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How many lithium (Li) atoms are there in 23.55 grams of Li?

How many grams of silicon (Si) do you have if you have 11.54 moles of Si?

How many moles of chlorine gas (Cl_2) are there in 83.4 grams of chlorine gas?

What is the molar mass of glucose ($C_6H_{12}O_6$)?

If you have a sample of glucose that contains 7.85×10^{25} atoms of hydrogen, how many grams of glucose do you have?

How many moles of carbon dioxide (CO_2) do you have if you have 75.6 grams of CO_2?

How many oxygen atoms are there in 133.5 grams of calcium phosphate?

What is the mass percentage of carbon in benzene (C_6H_6)?

What is the empirical formula of a substance that is 75.91% C, 6.38% H and 17.72% N by mass?

Combustion is when your burn a material in the presence of oxygen.
•If there is carbon in the material you will get CO_2 as a product of the combustion – and all of the carbon in the CO_2 will have come from the material that was combusted.
•If there is hydrogen in the material you will get water as a product of the combustion – and all of the hydrogen in the H_2O
•Oxygen atoms in the CO_2 and in the H_2O may have come from the original material **or** from the oxygen involved in the combustion process.

You have 50.0 grams of a material that contains carbon, hydrogen and **maybe** oxygen. You combust the material and collect the water and the carbon dioxide that results. You collect 95.6 grams of CO_2 and 59.1 grams of H_2O. Did the original material contain oxygen atoms? Prove your answer. Then determine the empirical formula of the material.