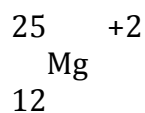


FALL FINAL REVIEW

1. What is a binary compound?
2. What is a pure substance?
3. What are the basic types of particles that come from radioactive decay? What are their charges? How would they be affected when passing through an electric field?
4. What creates positive and negative ions?
5. What types of elements form ionic bonds?
6. What happens to ions when an ionic compound dissolves?
7. How do you determine the geometry of a molecule?
8. What types of forces cause chemical bonds to be created?
9. What are the characteristics of a metalloid?
10. What are the names and valences shell electron configurations of groups 1,2,16,17,18?
11. For isoelectronic particles, which would be smallest? Which would be largest?
12. What are transition metals? (what sublevel block)
13. What are the periodic trends in regard to metallic properties, ionization energy and electronegativity?
14. How do you determine the products of a double replacement reaction?
15. What would cause charge to change in a chemical reaction?
16. How do you determine the oxidation state of an element in an ion? for example, what would be the oxidation state of sulfur in SO_4^{2-} ?
17. What is "reduction" in chemistry?
18. What is "oxidation" in chemistry?
19. If sodium reacts with Aluminum chloride to make elemental sodium chloride and aluminum, what is oxidized? What is reduced? What is the oxidizing agent? What is the reducing agent?
20. Are bonds between two molecules generally strong, or weak? What effect would this have on their melting and boiling points?
21. Do big molecules or small molecules have stronger LDF's?
22. What are the periodic trends in regard to size?
23. What do electrons do when an atom is excited? How does the energy of an excited electron compare to that of an electron in the ground state?
24. What phase changes are endothermic? Which are exothermic?
25. Does the formation of bonds result in loss, or gain of energy?
26. Be able to write an electron configuration of any element or ion, and identify how many electrons are in each sublevel.
27. What is/causes nuclear charge?
28. Be able to identify an element based on its electron configuration.
29. Describe a polar covalent bond.
30. What is the chemical formula for nitrogen (III) oxide?
31. What type of bonding results in the strongest type of solid? ---- and why?
32. What is hydrogen bonding and what is necessary to set it up?
33. What is the most active metal? nonmetal?

34. What types of elements are malleable, ductile and good conductors?
35. What are electrolytes?
36. What is electron affinity, and what elements have the most electron affinity?
37. What type of bond forms between two non metals? between a metal and a nonmetal?
38. What are the rules for zeros when identifying significant figures?
39. What types of substances dissolve in polar solvents?
40. How many sigma and pi bonds would you expect to find in carbon monoxide?
41. What is the relationship between valence electrons and oxidation state?
42. When forming compounds between two elements, what must be the sum of the positive and negative oxidation numbers?
43. What are isotopes? What atomic property varies in isotopes---- atomic mass or atomic number?
44. Given the following symbol, determine the number of protons, neutrons and electrons.....



45. What is Hund's rule?
46. How many unpaired electrons would be found in an atom of iron?