`Name _____Period _____Date _____Code# _____

Calculating Quantities in Reactions
Complete each statement below by writing the correct term or phrase for question 1-8.

1. All stoichiometric calculations involving equations use_____ratios.
2. When solving stoichiometric problems, you must_____ the equation first.
3. Balanced equations give the_____ numbers of moles of substances.
4. _____in chemical equations provide mole ratios that can be used as conversion factors.
5. The conversion factor for converting between mass and moles is the_____ of the substance.
6. In making calculations involving _____, you must convert volume to mass.
7. To convert from volume to mass, you can use the _____of the substance as the conversion factor.
8. When calculating the number of particles, you can use _____as the conversion factor.

Word list:
Avogadro's number
density
liquids
molar mass
coefficients
relative
balance
mole

For problems 9-13, write the letter of the choice that best completes the statement or answers the question. Consider the following problem when answering:

What mass of sulfuric acid is required to neutralize 2.65 g of potassium hydroxide? The products of the reaction are potassium sulfate and water.

_____ 9. What should you do first after reading the problem carefully?
a. Estimate the answer.
b. Calculate the molar mass of sulfuric acid.
c. Write a balanced chemical equation.
d. Convert all masses to moles.

_____10. What should you do before setting up the problem?
a. Determine the densities.
b. Calculate molar masses.
c. Convert all masses to moles.
d. Estimate the answer.

_____11. How should you check your setup?
a. by recalculating molar masses
b. by checking to see if the result will have the correct units(dimensional analysis)
c. by estimating the answer
d. by writing a balanced chemical equation

_____12. What should you round off?
a. the result of each step
b. all data values
c. only the final answer
d. nothing

_____13. Which of the following is least likely to help you verify the final result?
a. estimating the answer by using rounded numbers
b. determining whether the answer is reasonable for the conditions of the problem
c. rechecking all molar masses
d. writing a balanced chemical equation

As extra practice you can try balancing the equations on the next problems. Just re-write the equation without the coefficients and re-balance.