

Name Alexander Lamber

Period _____

ATOMIC STRUCTURE WORKSHEET #1

1. Define the following:

- a. atomic number - # of protons in an atom; distinguishes atoms of different elements
- b. mass number - sum of the # of protons and neutrons in the nucleus of an atom of a particular isotope
- c. isotope - atoms of the same element with differing # of neutrons

2. What is the atomic number of titanium? How many protons does a titanium atom have? How many electrons does it have?

3. Give the **mass number** of each of the following atoms:

- a. beryllium with 5 neutrons
- b. titanium with 26 neutrons
- c. gallium with 39 neutrons
- d. iron with 30 neutrons

4. Calcium-40 has _____ protons, _____ neutrons, and _____ electrons.

5. Tin-119 has _____ protons, _____ neutrons, and _____ electrons.

6. Carbon-13 has _____ protons, _____ neutrons, and _____ electrons.

7. An element has 8 protons and 9 neutrons.

- a. What element is it?
- b. How many electrons are in one atom of this element?
- c. What is its atomic mass?

8. An element has 46 neutrons and 36 electrons.

- a. How many protons are in one atom of this element?
- b. What is its atomic mass?
- c. What element is it?

9. Suppose an element has 55 neutrons. Can you identify the element? Why or why not?

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ATOMIC STRUCTURE WORKSHEET #2*Complete the following table. Use the first line as a guide.*

Element	Nuclear Symbol	Atomic Number	Mass Number	Number of Protons	Number of Neutrons	Number of Electrons
Carbon	${}^{14}_6\text{C}$	6	14	6	8	6
Cesium			137			
	${}^{206}_{82}\text{Pb}$					
Uranium					143	
			98	43		
Plutonium					150	
		88	227			
Iodine			131			
	${}^{90}_{38}\text{Sr}$					
Barium ion	${}^{138}_{56}\text{Ba}^{2+}$					
		95			148	
Chloride (not chlorine!)	${}^{35}_{17}\text{Cl}^{-}$					