1. How many moles of chlorine are needed to react with 0.25 g of lithium to produce lithium chloride ? *(0.018 mol)*

$$Cl_{2\,(g)} + Li_{(s)} \rightarrow$$

2. Calculate the number of moles of aluminum chloride that can be produced from the reaction of 7.00 g of chlorine with aluminum. *(6.58×10^{-2} mol)*

$$Al_{(s)} + Cl_{2\,(g)} \rightarrow$$

3. Potassium chloride and iodine are produced from a reaction between aqueous potassium iodide and chlorine gas. Determine the number of moles of $I_{2(g)}$ produced when 74.5 g of KCl results. *(0.500 mol)*

$$KCl_{(aq)} + I_{2\,(g)} \rightarrow$$

4. How many moles of oxygen will be formed when 102 g of aluminum oxide decompose to form aluminum and oxygen? (1.50 mol)

5. How many moles of potassium are needed to react with water to form potassium hydroxide and 6.0 g of hydrogen ? (5.9 mol)

6. If 0.50 g of sodium reacts with oxygen, how many moles of sodium oxide will be formed? (1.1×10^{-2} mol)

7. How many moles of magnesium are needed to react with 27 g of iodine to form magnesium iodide? (0.11 mol)

8. Determine the number of moles of sodium chloride produced from the reaction of hydrochloric acid with solution containing 25.0 g sodium hydroxide. (0.625 mol)