Basic Atomic Structure Worksheet (You must use a Periodic Table of the Elements)

1. Define nucleon.

2. Define mass number, A.

3. Define atomic number, Z.

4. What are the relative masses of a proton, a neutron and an electron?

5. Describe how you calculate the number of neutrons of an isotope from its mass number(A) and its atomic number(Z).

6. 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. Given the elements name and its mass number give the complete isotopic symbol and the number of neutrons for the following:
Lithium-6 _____
Iron-58 _____
Oxygen-17 _____
Krypton-78 _____
Bromine-79 _____
Copper-65 _____
Mercury-200 _____
Helium-3 _____

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