

The MOLE and Molar Mass Practice

Name: _____

Solve the following problems. Be sure to show all of your work and include correct units!

Molar Mass:

1. Calculate the molar mass of carbon dioxide.

2. Calculate the molar mass of calcium nitrate.

3. Calculate the molar mass of ammonium carbonate.

2-Step: Particle <--> Mole & Mass <--> Mole

1. How many moles are in 9.03×10^{24} atoms of mercury?

2. How many moles of water are in 2.52×10^{25} molecules of water?

3. Calculate the mass in grams for 0.250 moles of magnesium bromide.

3-Step: Mass <--> Particle

1. How many grams are in 8.20×10^{22} molecules of N_2I_6 ?
2. **CHALLENGE:** How many total atoms are in 2.12 moles of propane (C_3H_8)?
3. How many formula units (f.u.) of aluminum sulfite are there in 25.5 grams of aluminum sulfite?

Mixed Practice:

1. How many grams of silver nitrate are in 3.44×10^{22} formula units (f.u.) of silver nitrate?
2. How many molecules are in 25.0 moles of carbon tetrachloride?
3. How many molecules of phosphorus pentachloride are in 1.09×10^{23} grams of phosphorous pentachloride?
4. How many moles are there in 2.55 grams of lead (IV) chlorate?