Test Review
Review Questions

1. How many protons does potassium have? 19
2. How many protons would the element directly to the right of strontium have? 39

Match the common name and symbol of the element on the left with the name from which the symbol was derived on the right.

d	3. antimony, Sb	a. argentum
h	4. tin, Sn	b. wolfram
f	5. sodium, Na	c. cuprum
g	6. lead, Pb	d. stibium
b	7. tungsten, W	e. kalium
e	8. potassium, K	f. natrium
c	9. copper, Cu	g. plumbum
a	10. silver, Ag	h. stannum

11. Use the periodic table to answer the following questions:
    a. What is the atomic number of silicon? 14
    b. How many electrons does a neutral atom of silicon have? 14
    c. What is the atomic mass of chlorine? 35.453
    d. How many protons does a neutral atom of chlorine have? 17
    e. How many neutrons does the sulfur isotope sulfur-34 have? 18
    f. How many electrons does the sulfur isotope sulfur-36 have? 16
12. Fill in the table below:

	Protons	Neutrons	Electrons	Mass Number
Tin-120	50	70	50	120
Boron-11	5	6	5	11
Gallium-69	31	38	31	69
Sulfur-35	16	19	16	35
Radium-228	88	140	88	228

13. The schoolmaster who studied atoms and proposed an atomic theory was
    (a.) John Dalton
    b. Jons Berzilius
    c. Johann Dobereiner
    d. Dmitri Mendeleev
14. According to Dalton's atomic theory, atoms are
    a. are destroyed in chemical reactions
    b. can be subdivided
    (c.) of a particular element are identical in size, mass, and other properties
    d. of different elements cannot combine

15. One part of Dalton's atomic theory that has been modified is the idea that
    a. all matter is composed of atoms
    b. atoms of different elements have different properties and masses
    c. atoms can combine in chemical reactions
    d. atoms cannot be subdivided
16. Dalton's atomic theory successfully explained the law of
    a. whole-number ratios
    b. definite proportions
    c. conservation of mass
    d. conservation of energy
17. The law of definite composition
    a. contradicted Dalton's atomic theory
    b. was explained by Dalton's atomic theory
    c. replaced the law of conservation of mass
    d. assumes that atoms of all elements are identical
18. The fact that lead forms two oxides of different formulas, PbO and PbO_2, is an example of the
    a. periodic law
    b. law of multiple proportions
    c. atomic law
    d. law of conservation of mass
19. If 3 g of element C combine with 8 g of element D to form compound CD, 16 g of D are needed to form compound CD_2.
20. Evidence in support of the law of M. P. is that oxides of nitrogen, such as N_2O, NO, NO_2, and N_2O_3, atoms combing in all small whole-number ratios.
21. An example of the law of D.P. is the fact that the mass ratio of two elements in a compound is constant.
22. If atoms of element D weigh three mass units and atoms of element E weigh five mass units, a chemical compound composed of one atom of each D and E will weigh 8 mass units.
23. If 2 g of element A combine with 10 g of element B, then 12 g of element A will combine with 60 g of element B.
24. In early experiments on electricity and matter, electrical current was passed through a glass tube containing
    a. water
    b. gas under high pressure
    c. liquid oxygen
    d. gas under low pressure
25. Since most particles fired at gold foil pass through the foil, it may be concluded that
    a. Atoms are mostly empty space
    b. Atoms contained no charged particles
    c. Electrons form the nucleus
    d. Atoms are indivisible
26. Since a few positively charged particles bounce back from the gold foil, it may be concluded that
    a. An atom is indivisible
    b. Electrons make up the center of atoms
    c. An atom carries a positive charge
    d. An atom contains a small, dense, positively charged central region

27. The nucleus of an atom has all of the following characteristics EXCEPT that it
    a. Is positively charged
    b. Is very dense
    c. Contains nearly all of the atom's mass
    (d) Contains nearly all of the atom's volume
28. An atom is electrically neutral because
    a. Neutrons balance the protons and electrons
    b. Nuclear forces equalize the charges
    (c.) The number of protons and electrons is equal
    d. The number of protons and neutrons is equal
29. The most common form of hydrogen has
    (a.) No neutrons
    b. 1 neutron
    c. 2 neutrons
    d. 3 neutrons
30. The name of the scientist who showed the existence of the nucleus by bombarding the gold foil with positively charged particles and noting that some were deflected was Rutherford.
31. In the glass tubes used to study the nature of matter, electrical current passed from the negative electrode that is called the cathode.
32. The smallest unit of an element that can exist either alone or in combination with atoms of the same or different elements is the atom.
33. A positively charged particle with a mass of 1.673×10^{-24} g is a(n) proton.
34. A nuclear particle that has no electrical charge is called a(n) neutron.
35. Isotopes are atoms of the same element that have different # of neutrons.