**Answer on Question #50181 - Chemistry – Other**

**Question**

How many atoms does 3.0 grams of carbon represent?

**Answer:**

Calculate the number of atoms in 3.0 g of carbon. The formula is:

$$N = \frac{m \cdot N_A}{M}$$

m – the mass of carbon, m = 3.0 g;

$N_A$ – Avogadro constant, $N_A$ = 6.022·$10^{23}$ mol$^{-1}$;

M – molar mass of carbon, M = 12 g/mol.

Number of atoms in 3.0 g of carbon is:

$$N(C) = \frac{3.0 \cdot 6.022 \cdot 10^{23}}{12} = 1.5 \cdot 10^{23} \; atoms$$

**Answer:** 1.5·$10^{23}$ atoms