

Exercise:

Complete the following on a separate piece of paper and express the answer to the correct number of significant digits.

- State the mass of 1 mole of the following in g/mol.
 - $^{10}_5\text{B}$
 - nitrogen
 - $^{23}_{11}\text{Na}$
 - S
 - $^{127}_{53}\text{I}$
 - thallium
- Calculate the molar mass of the following compounds.
 - HBr
 - NO_2
 - Cu
 - $\text{Mg}(\text{OH})_2$
 - $\text{Fe}_2(\text{SO}_4)_3$
 - $\text{C}_2\text{H}_6\text{O}$
 - $\text{C}_{12}\text{H}_{26}$
 - $\text{Sn}_3(\text{PO}_3)_4$
- Determine the number of moles in the following.
 - 6.02×10^{23} atoms of N
 - 4.52×10^{23} electrons
 - 3.011×10^{24} molecules of H_2O
 - 4.25×10^{25} Ca^{2+} ions
- Calculate the number of particles in the following.
 - 1.50 mol of Ba atoms
 - 3 mol of C atoms
 - 0.75 mol of H_2O molecules
 - 2.67 mol of NaOH molecules
- Determine the number of atoms in the following.
 - 1.30 mol of calcium hydroxide
 - 0.75 mol of $\text{Au}_2(\text{SO}_4)_3$
 - 2.25 mol of $\text{Cr}(\text{OH})_3$
 - 0.46 mol of SnF_4
- Find the mass of the following.
 - 3.6 mol of Zn atoms
 - 0.43 mol of He atoms
 - 2 mol of CBr_4
 - 3 mol of Cl_2
 - 3.6 mol of $\text{Zn}(\text{OH})_2$
 - 0.75 mol of $\text{Pb}_3(\text{AsO}_4)_2$
- Determine the number of moles in the following.
 - 35.00 g of Na
 - 77.0 g of CuO
 - 88 g of $\text{Al}_2(\text{SO}_4)_3$
 - 0.95 g of O_2
- Determine the mass of the following.
 - 5.65×10^{24} molecules of CaBr_2
 - 4.25×10^{23} molecules of N_2
 - 9.10×10^{22} molecules of $\text{Ba}(\text{NO}_3)_2$
 - 3.01×10^{22} molecules of $\text{Ga}_2(\text{CO}_3)_3$
- Determine the number of molecules in each.
 - 77.0 g of CuO
 - 88.0 g of $\text{Al}_2(\text{TeO}_4)_3$
 - 2.50 g of Ne
 - 71.0 g of MgS
- Determine the number of atoms in each.
 - 85.0 g of $\text{Mn}(\text{OH})_2$
 - 125 g of CuSO_4
 - 375 g of $\text{Sn}(\text{TeO}_4)_2$
 - 26.0 g of SO_3