Name: _____

Date: _____ Grade: _____

Integrated Physics & Chemistry

CHAPTER 1 TEST

Congratulations on completing this chapter! ***Answer the following questions to test your understanding of the material. When you finish, hand in your test to your teacher for a final grade. Each answer is worth 1.8 points.***

Fill in the blank or circle True or False.

1. A hypothesis is a prediction of the answer to a scientific question.
   (a) True or (b) False

2. Scientists test their hypotheses by: _____.
   (a) experience (b) experiments (c) expertise (d) opinion of others

3. A substance whose shape can be changed by beating on it is said to be malleable.
   (a) True or (b) False

4. Copper is mixed with gold to make gold: _____.
   (a) more beautiful (b) harder (c) softer (d) more expensive

5. The most malleable of metals is: _____.
   (a) gold (b) copper (c) silver (d) aluminum

6. The metal used in photographic film is: _____.
   (a) gold (b) silver (c) aluminum (d) copper

7. Bronze is an alloy.
   (a) True or (b) False

8. Removing oxygen from a compound is known as: _____.
   (a) oxidation (c) mixing elements
   (b) reduction (d) separating compounds

9. Burning and rusting are both example of: _____.
   (a) oxidation (b) reduction (c) combustion (d) indigestion

10. The metal that keeps steel cans from rusting is: _____.
    (a) lead (b) tin (c) copper (d) iron

11. The largest use of lead is in: _____.
    (a) electrical storage batteries (c) hearing aids
    (b) electrical wires (d) destroying precious metals

12. The metal that is a liquid at room temperatures is _____.

13. Lead and mercury are both toxic.
    (a) True or (b) False

14. One use of mercury is in dental fillings.
    (a) True or (b) False

15. Atom means "many parts."
    (a) True or (b) False

16. The statement that with constant temperature the pressure and volume of a gas are inversely related is: _____.
    (a) Boyle's Law
    (b) Charles' Law
    (c) Law of Productivity
    (d) Kepler's Law of Motion

17. The statement that matter can neither be created nor destroyed by ordinary chemical means is the: _____.
    (a) Law of Conservation of Matter
    (b) Law of Definite Proportions
    (c) Charles' Law
    (d) Law of Productivity

18. The weight of the products that result from a chemical reaction can weigh less than the ingredients that go into the reaction.
    (a) True or (b) False

19. If copper carbonate is made with more copper than its proportion, the amount left over will react.
    (a) True or (b) False

20. The Law of Definite Proportions states: "_____
    _____"
    (a) All compounds contain elements in definite proportion by weight regardless of how they were produced.
    (b) Matter can neither be created nor destroyed by ordinary chemical means.
    (c) Matter can be created by heating a substance and increasing the speed of movement.

21. Methane is a(n): _____.
    (a) sulfide (b) hydrocarbon (c) oxide (d) dioxide

22. Water and hydrogen peroxide both contain hydrogen and: _____.
    (a) oxygen (b) nitrogen (c) sulfur (d) hydrogen

23. The chemist who is given the credit for stating the Atomic Theory of Matter is:
    _____.
    (a) Robert Boyle
    (b) John Dalton
    (c) John Kepler
    (d) Sir Isaac Newton

24. The smallest particle that contains the chemical properties of an element is the:
    _____.
    (a) atom (b) molecule (c) proton (d) neutron

25. The smallest particle that contains the chemical properties of a compound is the: _____.
(a) atom (b) molecule (c) neutron (d) proton

26. The statement that equal volumes of gases contain the same number of particles is known as: _____.
(a) Gay-Lussac's Theory (c) Newton' Theory
(b) Avogadro's Hypothesis (d) Pythagorean's Theory

Write the symbol for each of the following elements.

Name	Symbol
27. carbon	_____
28. chlorine	_____
29. copper	_____
30. gold	_____
31. hydrogen	_____
32. iron	_____
33. lead	_____
34. mercury	_____
35. nitrogen	_____
36. oxygen	_____
37. phosphorus	_____
38. silver	_____
39. sulfur	_____
40. tin	_____

41. A chemical equation that does not balance is violating the Law of Definite Proportions.
(a) True or (b) False

42. The electrical charge of a proton is: _____.
(a) negative (b) positive (c) neutral (d) superlative

43. If an atom gains a proton it becomes a different element.
(a) True or (b) False

44. Given that carbon has an atomic weight of 12.001 and hydrogen has an atomic weight of 1.0080, the molecular weight of methane (CH_4) is: _____.

45. As a substance is heated, its molecules move: _____.
(a) more slowly (c) not at all
(b) more quickly (d) in a complete circle

46. A calorie is the quantity of heat required to raise the temperature of 1 gram of _____ by 1ºC.
(a) ammonia (b) water (c) alcohol (d) soda

47. Heat is a: _____.
(a) form of kinetic energy
(b) measure of gas pressure
(c) form of matter
(d) medical form

48. A calorie is a unit of: _____.
(a) heat (b) temperature (c) energy (d) water

49. All liquids have: _____.
(a) the same molecular weight
(b) a set boiling temperature
(c) same expansion rate
(d) decreasing values

50. The temperature scale based on absolute zero, the coldest temperature possible, is known as the: _____.
(a) Fahrenheit scale
(b) Kelvin scale
(c) Celsius scale
(d) Thermometer scale

Circle the letter of the statement that gives the best meaning of each Life Principle.

51. *"All who have thought about the art of governing are convinced that the fate of empires depends on the education of youth."*
(a) Thinking people realize a nation's future depends on the education of its youth.
(b) Most people are convinced that education helps with the art of governing a country.
(c) The fate of education depends on the empire's art of governing.

52. *"The superior woman stands erect by bending over the fallen. She rises by lifting others."*
(a) A superior woman can only lift the fallen if she stands erect.
(b) A person demonstrates she is superior by humbling herself to help those less fortunate than herself.
(c) A fallen person can become superior by rising, lifting and then standing erect.

53. *"The heights of great men reached and kept were not attained by sudden flight, but they, while their companions slept, were toiling upward in the night."*
(a) Great men attain great heights by sudden flight while others sleep.
(b) By toiling upward during the night, men can reach great heights and keep them.
(c) Great men were able to attain and keep focus on their goals by hard work over time, while others were not so occupied.