Name: _____

Date: _____ Grade: _____

Integrated Physics & Chemistry

CHAPTER 3 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 2 points.***

Fill in the blank or circle True or False.

1. Oxygen, nitrogen and hydrogen are examples of gases.
   (a) True or (b) False

2. Sulfur, phosphorus and carbon are examples of metals.
   (a) True or (b) False

3. In the name of a binary compound, the most metallic element is given: _____.
   (a) first (b) last (c) in the middle (d) never

4. The chemical symbol for sulfur is _____.

5. Latex can be treated with sulfur to make: _____.
   (a) graphite (b) vulcanized rubber (c) sulfuric acid (d) charcoal

6. H_2SO_4 is the chemical formula for: _____.
   (a) nitrous oxide (c) sulfuric acid
   (b) hydrocarbon (d) vulcanized rubber

7. Carbon is: _____.
   (a) metallic (c) always hard
   (b) nonmetallic (d) always soft

8. The hardest substance known is graphite.
   (a) True or (b) False

9. Carbon is found in: _____.
   (a) vulcanized rubber (b) laughing gas (c) diamonds (d) silica

10. Organic chemistry is primarily the study of compounds of: _____.
    (a) carbon (b) nitrogen (c) oxygen (d) hydrogen

11. The chemical formula for carbon dioxide is _____.

12. The chemical formula for carbon monoxide is _____.

13. The chemical symbol for arsenic is _____.

14. The chemical symbol for platinum is _____.

15. The chemical symbol for zinc is _____.

16. The chemical symbol for nickel is _____.

17. The chemical formula for ozone is _____.

18. When people think of arsenic they usually think of poison.
    (a) True or (b) False

19. Chemists make laboratory equipment from platinum because it is: _____.
    (a) easily changed into new shapes
    (b) cheap
    (c) practically inert
    (d) very active chemically

20. Bismuth is used in: _____.
    (a) baking goods
    (b) fertilizers
    (c) electric light bulbs
    (d) electrical fuses and fire protection sprinkler systems

21. Galvanized metal is sheet steel coated with: _____.
    (a) zinc (b) platinum (c) tungsten (d) rust

22. An element that is ferromagnetic is: _____.
    (a) carbon (b) arsenic (c) sulfur (d) nickel

23. The metal with the highest melting temperature is: _____.
    (a) carbon (b) tungsten (c) iron (d) platinum

24. The three states of matter are solid, _____ and gas.

25. Standard atmospheric pressure is the average atmospheric pressure at sea level.
    (a) True or (b) False

26. Standard temperature is 100ºC.
    (a) True or (b) False

27. As one rises in the atmosphere, the density of the air: _____.
    (a) decreases
    (b) increases
    (c) does not change
    (d) becomes nonexistent

28. The gas that makes up 78 percent of the air is _____.

29. The gas that makes up 21 percent of the air is _____.

30. If the relative humidity is 100 percent, the air is: _____.
    (a) fully saturated
    (b) especially dry
    (c) likely to start forest fires
    (d) probably very cold

31. Henry Cavendish was the first person to measure the force of gravity between: _____.
    (a) the Earth and the Moon
    (b) Mt. Everest and the center of the Earth
    (c) objects of ordinary size
    (d) the Sun and the Earth

32. A hydrocarbon is a compound containing hydrogen and: _____.
(a) helium (b) oxygen (c) argon (d) carbon

33. Using electricity to separate the water molecule is known as: _____.
(a) electrolysis (c) electrical stimulation
(b) oxidation (d) humidification

34. The gas released when soft drinks are opened is _____.

35. A gas that will smother a flame is: _____.
(a) carbon dioxide (b) oxygen (c) nitrogen (d) hydrogen

36. Oxygen is chemically: _____.
(a) active (b) inert (c) poisonous (d) rare

37. The chemical symbol for nitrogen is _____.

38. The flow of heat by air currents is an example of _____.

39. Nitrogen is chemically: _____.
(a) active (b) inert (c) poisonous (d) rare

40. Nitrogen is essential to: _____.
(a) plant life only (c) both plant and animal life
(b) animal life only (d) neither plant nor animal life

41. The formula for potassium nitrate is: _____.
(a) *KNi* (b) $C_3H_5(OH)_3$ (c) PO_4 (d) KNO_3

42. Most fertilizers contain: _____.
(a) hydrogen (b) carbon dioxide (c) oxygen (d) nitrogen

43. Nitroglycerin is a: _____.
(a) gas (b) liquid (c) solid (d) jelly

44. When nitroglycerin is absorbed in sticks of diatomaceous Earth, the result is:
_____.
(a) dynamite (b) a heart medicine (c) guncotton (d) fertilizer

45. N_2O is the formula for: _____.
(a) nitroglycerine (b) dinickel oxide (c) nitrous oxide (d) water

46. Humphry Davy's first chemical discovery was guncotton.
(a) True or (b) False

47. Humphry Davy's habit of sniffing and tasting new chemicals shortened his life.
(a) True or (b) False

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

48. *"Defer no times, delays have dangerous ends."*
    (a) Deference can be dangerous in the end.
    (b) Getting sidetracked from pursuing right goals has serious consequences.
    (c) Beware! Delaying deference can be dangerous.

49. *"Do not settle for second best when a little more effort could make you a first class person."*
    (a) A first class person does not settle for second best—be a winner—exert whatever effort that is necessary to make the difference.
    (b) Settling for second best does not make one a second—class citizen.
    (c) A first class person is no better than a person who settles for second best—the first one just tried harder.

50. *"Most of our obstacles would melt away if, instead of cowering before them, we should make up our minds to walk boldly through them."*
    (a) Being aggressive in the face of obstacles can be a scary experience.
    (b) The best way to deal with problems is to confront them instead of running or hiding from them.
    (c) Obstacles are the problems we face on the road to success.