

Example 2 How many grams of chlorine are needed to make 45 grams of hydrochloric acid?



Given/Start with 45 g HCl

Find/End up with _____ g Cl₂

Plan

grams \rightarrow moles \rightarrow mole ratio \rightarrow grams

45 g HCl \rightarrow 1 mol HCl \rightarrow 1 mol Cl₂ \rightarrow 71.0 g Cl₂

1 \rightarrow 45.0 g HCl \rightarrow 2 mol HCl \rightarrow 1 mol Cl₂

= 71.0 g Cl₂

Additional Example (not in Packet)

What mass of Al that can be reacted with 20.0 grams of copper II chloride?



Given 20.0 g CuCl₂

Find _____ g Al

20.0 g CuCl₂ \rightarrow 1 mol \rightarrow 2 mol Al \rightarrow 27.0 g Al

1 \rightarrow 20.0 g \rightarrow 2 mol CuCl₂ \rightarrow 1 mol Al

= 13.5 g Al

Another Example (not in packet either)

What mass of sodium hydroxide is needed to completely react with 146 grams of hydrochloric acid?

