

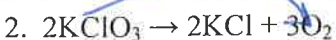
Name: Key

Stoichiometry: Mole-Mole Problems



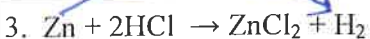
How many moles of hydrogen are needed to completely react with 2.00 moles of nitrogen?

$$\frac{2.0 \text{ mol } N_2}{1 \text{ mol } N_2} \times \frac{3 \text{ mol } H_2}{1 \text{ mol } N_2} = \boxed{6 \text{ mol } H_2}$$



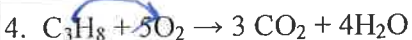
How many moles of oxygen are produced by the decomposition of 6.00 moles of potassium chlorate?

$$\frac{6 \text{ mol } KClO_3}{2 \text{ mol } KClO_3} \times \frac{3 \text{ mol } O_2}{1 \text{ mol } KClO_3} = \boxed{9 \text{ mol } O_2}$$



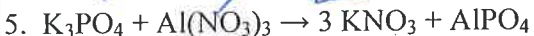
How many moles of hydrogen are produced from the reaction of 3.00 moles of zinc with an excess of hydrochloric acid?

$$\frac{3 \text{ mol } Zn}{1 \text{ mol } Zn} \times \frac{1 \text{ mol } H_2}{1 \text{ mol } Zn} = \boxed{3 \text{ mol } H_2}$$



How many moles of oxygen are necessary to react completely with 4.00 moles of propane (C_3H_8)?

$$\frac{4 \text{ mol } C_3H_8}{1 \text{ mol } C_3H_8} \times \frac{5 \text{ mol } O_2}{1 \text{ mol } C_3H_8} = \boxed{20 \text{ mol } O_2}$$



How many moles of potassium nitrate are produced when 2.00 moles of potassium phosphate react with 2.00 moles of aluminum nitrate? (2 problems, determine for each reactant)

$$\frac{2 \text{ mol } K_3PO_4}{1 \text{ mol } K_3PO_4} \times \frac{3 \text{ mol } KNO_3}{1 \text{ mol } K_3PO_4} = \boxed{6 \text{ mol } KNO_3}$$
$$\frac{2 \text{ mol } Al(NO_3)_3}{1 \text{ mol } Al(NO_3)_3} \times \frac{3 \text{ mol } KNO_3}{1 \text{ mol } Al(NO_3)_3} = \boxed{6 \text{ mol } KNO_3}$$