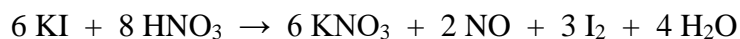

Workshop 12 – Stoichiometry II

Show calculation setups and answers for all problems below.

1. Consider the balanced chemical equation to solve the following problems:



- (a) If 26.0 g of KI are reacted, how many grams of I₂ will be formed?

- (b) What volume of NO gas, measured at STP, will be produced if 39.0 g of HNO₃ are reacted?

- (c) How many milliliters of 6.00 M HNO₃ will react with 26.0 g of KI?

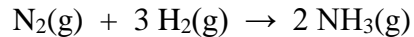
- (d) When the reaction produces 0.500 g of NO, how many molecules of I₂ will be produced?

- (e) How many grams of iodine can be obtained by reacting 25.0 mL of 0.350 M KI solution?

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2. Consider the Haber Process for the synthesis of ammonia shown below. Use the given equation to solve the following problems:



- (a) If 4.0 g of H_2 react, how many grams of NH_3 will be formed?

- (b) When 3.25 mol of N_2 react, what volume of NH_3 , measured at STP, will be formed?

- (c) What volume of NH_3 will be formed when 16.0 L of H_2 are reacted at STP?

- (d) How many molecules of NH_3 will be formed when 20.0 L of N_2 react at STP?

- (e) What volume of NH_3 , measured at 35 °C and 720. torr, will be produced from 12.0 g of H_2 ?

- (f) If a mixture of 14.0 L of N_2 and 24.0 L of H_2 are reacted, what volume of NH_3 can be produced at STP?
