

Mole Conversions: Molar Mass

Directions: Convert the following into moles or grams. Show your work.

1 mole = ? grams Conversion factors: $\frac{1 \text{ mol}}{? \text{ g}}$ or $\frac{? \text{ g}}{1 \text{ mol}}$

- 1) How many moles are in 15 grams of lithium?
- 2) How many grams are in 2.4 moles of sulfur?
- 3) How many moles are in 22 grams of argon?
- 4) How many grams are in 88.1 moles of magnesium?
- 5) How many moles are in 2.3 grams of phosphorus?
- 6) How many grams are in 11.9 moles of chromium?
- 7) How many moles are in 9.8 grams of calcium?
- 8) How many grams are in 238 moles of arsenic?

Directions: What are the molar mass of the following compounds?

- | | |
|-----------------------|---|
| 9) NaOH | 12) H ₃ PO ₄ |
| 10) H ₂ O | 13) Mn ₂ Se ₇ |
| 11) MgCl ₂ | 14) (NH ₄) ₂ SO ₄ |



Name _____

Date _____

Hour _____

Honors Chemistry

- 15) How many grams are in 4.5 moles of sodium fluoride, NaF?
- 16) How many moles are in 98.3 grams of aluminum hydroxide, Al(OH)₃?
- 17) How many grams are in 0.02 moles of beryllium iodide, BeI₂?
- 18) How many moles are in 68 grams of copper (II) hydroxide, Cu(OH)₂?
- 19) How many grams are in 3.3 moles of potassium sulfide, K₂S?
- 20) How many moles are in 1.2×10^3 grams of ammonia, NH₃?
- 21) How many grams are in 2.3×10^{-4} moles of calcium phosphate, Ca₃(PO₃)₂?
- 22) How many moles are in 3.4×10^{-7} grams of silicon dioxide, SiO₂?
- 23) How many grams are in 1.11 moles of manganese sulfate, Mn₃(SO₄)₇?

