Chem 1 Hour\_\_\_\_\_ Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Wexler/Steinhorst  
Basic Atomic Structure Practice  
Date:

**1. The 3 particles of the atom are:**

a. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Their charges are:**

a. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2.** The number of protons in one atom of an element determines the atomic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

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 same \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**4.** The atomic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of an element is the total number of protons and neutrons in

the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the atom.

**5.** 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

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**6. Use a Periodic Table to give the symbol and number of protons in one atom of:**

Lithium \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Bromine \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Iron \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Copper \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Oxygen \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Mercury \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Krypton \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Helium \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**7. Write the name and symbol of the element that has the following numbers of particles:**

a. 26 electrons, 29 neutrons, 26 protons \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. 53 protons, 74 neutrons \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. 2 electrons (neutral atom) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d. 20 protons \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e. 86 electrons, 125 neutrons, 82 protons (charged atom) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

f. 3 protons, 2 electrons, 3 neutrons \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**8**. **If you know only the following information can you always determine what the element is? (Yes/No). Explain each answer briefly.**

a. number of protons \_\_\_\_\_\_\_\_\_\_\_   
Explain:

b. number of neutrons\_\_\_\_\_\_\_\_\_\_\_   
Explain:

c. number of electrons in a neutral atom\_\_\_\_\_\_\_\_\_\_\_   
Explain:

d. number of electrons\_\_\_\_\_\_\_\_\_\_\_  
Explain:

**11. Determine the number of protons, neutrons and electrons in a neutral atom of Carbon.**

6

C

Carbon

12.011