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Directions: For each #1-8 write the skeleton equation below THEN go back and balance your equation. Then show your work using dimensional analysis including ALL units (including compounds) to answer letters (a) and (b) for each problem.

Chemistry Review:

1. When crystalline C6H12O6 is burned in oxygen, carbon dioxide and water vapor are formed.

a) How many atoms of C6H12O6 are in 6 moles?

b) How many g of CO2 are in 42 L?

2. If a copper coil is placed into a solution of silver nitrate, silver crystals form. Additionally, highly soluble copper (I) nitrate is generated.

a) How many L of AgNO3 are in 5.7 moles?

b) How many atoms are in 56 L of Cu?

3. When lithium hydroxide pellets are added to a solution of sulfuric acid, lithium sulfate and water are formed.

1. How many molecules are in 3 moles of H2SO4?
2. How many liters are in 400 grams of LiOH?

4. When carbon monoxide combines with oxygen gas, carbon dioxide is created.

1. How many grams are in 2.3 moles of CO2?
2. How many grams are in 13.1 L of O2?

5. When sodium metal reacts with iron (II) chloride, iron metal and sodium chloride are formed.

1. How many moles of FeCl2 are in 200 grams?
2. How many grams are in 61.5 liters of NaCl?

6. Potassium sulfide reacts with nickel (II) nitrate to produce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (write out formulas)

1. What is the molar mass of Ni(NO3)2?
2. How many liters are in 25.4 grams of NiS?

7. Aluminum reacts with hydrochloric acid to produce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (write out formulas)

1. How many atoms of HCl are in 4.6 moles?
2. How many atoms of Al are in 345 grams?

8. Zinc reacts with nitric acid to produce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (write out formulas)

1. How many grams are in 0.25 moles of HNO3?
2. How many liters are in 100 grams of HNO3?

1. How many moles are 1.20 x 1025 atoms of phosphorous?

2. How many atoms are in 0.750 moles of zinc?

3. Find the grams in 1.26 x 10-4 mol of HC2H3O2.

4. Find the mass in 2.6 mol of lithium bromide.

5. How many moles of argon atoms are present in 11.2 L of argon gas at STP?

6. What is the volume of 0.05 mol of neon gas at STP?

7. How many oxygen molecules are in 3.36 L of oxygen gas at STP?

8. Find the mass in grams of 2.00 x 1023 molecules of F2.