

Mole Worksheet (Dimensional Analysis) #2

I. What is the weight (in grams) for each of the following compounds or elements?

1. 7.24 moles of silver phosphate
2. 2.88 moles of diphosphorous pentoxide
3. 0.0009273 moles of zinc bicarbonate
4. 154.8 moles of silicon tetraiodide
5. 88.624 moles of silver

II. Answer the following questions.

1. How many atoms are in 6.28 moles of aluminum?
2. How many atoms are in 90.43 moles of copper?
3. How many atoms in 7.64 moles of barium?
4. How many molecules in 3.72 moles of sulfur dioxide?
5. 78.54 g of nitrogen dioxide contain how many molecules?
6. How many moles of water are represented by 8.33×10^{18} molecules of water?
7. 76.4 g of water contain how many molecules?
8. 76.4 moles of oxygen difluoride contain how many molecules?
9. How many grams does 8.92×10^{24} atoms of tin weigh?
10. What is the weight in grams of 4.28×10^{20} molecules of bromine trifluoride?

III. Sodium hydroxide reacts with phosphoric acid, H_3PO_4 , to form sodium phosphate and water.

- a. How many grams of phosphoric acid are required to react with 27.4 g of sodium hydroxide?
- b. How many grams of water are produced from 27.4 g of sodium hydroxide?
- c. How many grams of sodium hydroxide are needed to produce 89.2 g of sodium phosphate?
- d. How many moles of sodium phosphate are produced from 4.52 g of H_3PO_4 ?

IV. Silver sulfate reacts with aluminum bromide to produce silver bromide and aluminum sulfate.

- a. How many grams of silver bromide can be produced from 54.3 g of silver sulfate?
- b. How many grams of aluminum sulfate can be produced from 54.3 g of silver sulfate?