

General Chemistry  
Mr. MacGillivray  
Quiz #23:  
Stoichiometry I

Solve the following problems using dimensional analysis. Include units in your answers. Be sure to round the answers to the correct number of significant figures.

The following questions refer to the following reaction:



- 1) How many mol of carbon dioxide can be produced from 5.00 mol of iron (III) oxide?
- 2) How many mol of iron can be produced from 5.00 mol of iron (III) oxide?
- 3) How many mol of carbon monoxide would be needed to produce 28.6 mol of iron?

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The following questions refer to the following reaction:



- 1) How many mol of carbon dioxide can be produced from 5.00 mol of iron (III) oxide?  

$$5.00 \text{ mol Fe}_2\text{O}_3 \times \frac{3 \text{ mol CO}_2}{1 \text{ mol Fe}_2\text{O}_3} = 15.0 \text{ mol CO}_2$$
- 2) How many mol of iron can be produced from 5.00 mol of iron (III) oxide?  

$$5.00 \text{ mol Fe}_2\text{O}_3 \times \frac{2 \text{ mol Fe}}{1 \text{ mol Fe}_2\text{O}_3} = 10.0 \text{ mol Fe}$$
- 3) How many mol of carbon monoxide would be needed to produce 28.6 mol of iron?

$$28.6 \text{ mol Fe} \times \frac{3 \text{ mol CO}}{2 \text{ mol Fe}} = 42.9 \text{ mol CO}$$