Name:_____ Date:_____

Mole Ratio

Adjusting the coefficients of a chemical equation means that you are either using more or less reactants, or you are aiming to create more or less product. Whichever the goal, you can determine the new coefficients by writing a ratio using the number of moles of each substance. This must begin with a balanced chemical equation.

1) How many moles of zinc will be needed to completely react with 0.8 moles of HCl?

$$Zn + 2HCl \rightarrow ZnCl_2 + H_2$$

2) How many moles of oxygen will be produced from the decomposition of 3 moles of $KClO_3$?

$$2KClO_3 \rightarrow 2KCl + 3O_2$$

3) How many moles of oxygen will be needed to completely react 4 moles of CH_4?

$$CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$$

4) How many moles of hydrogen will be needed to react with 2 moles of nitrogen?

$$N_2 + 3H_2 \rightarrow 2NH_3$$

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