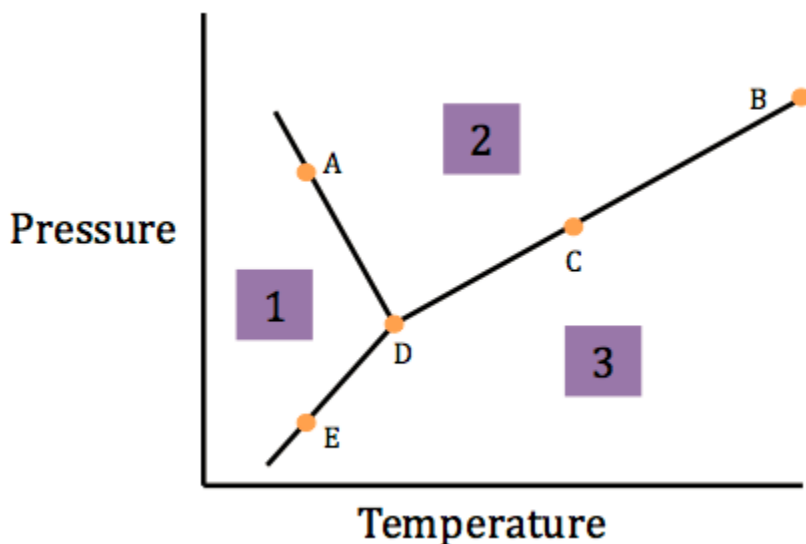


1. Label the phase diagram for each number and letter given below.



2. What is standard pressure? How does it relate to a phase diagram?

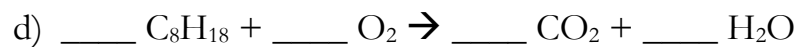
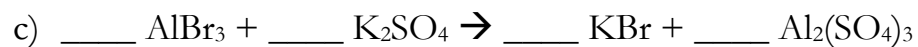
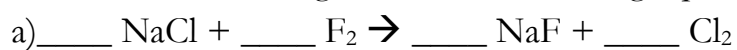
3. Write the formulas and balance the following reactions (you may need to use the activity series or the solubility rules): Make sure you are using correct nomenclature

- The reaction of ammonia (NH_3) with iodine to form nitrogen triiodide and hydrogen gas.
- The combustion of propane (C_3H_8).
- The reaction of copper (II) oxide with hydrogen to form copper metal and water.

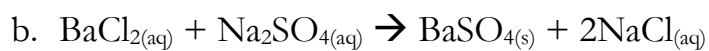
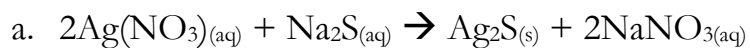
d. The reaction of iron metal with oxygen to form iron (III) oxide.

e. The reaction of AlBr_3 with $\text{Mg}(\text{OH})_2$

4. Balancing each of the following equations.



5) Write the complete ionic and net ionic equation and the spectator ions for the following reactions and identify the spectator ions for each.



6) What do the following symbols represent in a chemical reaction?

a. (g)

b. (l)

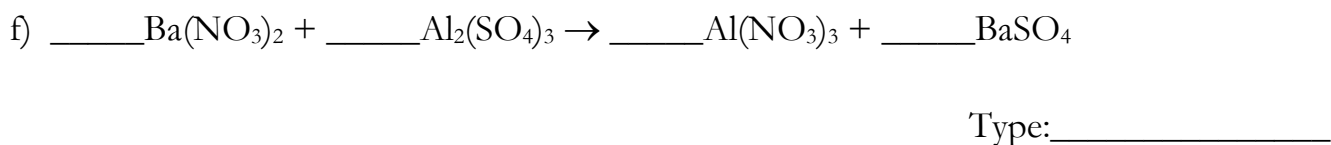
c. (s)

d. (aq)

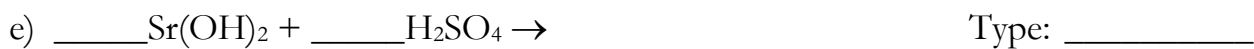
e. $\xrightarrow{\Delta}$

7) Identify the seven diatomic elements.

8) Balance the following equations by adding coefficients. Identify the type of each reaction.



9) Given just the reactants, identify the type of reaction and write a balanced equation.



10) Use your activity series to tell which of the following combinations of reactants will react.

Circle the pairs that will react.

AgNO_3 and Cu

or

$\text{Cu}(\text{NO}_3)_2$ and Ag

$\text{Mg}(\text{NO}_3)_2$ and Fe

or

$\text{Fe}(\text{NO}_3)_2$ and Mg

CaCl_2 and Pb

or

PbCl_2 and Ca

HCl and Pt

or

PtCl_6 and H_2

K and H_2O

or

H_2 and K_2O