

CONVERSIONS

WORKSHEET

- How many moles in:
 - 2.8×10^{24} atoms of magnesium.
 - 3.01×10^{22} molecules of water.
 - 1.5×10^{23} molecules of NH_3 .
 - 6.02×10^{22} molecules of Br_2 .
 - 4.81×10^{24} atoms of Li.
- Find the number of representative particles in each of the following:
 - 3 moles of Na
 - 7.5 moles of SO_4
 - 0.4 moles of KCl
 - 4.8×10^{-3} moles N_2
- How many atoms of oxygen in:
 - 2 moles of carbon dioxide.
 - 0.5 moles of glucose ($\text{C}_6\text{H}_{12}\text{O}_6$).
 - 1×10^{-6} moles of Al_2O_3 .
- Find the mass in grams of each quantity.
 - 0.72 mol Be
 - 4.52×10^{-3} mol $\text{C}_{20}\text{H}_{42}$
 - 10 mol Cr
 - 5.08 mol $\text{Ca}(\text{NO}_3)_2$
 - 14.4 mol F_2
 - 5.6 mol NaOH
- Find the number of moles in each quantity.
 - 5g of hydrogen molecules.
 - 72g Ar.
 - 0.000264g Li_2HPO_4 .
 - 11g CH_4 .
 - 0.0688g AgCl.
 - 5.96g KOH.
 - 937g $\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)_2$.
 - 15.5g of SiO_2 .

Answers

- a) 4.65 mol Mg b) 5×10^{-2} mol H_2O c) 2.49×10^{-1} mol NH_3 d) 0.1 mol Br_2 e) 7.99 mol Li.
- a) 1.81×10^{24} atoms Na b) 4.52×10^{24} molecules SO_2 c) 2.41×10^{23} formula units KCl
d) 2.89×10^{21} molecules of N_2 .
- a) 2.4×10^{24} atoms O b) 1.8×10^{24} atoms O c) 1.8×10^{18} atoms O.
- a) 6.49g Be b) 1.27g $\text{C}_{20}\text{H}_{42}$ c) 5.2 x 10²g Cr d) 8.33 x 10²g $\text{Ca}(\text{NO}_3)_2$ e) 5.47 X 10²g F_2
f) 2.24 x 10²g NaOH.
- a) 2.5 mol H_2 b) 1.8 mol Ar c) 2.4×10^{-6} mol Li_2HPO_4 d) 0.688 mol CH_4 e) 4.8×10^{-4} mol
AgCl f) 0.106 mol KOH g) 5.93 mol $\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)_2$ h) 0.258 mol SiO_2 .