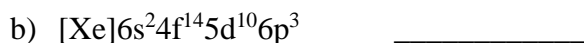


TEST 2 REVIEW

1. Complete the missing information in the table below:

Name of Element	Atomic Symbol	Number of Protons	Number of Neutrons	Number of Electrons
Potassium			22	
	^{51}V			
		48	64	
Barium			82	

2. Name the element that corresponds to each of the following:



c) Halogen with the highest ionization energy _____

d) Period 4 element with the smallest atomic radius _____

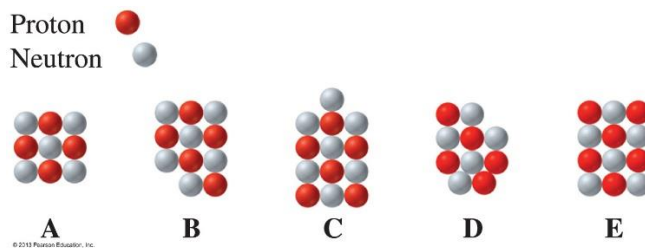
e) Alkali metal with the lowest metallic character _____

3. Write the symbols of the ions, formulas and names for their ionic compounds using the electron configurations give in the table below:

Electron Configuration		Symbol of Ions		Formula of Compound	Name of Compound
Metal	Non-metal	Cation	Anion		
$1s^22s^22p^63s^2$	$1s^22s^22p^3$				
$1s^22s^22p^63s^23p^64s^2$	$1s^22s^22p^63s^23p^3$				
$1s^22s^22p^63s^23p^1$	$1s^22s^22p^5$				

4. For each question below, circle the more polar bond:
- a) P—Cl or P—Br
 - b) Si—S or Si—Cl
 - c) F—Br or F—Cl
5. For each bond below, determine the direction of the dipole and indicate by labeling the atoms with $\delta+$ and $\delta-$ charges.
- a) Si—Cl
 - b) C—N
 - c) F—Cl
6. Classify each of the following bonds as non-polar covalent, polar covalent or ionic:
- a) Zn—S _____
 - b) Cl—Cl _____
 - c) K—Br _____
 - d) N—Cl _____

7. Of the elements K, Ca, Br and Kr, which
- is a noble gas? _____
 - has the smallest atomic radius? _____
 - has the lowest ionization energy? _____
 - requires the most energy to remove an electron? _____
 - is an alkaline earth-metal? _____
8. Indicate the major type of attractive forces that occurs between the particles of the following:
- HBr _____
 - LiCl _____
 - NH₃ _____
9. Diagrams below represent various nuclei. For each nucleus A-E, write the atomic symbol and indicate which are isotopes:



10. For each molecular listed below, draw Lewis structures and predict the shape, bond angle and polarity of the molecule:

