

## Midterm Exam Review

### *Unit 1 Questions*

1. Who are chemists who study the composition of chemicals?
2. What is data that is numerical?
3. What is the branch of chemistry that is concerned with energy changes?
4. What is the first step in the scientific method?
5. What is anything that has mass and takes up space?
6. What can be used to help visualize microscopic structures and events?
7. What is a tentative explanation for a series of observations (or an educated guess)?
8. What is the type of data that uses the five senses?
9. What is the variable that you change in an experiment?
10. What is the general term for a systematic approach used in scientific study?
11. Who are chemists that study the chemistry of living organisms?
12. What is a standard for comparison in an experiment?
13. Give three examples of matter.
14. What is the name given to research that is undertaken to solve a specific problem?
15. What is the name for a relationship in nature has been supported by many experiments?
16. What is the practical use of scientific information?
17. What branch of chemistry is most concerned with the study of carbon compounds?
18. What is the measurement of matter whose value depends on the force of gravity?
19. What is the last step in the scientific method?
20. Give three examples of things that are not matter.

## Unit 2 Questions

1. A unit that is defined by a combination of base units is a(n) \_\_\_\_\_
2. How many centimeters are in a meter? \_\_\_\_\_
3. What scale provides the base unit for temperature in the SI system? \_\_\_\_\_
4. The closeness of an experimental value to an accepted value is \_\_\_\_\_
5. Which of the following is the SI base unit for amount of substance? \_\_\_\_\_
6. How many milligrams are in one gram? \_\_\_\_\_
7. What is the formula of slope? \_\_\_\_\_
8. A measure of how close a series of data is to each other is \_\_\_\_\_
9. Dimensional analysis is a method of problem-solving that focuses on \_\_\_\_\_
10. The data representation useful for showing parts of a fixed whole is a \_\_\_\_\_
11. Which is the SI unit for time? \_\_\_\_\_
12. How many feet are in one mile? \_\_\_\_\_
13. What axis does the dependent variable go on? \_\_\_\_\_
14. What axis does the independent variable go on? \_\_\_\_\_
15. How many pounds are in a kilogram? \_\_\_\_\_
16. Convert 2.3 kg to g
17. Convert 50 °C to K
18. Convert 325 m to cm
19. Convert 123 pounds to kilograms
20. Convert 4 miles to feet

### Write the following numbers in scientific notation.

21. 4,502
22. 0.0056
23. 75,266

### Write the following numbers in standard notation.

26.  $6.15 \times 10^3$
27.  $3.16 \times 10^{-5}$
28.  $8.81 \times 10^6$

### ***Unit 3 Questions***

#### **Part 1: Write if the observation is a PHYSICAL or CHEMICAL property**

- 1) Short length
- 2) Blue color
- 3) Very flammable
- 4) Reactive with acid
- 5) Melting point
- 6) Can conduct electricity
- 7) Will tarnish in water
- 8) Can combust in oxygen

#### **Part 2: Write if the property is INTENSIVE or EXTENSIVE**

- 9) Length
- 10) Mass
- 11) Color
- 12) Boiling Point
- 13) Texture
- 14) Volume
- 15) Melting Point
- 16) Weight

#### **Part 3: Write or the change is PHYSICAL or CHEMICAL**

- 17) A piece of wood burns to form ash
- 18) Water evaporates into steam
- 19) A piece of cork is cut in half
- 20) A bicycle chain rusts
- 21) Food is digested in the stomach
- 22) A tire is inflated with air
- 23) A plant grows
- 24) Sugar dissolves in water
- 25) Cookies are baked
- 26) Milk sours
- 27) The wood is chopped
- 28) Chocolate melts
- 29) The bomb explodes
- 30) Water freezes

**Part 4: Determine if each of the following is an element, compound, heterogeneous mixture, or homogeneous mixture.**

- 31) Calculator
- 32) Tap water
- 33) Oxygen
- 34) Calcium
- 35) Baking soda
- 36) Milk
- 37) Carbon
- 38) Carbon dioxide
- 39) Pizza
- 40) Gasoline
- 41) Textbook
- 42) Sodium chloride
- 43) Unpolluted air
- 44) Gold
- 45) Italian salad dressing
- 46) Silver
- 47) Beach sand
- 48) Polluted air (with smog)
- 49) Vegetable soup
- 50) Kool Aid

