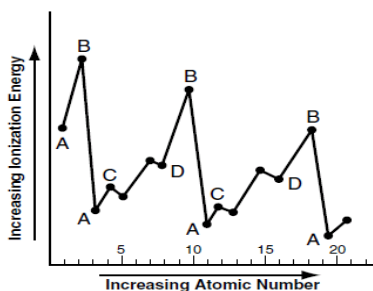


Part 2: Answer the questions below.

13. How many electrons does Mg^{2+} have? _____
14. How many protons does N^{3-} have? _____
15. What will be the ion symbol (formula), if the ion has 19 protons and 18 electrons? _____
16. How many electrons does an ion have if it has 16 protons and a -2 charge? _____
17. If an ion has 53 protons and 54 electrons, what will be its charge? _____
18. Given the formula $\text{X}(\text{NO}_3)_3$, what is the charge on ion X? Be sure to include the sign (+ or -). _____
19. How many electrons does the Copper ion have in the ionic compound Cu_2SO_4 ? _____
20. Circle the atom *in each pair* that has the largest atomic radius.
a) Al or B b) Br or Cl c) Na or Al d) O or F

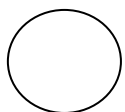
21. Ionization energy is



22. Which letter on the chart indicates the noble gases or the inert elements —

23. Circle the atom *in each pair* that has the greater ionization energy.
a) Li or Be b) Cl or Si c) Ca or Ba d) P or Ar
24. Electronegativity is:
25. Circle the atom *in each pair* that has the greater electronegativity.
a) Ca or Ga b) Br or As c) Ba or Sr d) O or S
26. Arrange each of the following in order of increasing ionic size.
a) I^- , Br^- , Cl^- b) P^{3-} , S^{2-} , Cl^- c) Ba^{2+} , Sr^{2+} , Ca^{2+}

27. Which atom represents a neutral sodium atom? Which atom represents a sodium ion (Na^{1+})?

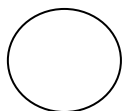


a. _____



b. _____

28. Which atom represents a neutral oxygen atom? Which atom represents an oxide ion (O^{2-})?



a. _____



b. _____

Part 3: Name the following:

29. P_2O_5

32. VO_2

30. $\text{Zn}(\text{NO}_3)_2$

33. PbS

31. IO_2

Part 4: Determine the formula for the following:

34. disilicon hexabromide

37. silver acetate

35. copper (I) phosphate

38. calcium sulfate

36. gallium oxide

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

	Lewis structure		Lewis structure
39. PCl_3		41. BCl_3	
40. CCl_4		42. SCl_2	

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

43. H-O

44. N-Cl

45. P-Cl

Part 7: Name each molecular shape. (linear, trigonal planar, tetrahedral, bent, pyramidal)

