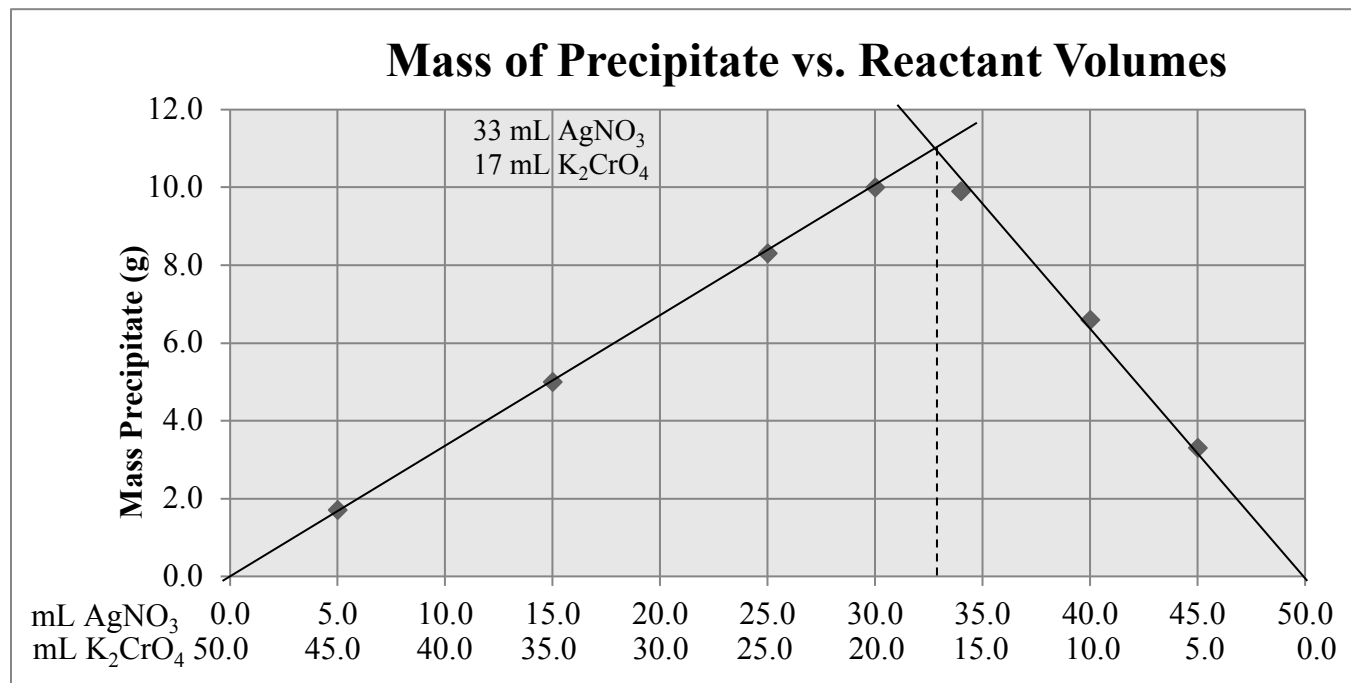


Finding the Ratio of Moles of Reactants in a Chemical Reaction
Prelab Answer Key

1.



c. The optimum ratio is 33 mL AgNO₃ : 17 mL K₂CrO₄, or 1.94 AgNO₃ : 1 K₂CrO₄

- Yes, there is enough data to make a conclusion because there are at least 3 points on each side of the maximum, defining a good straight line on each side.
- Since the concentrations of the reactants are equal, the same volume of each reactant contains the same number of moles. Since the number of moles is thus directly proportional to the volume, the ratio of the volumes must give the ratio of the moles.
- $2 \text{ AgNO}_3 (\text{aq}) + \text{K}_2\text{CrO}_4 (\text{aq}) \rightarrow \text{Ag}_2\text{CrO}_4 (\text{s}) + 2 \text{ KNO}_3 (\text{aq})$

5. This analysis shows $\% \text{Error} = \frac{|1.94 - 2.00|}{2.00} \times 100\% = 3\%$ (yours may vary).