

### Basic Atomic Structure Worksheet

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 the \_\_\_\_\_ of the 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 of and the number of protons in one atom of:

- |         |       |         |       |
|---------|-------|---------|-------|
| Lithium | _____ | Bromine | _____ |
| Iron    | _____ | Copper  | _____ |
| Oxygen  | _____ | Mercury | _____ |
| Krypton | _____ | Helium  | _____ |

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

- |          |       |        |       |
|----------|-------|--------|-------|
| Uranium  | _____ | Iodine | _____ |
| Boron    | _____ | Xenon  | _____ |
| Chlorine | _____ |        |       |

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

(Mass numbers are ALWAYS whole numbers...show your calculations)

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