Mole Ratios Name_____Period____

Balance the following chemical reactions and identify the mole ratios.

1) _____ NaBr + ____ $Ca(OH)_2$ → ___ $CaBr_2$ + ____ NaOH

What type of reaction: _____

Mole ratios:

$\frac{\text{mol NaBr}}{\text{mol Ca(OH)}_2}$ $\frac{\text{mol CaBr}_2}{\text{mol NaBr}}$ $\frac{\text{mol NaBr}}{\text{mol NaOH}}$ $\frac{\text{mol CaBr}_2}{\text{mol Ca(OH)}_2}$

$\frac{\text{mol Ca(OH)}_2}{\text{mol NaBr}}$ $\frac{\text{mol NaBr}}{\text{mol CaBr}_2}$ $\frac{\text{mol NaOH}}{\text{mol NaBr}}$ $\frac{\text{mol Ca(OH)}_2}{\text{mol CaBr}_2}$

$\frac{\text{mol Ca(OH)}_2}{\text{mol NaOH}}$ $\frac{\text{mol NaOH}}{\text{mol Ca(OH)}_2}$ $\frac{\text{mol CaBr}_2}{\text{mol NaOH}}$ $\frac{\text{mol NaOH}}{\text{mol CaBr}_2}$

2) ____ NH_3+ ____ H_2SO_4 → ____ $(NH_4)_2SO_4$

What type of reaction: _____

Mole ratios: (There should be 6 ratios)

3) ____ Pb + ____ H_3PO_4 → ____ H_2 + ____ $Pb_3(PO_4)_2$

What type of reaction: _____

Mole ratios:

a. What are the mole ratios between lead and lead (II) phosphate?

b. What are the mole ratios hydrogen and phosphoric acid?

c. What is the mole ratio between phosphoric acid and lead (II) phosphate?

Answer the following questions. Make sure you balance the equation FIRST.

4) Given this equation: ___N_2 + ___H_2 → ___NH_3, write the following molar ratios:
   a. N_2 / H_2
   b. N_2 / NH_3
   c. H_2 / NH_3
5) Given the following equation: ___H_2 + ___S_8 → ___H_2S, write the following molar ratios:
   a. H_2 / H_2S
   b. H_2 / S_8
   c. H_2S / S_8
6) Answer the following questions for this equation: ____H_2 + ____O_2 → ____H_2O
   a. What is the H_2 / H_2O molar ratio?
   b. If you had 20.0 moles of H_2 on hand and plenty of O_2, how many moles of H_2O could you make?
   c. What is the O_2 / H_2O molar ratio?
   d. Suppose you had 20.0 moles of O_2 and enough H_2, how many moles of H_2O could you make?
7) Use this equation: ___N_2 + ___H_2 → ___NH_3, for the following problems:
   a. If you used 1.0 mole of N_2, how many moles of NH_3 could be produced?
   b. If 10.0 moles of NH_3 were produced, how many moles of N_2 would be required?
   c. If 3.00 moles of H_2 were used, how many moles of NH_3 would be made?
   d. If 0.600 moles of NH_3 were produced, how many moles of H_2 are required?