

# STOICHIOMETRY RACE

## Gram to Gram Conversions

1. Balanced Equation:  $2\text{KClO}_3 \rightarrow 2\text{KCl} + 3\text{O}_2$

What is the mass of A given? *15 g KClO<sub>3</sub>*

Which element/compound(B) are you solving for? *O<sub>2</sub>*

<i>15 g KClO<sub>3</sub></i>	<i>1 mol KClO<sub>3</sub></i>	<i>3 mol O<sub>2</sub></i>	<i>32 g O<sub>2</sub></i>
	<i>122.55g KClO<sub>3</sub></i>	<i>2 mol KClO<sub>3</sub></i>	<i>1 mol O<sub>2</sub></i>

Answer: *5.88 g O<sub>2</sub>*

2. Balanced Equation:  $4\text{NH}_3 + 5\text{O}_2 \rightarrow 4\text{NO} + 6\text{H}_2\text{O}$

What is the mass of A given? *30 g NH<sub>3</sub>*

Which element/compound(B) are you solving for? *NO*

<i>30 g NH<sub>3</sub></i>	<i>1 mol NH<sub>3</sub></i>	<i>4 mol NO</i>	<i>30.01 g NO</i>
	<i>17.04 g NH<sub>3</sub></i>	<i>4 mol NH<sub>3</sub></i>	<i>1 mol NO</i>

Answer: *52.83 g NO*

3. Balanced Equation:  $2\text{Al} + 3\text{Br}_2 \rightarrow 2\text{AlBr}_3$

What is the mass of A given? *50 g Al*

Which element/compound(B) are you solving for? *AlBr<sub>3</sub>*

<i>50 g Al</i>	<i>1 mol Al</i>	<i>2 mol AlBr<sub>3</sub></i>	<i>266.78 g AlBr<sub>3</sub></i>
	<i>26.98 g Al</i>	<i>2 mol Al</i>	<i>1 mol AlBr<sub>3</sub></i>

Answer: *494.40 g AlBr<sub>3</sub>*