

Name: _____ Per _____

Ions

Practice Sheet #

1. What is an ion? _____
2. What is it called when an atom gains an electron? _____
3. What is it called when an atom loses an electron? _____
4. Fill out the following chart:

Atomic Number	Element	Ion Symbol	Atomic Mass	Protons	Electrons (show your work)	Neutrons (Show your work)
19			39			
	<i>Scandium</i>		45			
			75	33		
		I^-	127			
	<i>Zirconium</i>		91			
38			88			
		Be^{2+}	9			
			79	35		
	<i>Tungsten</i>		184			
	<i>Zinc</i>		65			
		Es^{3+}	252			

5. Determine the charge of each ion.
 - a. A magnesium ion with 10 electrons

 - b. A sulfur ion with 18 electrons

 - c. An iron ion with 23 electrons

Name: _____ Per _____

6. Write the total number of electrons in each ion.

a. Na^+

b. Ba^{2+}

c. O^{2-}

d. Co^{3+}

7. Answer the following questions for Aluminum-27

a. Draw a Bohr diagram for Aluminum-27.

Protons _____ Neutrons _____ Electrons _____ Valence Electrons _____

b. Would Aluminum want to gain or lose electrons to have a full valence shell?
How many electrons?

c. Redraw Aluminum-27 with a full valence shell after it has lost or gained electrons. Write the ion and its charge, and state which noble gas Al-27 now resembles.

Protons _____ Neutrons _____ Electrons _____ Valence Electrons _____

d. Why would aluminum want to gain or lose electrons to have a full valence shell?

e. What is the difference between the ion of Al-27 and the noble gas that it resembles?