Name:

Moles, Grams and Particles Conversions

Directions:

****You must score a minimum of 18/20 (9/10) to receive credit****

(You may complete the exercise as many times as necessary.)

Part 1: Calculate the molar mass of the following formulas (these formulas will be used in the calculations in part 2). Be sure to keep 2 and only 2 numbers after the decimal for each mass.

Part 2: Convert between the units of mass, moles and particles. For Credit, you ***must submit a copy of your work*** with correct setup (dimensional analysis), units and significant figures. (Incorrect significant figures and missing units will be marked wrong.)

Part 1: Find the molar mass of each compound: **(Use a space between number and unit)**

1. Iron (II) oxide
2. Potassium sulfate
3. Aluminum nitride
4. Copper (I) sulfide
5. Lithium phosphate
6. Manganese (III) nitrate
7. Boron trichloride
8. Gallium (III) hydroxide
9. Tin (IV) sulfide
10. Nitrogen tetroxide

Part 2: You must also submit a picture of your work for each of the problems below including dimensional analysis setup, units and significant figures.

(Use a space between number and unit and use x10^notation for exponents)

1. How many molecules are in 3.65 moles of boron trichloride?

2. What is the mass of 4.23×10^{22} formula units of Manganese (III) nitrate?

LIVEWORKSHEETS

3. How many moles are in 55.75g of lithium phosphate?

4. How many formula units are contained in 25.90g of Potassium sulfate?

5. How many moles are in 1.26×10^{25} formula units of aluminum nitride?

6. You have 5.66×10^{23} formula units of iron (II) oxide, how many moles does it contain?

7. A sample of nitrogen tetroxide contains 40.50g, how many formula units does it contain?

8. What is the mass of 7.84×10^{24} formula units of Gallium (III) hydroxide?

9. A lab experiment needs 3.5 moles, how many molecules of Nitrogen tetroxide are in the sample?

10. Calculate the number of moles in 125.79g of Aluminum nitride?

LIVEWORKSHEETS