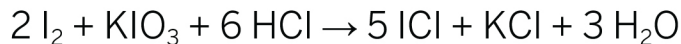


Name : _____ Date : _____

STOICHIOMETRY PRACTICE WORKSHEET

1. Using the following equation:



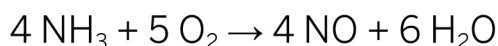
Calculate how many grams of iodine are needed to prepare 28.6 grams of ICl by this reaction.

2. Using the following equation:



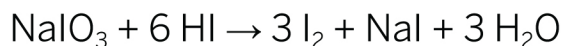
How many moles and grams of KMnO_4 are needed for this reaction on 11.4 grams of KNO_2 ?

3. Using the following equation:



How many moles and grams of oxygen (O_2) are needed to react with 56.8 grams of ammonia by this reaction?

4. Using the following equation:

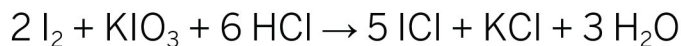


Calculate the number of moles and the number of grams of iodine (I_2) that can be made this way from 16.4 grams of NaIO_3 .

STOICHIOMETRY PRACTICE WORKSHEET

Answers

1. Using the following equation:



Calculate how many grams of iodine are needed to prepare 28.6 grams of ICl by this reaction.

$$28.6 \text{ g ICl} \times (1 \text{ mol ICl}/162.35 \text{ g ICl}) \times (2 \text{ mol I}_2/5 \text{ mol ICl}) \times (253.8 \text{ g I}_2/ 1 \text{ mol I}_2) = 17.88 \text{ g I}_2$$

2. Using the following equation:

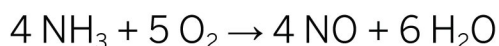


How many moles and grams of KMnO_4 are needed for this reaction on 11.4 grams of KNO_2 ?

$$11.4 \text{ g KNO}_2 \times (1 \text{ mol KNO}_2/85.1 \text{ g KNO}_2) \times (2 \text{ mol KMnO}_4/ 5 \text{ mol KNO}_2) = 0.054 \text{ mol KMnO}_4$$

$$0.054 \text{ mol KMnO}_4 \times (158 \text{ g KMnO}_4/1 \text{ mol KMnO}_4) = 8.46 \text{ g KMnO}_4$$

3. Using the following equation:

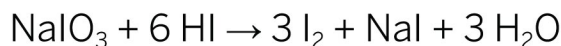


How many moles and grams of oxygen (O_2) are needed to react with 56.8 grams of ammonia by this reaction?

$$56.8 \text{ g NH}_3 \times (1 \text{ mol NH}_3/17 \text{ g NH}_3) \times (5 \text{ mol O}_2/4 \text{ mol NH}_3) = 4.18 \text{ mol O}_2$$

$$4.18 \text{ mol O}_2 \times (32 \text{ g O}_2/1 \text{ mol O}_2) = 133.6 \text{ g O}_2$$

4. Using the following equation:



Calculate the number of moles and the number of grams of iodine (I_2) that can be made this way from 16.4 grams of NaIO_3 .

$$16.4 \text{ g NaIO}_3 \times (1 \text{ mol NaIO}_3/197.9 \text{ g NaIO}_3) \times (3 \text{ mol I}_2/ 1 \text{ mol NaIO}_3) = 0.249 \text{ mol I}_2$$

$$0.249 \text{ mol I}_2 \times (253.8 \text{ g I}_2/1 \text{ mol I}_2) = 63.1 \text{ g I}_2$$