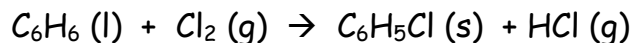
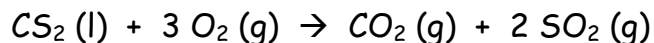


1. Chlorobenzene,  $C_6H_5Cl$ , is used in the production of chemicals such as aspirin and dyes. One way that chlorobenzene is prepared is by reacting benzene,  $C_6H_6$ , with chlorine gas according to the following BALANCED equation.



- a. What is the theoretical yield if 45.6 g of benzene react?
- b. If the actual yield is 63.7 g of chlorobenzene, calculate the percent yield.
2. When carbon disulfide burns in the presence of oxygen, sulfur dioxide and carbon dioxide are produced according to the following equation.



- a. What is the percent yield of sulfur dioxide if the burning of 25.0 g of carbon disulfide produces 40.5 g of sulfur dioxide?
- b. What is the percent yield of carbon dioxide if 2.5 mol of oxygen react and 32.4 g of carbon dioxide are produced?