

## Unit 6E Practice Problems V Percent Yield Calculations

Name:

Date:

Chlorobenzene,  $C_6H_5CI$ , 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.

$$C_6H_6(I) + CI_2(g) \rightarrow C_6H_5CI(s) + HCI(g)$$

1. What is the theoretical yield if 45.6 g of benzene react?

2. If the actual yield is 63.7 g of chlorobenzene, calculate the percent yield.

When carbon disulfide burns in the presence of oxygen, sulfur dioxide and carbon dioxide are produced according to the following equation.

$$CS_2(I) + 30_2(g) \rightarrow CO_2(g) + 2SO_2(g)$$

3. 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?

4. What is the percent yield of carbon dioxide if 2.5 mol of oxygen react and 32.4 g of carbon dioxide are produced?