Answer on Question#48396 – Chemistry – Organic Chemistry

The lead in lead pencils is actually almost carbon and the mass of a period mark made by a lead pencil is about 0.0001gms how many carbon atoms are there?

Solution:

Mass Carbon m(C) = $1*10^{-4}$g

Relative atomic mass A_r (C) = 12 g*mol^{-1}

Avogadro constant N_A = $6.022*10^{23}$ mol^{-1}

ν -mole

N-number of atoms C.

$$\nu = \frac{N}{N_A}; \ \nu = \frac{m}{Mr};$$

In this case Ar=Mr

$$N = \frac{mN_A}{Ar};$$

N=$5*10^{18}$

Answer: $5*10^{18}$