N[redacted] Class: _____ Date: _____ ID: A

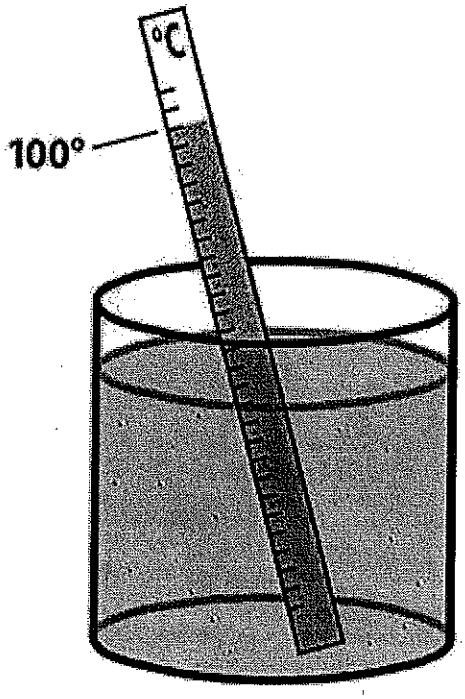
Do Not write on this Test

General Chemistry Test

True/False
Indicate whether the statement is true or false.

____ 1. A base unit is made up of several other units combined together.

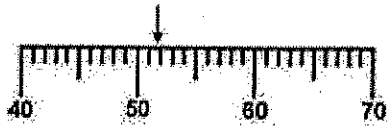
____ 2. The thermometer shown is measuring the temperature in Fahrenheit.



____ 3. When reading a measurement scale, record every value that is known for certain but no more.

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 4. Which is the correct measurement for location marked by the arrow?



a. 50.2
b. 51.8
c. 52
d. 51

____ 5. Which term is described as the amount of matter in an object?
a. density
b. volume
c. mass
d. length

____ 6. Which term describes the amount of mass contained per unit volume?
a. mass
b. temperature
c. length
d. density

____ 7. Which value has only 4 significant digits?
a. 6.930
b. 0.0450
c. 8450
d. 0.392

____ 8. Which is the correct value for the prefix *deci-*?
a. one-tenth
b. ten
c. hundred
d. one-thousandth

____ 9. Which is the sum of these values, to the appropriate number of significant digits?
17.358 + 3.502 + 20.14 =
a. 41
b. 41.00
c. 41.000
d. 41.0

____ 10. Which is the product of these numbers, to the appropriate number of significant digits?
56.2 × 9.2057 =
a. 517
b. 517.4
c. 517.36
d. 517.00

____ 11. How many significant digits are in the value 530,405,000?
a. 4
b. 5
c. 6
d. 9

____ 12. How many significant digits are in the value 0.0050340?
a. 3
b. 5
c. 7
d. 8

____ 13. A bottle contains 3.100 mL of a liquid. The total mass of the bottle and the liquid together is 6.300 g. The mass of the empty bottle is 4.240 g. What is the density of the liquid?
a. 0.665 g/mL
b. 1.368 g/mL
c. 1.505 g/mL
d. 2.032 g/mL

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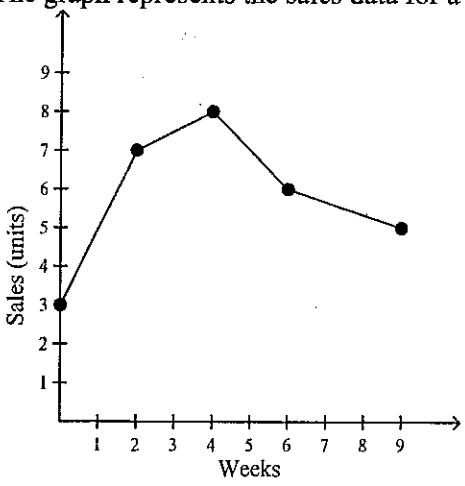
____ 14. The graph represents the sales data for a particular product. In which week were 8 units sold?



a. 3rd week
b. 4th week
c. 6th week
d. 9th week

____ 15. The product of 2×10^4 cm and 4×10^{-12} cm, expressed in scientific notation is ____.

a. 8×10^{-7} cm
b. 6×10^{-8} cm
c. 8×10^{-8} cm
d. 8×10^{-48} cm

How many significant digits are in each of the following:

16. 75.06 Kg
17. 7650 m
18. 0.00030 ml
19. 5.670×10^3 Mg

Calculate the following and write the answers using significant digits:

20. 93.40 cm + 100 cm =

21. $756.52\ m^3 \div .085\ m =$

22. 36.4 cm + 5.6 cm + .0004 cm =

Express the following in the proper scientific notation:

23. 305000 Km

24. 0.0003550 watts

Calculate the following using significant digits and scientific notation

25. $(9.00 \times 10^4\ Km)(6.5 \times 10^{-2}\ Km)$

26. $(8.02 \times 10^5\ m^3) / (5.45 \times 10^6\ m)$

27. $(7.8 \times 10^2\ Km) / (4.50 \times 10^2\ hr)$

Reviewing Vocabulary

Match each term in Column A with its definition in Column B.

Column A	Column B
_____ 28 base unit	**a.** Refers to how close a series of measurements are to one another
_____ 29 derived unit	**b.** A ratio of equivalent values used to express the same quantity in different units
_____ 30 graph	**c.** The ratio of an error to an accepted value
_____ 31 scientific notation	**d.** A defined unit in a system of measurement that is based on an object or event in the physical world
_____ 32 accuracy	**e.** Refers to how close a measured value is to an accepted value
_____ 33 conversion factor	**f.** A unit in a system of measurement that is defined by combining base units
_____ 34 dimensional analysis	**g.** The SI base unit of temperature
_____ 35 kelvin	**h.** A means of expressing numbers as a multiple of two factors: a number between 1 and 10; and ten raised to a power, or exponent
_____ 36 percent error	**i.** A method of problem-solving that focuses on the units used to describe matter, often using conversion factors
_____ 37 precision	**j.** A visual display of data that may include plotting data on *x*- and *y*-axes

Use the following terms to complete the statements.

density	liter	kilogram
significant figures	meter	second

38 The SI base unit of time is the _____.

39 The SI base unit for length is the _____.

40 The SI base unit for mass is the _____.

41 The SI derived unit for volume is the _____.

42 _____ is a ratio that compares the mass of an object to its volume.

43 _____ include all known digits plus one estimated digit.