Multiple Choice: Please circle the letter of the correct answer choice. (1 point each)

1) Which of the following is an example of a QUALITATIVE piece of data?

    A. There are 15 variations of that chemical.

    B.   The sample has a mass of 12 grams.

    C. The chemical has a high boiling point.

2) The scientific method is known as an _____ process because it can be used in multiple directions.

    A. Itinerant

    B. Iterative

    C. Idiosyncratic

3) The unit of length in the S.I. System is the:

    A. kilometer   B. centimeter   C. meter

4) The S.I. prefix that relates to the power of ten, 10^{-6} is:

    A. micro   B. mega   C. nano

5) Which of the following S.I. units would be best used to express the mass of a paperclip?

    A. gram   B. liter   C. kilogram

True or False: **Circle TRUE if the statement is true, Circle FALSE if the statement is false. (1 point each)**

6) TRUE or FALSE. The kilogram is the standard S.I. unit for mass.

7) TRUE or FALSE. The metric prefixes can be used with any metric base unit.

8) TRUE or FALSE. One milliliter is equal to one cubic centimeter ($1 \text{ mL} = 1 \text{ cm}^3$)

9) TRUE or FALSE. In the Scientific Method it is unacceptable to go from the EXPERIMENT step to the RESEARCH step.

10) TRUE or FALSE. A measurement of SPECIFIC GRAVITY does not have units.

Chemistry CP
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Short Answer: Answer the following in a phrase or a sentence. (2 points each)

11) Define CHEMISTRY in your own words.

12) Define MATTER in your own words.

13) Explain how the DEPENDENT VARIABLE is related to the INDEPENDENT
VARIABLE in an experiment.

14) Which type of data, QUALITATIVE or QUANTITATIVE, tends to be more convincing
and WHY?

15) What is SPECIFIC GRAVITY and list one way it is USED?

16) What is DIMENSIONAL ANALYSIS ?

Significant Figures:

17) How many significant figures are in the number 1.0089?

18) How many significant figures are in the number 0.0034?

19) How many significant figures are in the number 1.800

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Round the following answers to the correct number of Significant Figures. (1 point each)

20) 45.7 + 33.234+ 89.003= 167.937

21) 79.09 x 65.10= 5148.759

Solve the following problems (2 points each) BE SURE TO INCLUDE UNITS!!!

ºF = (1.8 x ºC) +32   ºC = (ºF - 32)/1.8   K = ºC + 273   ºC = K - 273

22) Convert 78 degrees Fahrenheit to Kelvin

23) Convert 35 degrees Celsius to Kelvin.

24) Change 1.56 x 10^{-6} back into ordinary decimal form

25) Convert 3587 centimeters to kilometers

26) Convert 34.8 liters to milliliters

27) Convert 29.7 oz to grams (16 oz = 454 grams)

28) Convert 17.6 cm to inches. (2.54 cm= 1inch)

29) If a 100.0 gram sample has a volume of 5.18 mL, What is the density of the substance?

30) The density of copper is 8.92 g/mL, if my copper sample has a volume of 10.0 mL what is the mass of this sample?

31) What volume would 20.0 grams of mercury occupy (density of mercury 13.6 g/mL)?

Use DENSITY to determine the identity of the sample. 2 points

32) Identify the following substance based on its density. A sample of the substance has a mass of 23.5 grams and a volume of 2.24 mL. The possible substances are:

Aluminum-   density 2.70 g/mL
Iron-   density 7.87 g/mL
Silver-   density 10.5 g/mL
Lead-   density 11.34 g/mL

Chemistry CP
Chapter 2 Test

Place the letter from Column B that correctly corresponds to the Step of the Scientific Method being described in Column A in the column marked "Answer Column".

Answer Column	Column A
33).	I go to the library and look up information on germs and how to eliminate them from surfaces.
34).	Name brand disinfectants such as Lysol will remove germs from surfaces better than non name brand products.
35).	I look at my data and see if there are any unexpected results, or if there is any information that may have been missed.
36).	I get sick when I go back to school.
37).	Using Lysol, and two generic brands A and B, I clean surfaces such as door knobs and desks and then check for germs growth by using swabs and growth media in petri dishes. I compare this to surfaces of the same types that were not cleaned.
38).	I tell Mr. DeAntonio that the school can save money by using the generic brand B cleaner rather than Lysol cleaner.
39).	How can I remove germs from the surfaces in school that I touch?
40).	According to my data, the generic brand B cleaner removed more germs than the other two cleaners and created surfaces that had 75% fewer germs than those surfaces that were not cleaned.

This is worth 8 points, ONE POINT EACH!

A. Analyze

B. Conclusion

C. Hypothesis

D. Problem

E. Question

F. Report

G. Research

H. Test w/ an Experiment