

APES Chem Review Questions

VENN DIAGRAMS

Draw a *two-way* Venn Diagram for the following:

- | | |
|----------------------------|---|
| 1) atom & ion | 7) physical change & chemical change |
| 2) molecule & formula unit | 8) exothermic & endothermic |
| 3) ionic & covalent | 9) homogeneous & heterogeneous |
| 4) polar & nonpolar | 10) organic & inorganic |
| 5) element & compound | 11) physical property & chemical property |
| 6) cation & anion | |

OTHER QUESTIONS

- 12) What is the difference between nonpolar covalent bonds, polar covalent bonds, and ionic bonds?
- 13) Give three examples of a solution.
- 14) Why do chemical equations have to be balanced?
- 15) What is a diatomic molecule? List the seven diatomic molecules.
- 16) Give the names and formulas of six common acids (in the notes).
- 17) What is specific heat?
- 18) Explain the symbols of the Gibbs free energy equation: $\Delta G = \Delta H - T\Delta S$.

FORMULA PRACTICE

Write formulas for the following compounds:

- | | |
|---------------------------|-----------------------|
| 19) potassium nitride | 26) lead(II) iodide |
| 20) potassium nitrate | 27) tin(IV) sulfide |
| 21) potassium nitrite | 28) sodium phosphate |
| 22) aluminum hydroxide | 29) ferrous chloride |
| 23) diphosphorus trioxide | 30) zinc permanganate |
| 24) strontium cyanide | 31) calcium phosphide |
| 25) ammonium fluoride | |

Name the following compounds:

- | | |
|--------------------------------|---|
| 32) NaF | 39) $(\text{NH}_4)_3\text{P}$ |
| 33) $\text{Ca}(\text{NO}_2)_2$ | 40) $\text{Al}_2(\text{SO}_3)_3$ |
| 34) SCl_6 | 41) CaCrO_4 |
| 35) NaH_2PO_4 | 42) $\text{Mg}(\text{C}_2\text{H}_3\text{O}_2)_2$ |
| 36) As_2Br_5 | 43) $\text{Cr}(\text{HCO}_3)_3$ |
| 37) NO_2 | 44) SO_3 |
| 38) SnO | 45) Na_2Se |