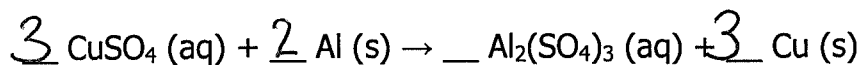


Stoichiometry Exam Review Stations
Chemistry GT 2014

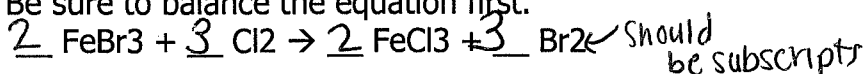
Name key

1. In the reaction that follows, how many moles of Cu will be produced from 5 moles of Al? Be sure to balance the equation first.



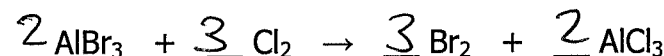
$$\frac{5 \text{ mol Al}}{1} \left(\frac{3 \text{ mol Cu}}{2 \text{ mol Al}} \right) = 7.5 \text{ mol Cu} = \boxed{8 \text{ mol Cu}}$$

2. According to the reaction below, how many moles of FeCl₃ will be produced from 6 moles of Cl₂? Be sure to balance the equation first.



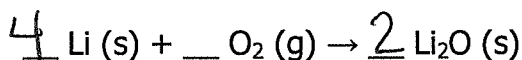
$$\frac{6 \text{ mol Cl}_2}{1} \left(\frac{2 \text{ mol FeCl}_3}{3 \text{ mol Cl}_2} \right) = \boxed{4 \text{ mol FeCl}_3}$$

3. In the *unbalanced* reaction that follows, how many grams of aluminum chloride will be produced from 92 L of chlorine gas? Be sure to balance the equation first.



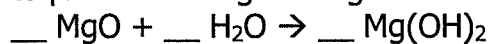
$$\frac{92 \text{ L Cl}_2}{1} \left(\frac{1 \text{ mol Cl}_2}{22.4 \text{ L Cl}_2} \right) \left(\frac{2 \text{ mol AlCl}_3}{3 \text{ mol Cl}_2} \right) \left(\frac{133.33 \text{ g AlCl}_3}{1 \text{ mol AlCl}_3} \right) =$$

4. In the reaction that follows, what volume of oxygen is needed to combine with 87 g of lithium? Be sure to balance the equation first.



$$\frac{87 \text{ g Li}}{1} \left(\frac{1 \text{ mol Li}}{6.94 \text{ g Li}} \right) \left(\frac{1 \text{ mol O}_2}{4 \text{ mol Li}} \right) \left(\frac{22.4 \text{ L O}_2}{1 \text{ mol O}_2} \right) = \boxed{70. \text{ L O}_2}$$

5. According to the reaction below, how many grams of magnesium oxide are needed to produce 264 g of magnesium hydroxide?



$$\frac{264 \text{ g Mg}(\text{OH})_2}{1} \left(\frac{1 \text{ mol Mg}(\text{OH})_2}{58.33 \text{ g Mg}(\text{OH})_2} \right) \left(\frac{1 \text{ mol MgO}}{1 \text{ mol Mg}(\text{OH})_2} \right) \left(\frac{40.31 \text{ g MgO}}{1 \text{ mol MgO}} \right) = \boxed{182 \text{ g MgO}}$$