Stoichiometry CH 1010

Given that a sample of C has a mass of 52.0 mg, how many atoms would the sample contain?

$52.0\ mg \longrightarrow X\ atoms\ C$

$$52.0\ \cancel{mg} \times \frac{1\ \cancel{g}}{1000\ \cancel{mg}} \times \frac{1\ mol\ \cancel{C}}{12.011\ \cancel{g}} \times \frac{6.022 \times 10^{23}\ atoms\ C}{1\ mol\ \cancel{C}}$$

$= 2.61 \times 10^{21}\ atoms$

* g / 1 mol

g → mol mol → g

mol → atoms g → atoms

1 mols