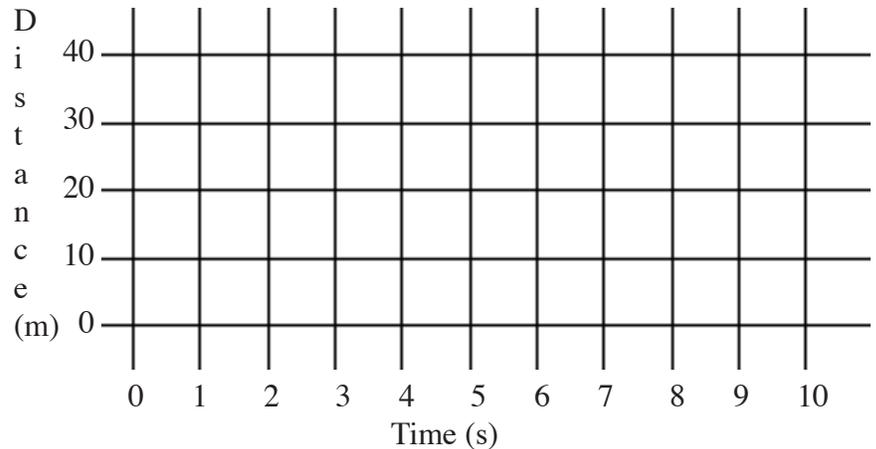
b) hundred thousand

c) hundred

28) On the graph below, plot the position of this person's trip as described below, from one to ten seconds. Six points on this one.

The story goes like this:

A boy leaves home and runs 20 m in two seconds, waits for a second, then walks 10 m in three seconds, then waits for 2 seconds, then jogs the last 10 m in 2 seconds.



\_\_\_\_\_ 29) Multiple choice. Write the letter for the best answer. What was Pharaoh's cubit?

a) His pet snake

b) The distance from his nose to the end of his outstretched arm

c) The distance from his nose to his outstretched pet snake

d) The type of money used in Egypt

e) The distance from the tip of his elbow to the tip of his middle finger

f) King Tut's allowance