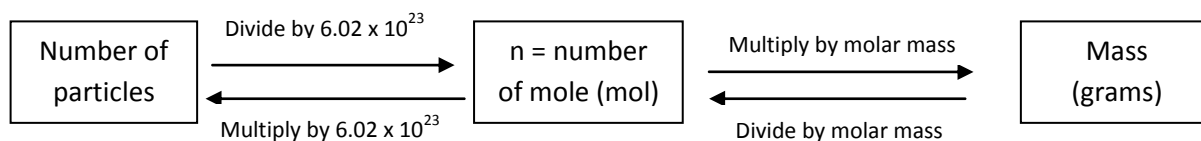


$$n = \frac{\text{Number of particles}}{6.03 \times 10^{23}}$$

$$n = \frac{\text{mass (g)}}{\text{molar mass}}$$



Use the information above to answer the following questions.

- How many molecules are present in each of the following
 - 2.5 g of hydrogen molecules, H_2 .
 - 50 g of nitrogen dioxide.
 - 3.00g of methane, CH_4 .
 - 63g of diphosphorus pentoxide.
- Determine the number of particles present in the following.
 - 50.0 g of carbon.
 - 2000 g of water.
 - 10.0 mg of niacin ($\text{C}_6\text{H}_4\text{N}_2$)
- What is the mass of each of the following?
 - 7.5×10^{22} atoms of neon
 - 1.2×10^{25} molecules of ethanoic acid (CH_3COOH)
 - 6.02×10^{24} copper (I) ions.
 - 100 molecules of nitric acid (HNO_3)
 - 1 molecule of glucose, $\text{C}_6\text{H}_{12}\text{O}_6$
- Vitamin A is chemically known as retinol ($\text{C}_{20}\text{H}_{30}\text{O}$). If an average carrot contains the equivalent of 2.40 mg of retinol, determine the number of
 - Mole of retinol present in the carrot.
 - Retinol molecules present.
 - Carbon atoms present in this amount of retinol.
 - Atoms present in the retinol.