Name: _____

Date: _____ Grade: _____

Integrated Physics & Chemistry

CHAPTER 9 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. The time for the Earth to orbit around the Sun once is a: _____.
   (a) day (b) week (c) year (d) light year

2. The first day of spring is the vernal: _____.
   (a) rotation (b) equinox (c) solstice (d) holiday

3. The one that contains more information is a(n): _____.
   (a) almanac (b) map (c) diary (d) calendar

4. For a calendar to match the seasons, the number of days in a year must equal the time the Earth rotates on its axis.
   (a) True or (b) False

5. The expression *100 B.C.* means *100 years* _____.

6. A complete cycle of the Earth spinning on its axis once is a: _____.
   (a) day (b) revolution (c) week (d) month

7. The purpose of an escapement is to: _____.
   (a) let the cuckoo bird out
   (b) catch and release gears
   (c) change the hours of a clock to match the hours of a sundial
   (d) release a hammer to strike a bell on the hour

8. If you swing a pendulum, the time for a pendulum to make a complete arc changes as the arc grows _____. This is the principle of the pendulum.

9. The fundamental unit for mass in the metric system is the _____.

10. The meter is the fundamental unit of _____ in the metric system.

11. The fundamental unit for time is the _____.

12. The distance north or south of the equator is the: _____.
    (a) latitude (b) longitude (c) miles (d) altitude

13. Longitude is found by comparing local time with the time at: _____.
    (a) St. Louis
    (b) Greenwich, England
    (c) the north pole
    (d) the equator

14. Every hour that local time differs from Greenwich time is _____ degrees of longitude from Greenwich.

15. A very accurate and precise device to measure time is a: _____.
    (a) wrist watch (b) chronometer (c) diode (d) kinescope

16. A modern watch is regulated by a: _____.
    (a) pendulum (b) quartz crystal (c) rock salt (d) regulator

17. The science of sound is _____.

18. Pitch of sound is its: _____.
    (a) frequency (b) period (c) wavelength (d) loudness

19. Loudness can be represented by the energy of a sound wave, and is measured by: _____.
    (a) amplitude (b) tone (c) frequency (d) pitch

20. The number and loudness of the overtones cause quality.
    (a) True or (b) False

21. The three properties of a sound are its quality, frequency and _____.

22. The principle behind the persistence of vision is the: _____.
    (a) mirages
    (b) illusion of motion in motion pictures
    (c) microphone
    (d) phonograph

23. The apparent change in the pitch of sound because of motion is: _____.
    (a) acoustical imperialism
    (b) Doppler effect
    (c) Huygen's Principle
    (d) distance

24. Sound waves in front of a moving source of sound have _____ pitch.
    (a) higher (b) lower (c) louder (d) more piercing

25. If a horn sounds as it approaches, its frequency will seem to be _____ than when it is stopped.
    (a) higher (b) doubled (c) lower (d) the same

26. The _____ effect applies to all waves.

27. An earthquake pressure wave, P wave, causes rocks in the Earth to: _____ _____.
    (a) bobble like a cork on water
    (b) compress and expand
    (c) move at right angles to the direction of the wave
    (d) explode

28. The one that arrives first is the _____ waves.
(a) P (b) shock (c) A (d) S

29. The _____of an earthquake is on the surface directly above the origin of the earthquake.

30. The most powerful earthquakes are those which register 8.0 or more on the _____ scale.

31. An alternating current that has been made to flow in only one direction has been: _____.
(a) amplified (b) hertzed (c) rectified (d) dioded

32. The abbreviation for a light emitting diode is _____.

33. The first radios sent messages by _____ code.

34. A triode or transistor is used to _____ weak radio signals.
(a) amplify (b) rectify (c) demodulate (d) demagnetize

35. All electromagnetic waves travel at the speed of _____ in a vacuum.
(a) mach 3 (b) light (c) sound (d) radar

36. _____ is a process of changing high frequency radio waves back into the lower frequency of sound waves.

37. _____ is an example of a semiconductor.
(a) Copper (b) Silver (c) Oxygen (d) Silicon

38. A n-type semiconductor has _____ electrons.
(a) too few (b) extra (c) enough (d) insufficient

39. A p-type semiconductor has _____ electrons.
(a) too few (b) extra (c) insufficient (d) enough

40. In a _____, the base controls how well electricity flows between emitter and collector.

41. A circuit with only one path is a _____ circuit.
(a) parallel (b) shorted (c) series (d) incomplete

42. Doubling the resistance of a series circuit _____ the current.
(a) increases (b) leaves unchanged (c) multiplies (d) reduces

43. In a _____ circuit, the current remains the same throughout the circuit.

44. In a _____ circuit, the total current is found by adding the individual currents in each path.

LIFE PRINCIPLES

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

45. *"Motivation is the art of getting people to do what you want them to do because they want to do it."*
    (a) Getting people to do what you want them to do is important to motivation.
    (b) Motivated people do what you want them to do.
    (c) Motivating people to get them to do what you want them to do is an art.

46. *"Genius is one-percent inspiration and ninety-nine percent perspiration."*
    (a) Being a genius is sweaty business.
    (b) Being a genius mostly has to do with hard work.
    (c) The ratio of inspiration to perspiration in a genius is 99 to 1.

47. *"The future will belong to those who do the most for suffering mankind."*
    (a) The law of cause and effect dictates that those who invest the most will get the most in return for their efforts.
    (b) One has to suffer in order to have a part in a good future.
    (c) A future of suffering belongs to all mankind.

48. *"It is good to remember that the teakettle, although up to its neck in hot water, continues to sing."*
    (a) Teakettles always sing when they are full of hot water.
    (b) Full teakettles only sing when the heat is turned up.
    (c) Like a teakettle full of hot water (problems), we can still be cheerful—even when the heat is on.

49. *"The only place where success comes before work is in a dictionary."*
    (a) The only reason success does not come before work in the workplace is because it is not alphabetically arranged.
    (b) In the real world, work always precedes success.
    (c) The question of which comes first depends entirely on real-world circumstances.

50. *"Teamwork is the fuel that allows ordinary people to produce uncommon results."*
    (a) Individual achievement amounts to very little—teamwork is what counts.
    (b) All successful teamwork fuels ordinary people.
    (c) Few people become successful alone; they are fueled (encouraged and helped) along the way by others who believe in them.