

Name: _____

Block: _____

Chemistry

Atomic Structure

1. The 3 particles of the atom are:

a. _____

b. _____

c. _____

Their respective charges are:

a. _____

b. _____

c. _____

2. The number of protons in one atom of an element determines the atom's _____, and the number of electrons determines _____ of an element.

3. The atomic number tells you the number of _____ in one atom of an element. It also tells you the number of _____ in a neutral atom of that element. The atomic number gives the "identity" of an element as well as its location on the Periodic Table. No two different elements will have the _____ atomic number.

4. The _____ of an element is the average mass of an element's naturally occurring atom, or isotopes, taking into account the _____ of each isotope.

5. The _____ of an element is the total number of protons and neutrons in the _____ of the atom.

6. The mass number is used to calculate the number of _____ in one atom of an element. In order to calculate the number of neutrons you must subtract the _____ from the _____.

7. Give the symbol and number of protons in one atom of:

Lithium _____ Bromine _____

Iron _____ Copper _____

Oxygen _____ Mercury _____
 Krypton _____ Helium _____

8. Give the symbol and number of electrons in a neutral atom of:

Uranium _____ Chlorine _____
 Boron _____ Iodine _____
 Antimony _____ Xenon _____

9. Give the symbol and number of neutrons in one atom of:

(To get "mass number", you must round the "atomic mass" to the nearest whole number)) Show your calculations.

Barium _____ Bismuth _____
 Carbon _____ Hydrogen _____
 Fluorine _____ Magnesium _____
 Europium _____ Mercury _____

10. Name the element which has the following numbers of particles:

- a. 26 electrons, 29 neutrons, 26 protons _____
 b. 53 protons, 74 neutrons _____
 c. 2 electrons (neutral atoms) _____
 d. 20 protons _____
 e. 86 electrons, 125 neutrons, 82 protons (charged atom)

 f. 0 neutrons _____

11. If you know only the following information can you always determine what the element is? (Yes/No).

- a. number of protons _____
 b. number of neutrons _____
 c. number of electrons in a neutral atom _____
 d. number of electrons _____