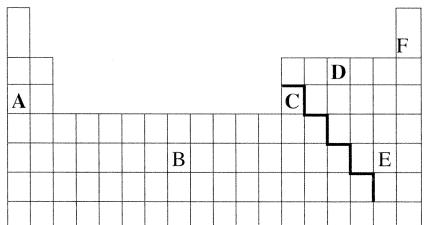
Part 1: Use the periodic table below to answer questions 1-12. Multiple answers may apply



1.	Which letter(s)) represent me	tals? A, B,	С					
2.	. Which letter(s) represent nonmetals? D, E, F								
3.	Which of the following combinations represent an ionic compound? B, C, D								
	a. A & B	4600	A & E			e gases do not			
	(b) B & E	(d, 0	C & D	f.	D & E				
4. Which of the following combinations represent a covalent me						ecule? B			
	a. A & C	c. l	B & D	e.	E & F				
	(b) D & E	d. (C & F	f.	C & D				
5. Which letter(s) represent elements that use roman numerals in their * transition metals use roman numeral * transition metals use roman numeral									
	name(s)?	* 71	UNSITION META	is voc i	arran INAA	Muls			
6.	6. Which letter(s) will form a cation? A, B, C								
7.	7. Which letter(s) will form an anion? D, E								
8.	Which letter(s)) will gain thre	ee electrons to	be stable	e?_D	_			
9.	Which letter(s)) will acquire a	a +3 charge? _	<u>C</u>					
10	10. Which letter has the highest ionization energy? <u>F</u>								

12. Which letter(s) will acquire a positive charge in following the octet rule? A,B, C metals acquire positive charges

Which letter has the highest electronegativity?

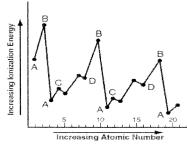
11.

Part 2: Answer the que	estions below
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- How many electrons does Mg^{2+} have? 13.
- How many protons does N-3 have? 7 * protons = offomic # 14.
- 15. What will be the ion symbol (formula), if the ion has 19 protons and 18 electrons? K 1+
- How many electrons does an ion have if it has 16 protons and a -2 charge? 18 16.
- If an ion has 53 protons and 54 electrons, what will be its charge? 17.
- Given the formula $X(NO_3)_3$, what is the charge on ion X? Be sure to include the 18. sign (+ or -). 3+ X (NO3)2
- 19. How many electrons does the Copper ion have in the ionic compound Cu₂SO₄? 28
- Circle the atom *in each pair* that has the largest atomic radius. 20.
 - a)(Al) B
- b)(Br) Cl
- c)(Na) Al

21. Ionization energy is

the energy needed to remove an atoms e-



22. Which letter on the chart indicates the noble gases or the inert elements B inert = unreactive

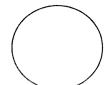
* Noble gases have very high ionization energy

- Circle the atom *in each pair* that has the greater ionization energy. 23.
 - b)(C1)
- Si
- c) Ca Ba
- d) P
- Electronegativity is: the ability to attract other atoms 'e' in a bond 24.
- Circle the atom *in each pair* that has the greater electronegativity. 25.
 - a) Ca (Ga) b) (Br)
- c) Ba

- Arrange the following in order of increasing ionic size. 26.

As

- a. I-, Br-, Cl- Cl-, Br-, I-
- b. P3-, S2-, Cl- Cl-, S2-, P3-
- c. Ba2+, Sr2+, Ca2+ Ca2+, Sr2+, Ba2+
- Label the atoms below as either Sodium or as Sodium Ion(Na¹⁺): 27.

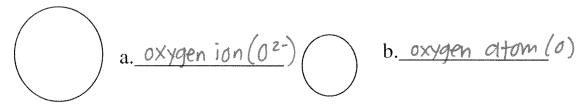


a. Sodium (Na)



b. sodium ion (Na 1+)

28. Label the atoms below as either Oxygen or as Oxygen Ion(O²-):



Part 3: Name the following:

29. P₂O₅
diphosphorus Pentoxide

32. VO₂
Vanadium (IV) oxide

30. Zn(NO₃)₂ Zinc nitrate 33. PbS lead (II) suifide

31. IO2 iodine dioxide

Part 4: Determine the formula for the following:

34. disilicon hexabromide

29. silver acetate

35. copper (I) phosphate

30.calcium sulfate

36. gallium oxide

Part 5: Draw the Lewis structure and determine the molecular geometry for each.

	Lewis structure	ni di	Lewis structure	
37.PCl ₃	:ci-P-ci:	39. BCl ₃	:ci-B-ci:	
38. CCl ₄	: ci - c - ci:	40.SCl ₂	: ci - S - ci:	

Part 6: Determine if the following bonds are polar or nonpolar