Name: _____ Date: _____ Period: _____

Stoichiometry Mole to Mole Practice

Directions: Use the equations below to answer the following mole to mole questions. You MUST show your work with units and chemical formulas to receive full credit.

$2\ NaClO_3 \rightarrow 2\ NaCl + 3\ O_2$

1. If you have 4.50 moles of $NaClO_3$ how many moles of O_2 will you produce?

2. If you produced 3.45 moles NaCl how many moles of $NaClO_3$ did you decompose?

3. How many moles of oxygen are produced with 21.2 moles of $NaClO_3$ is decomposed?

$2\ C_4H_{10} + 13\ O_2 \rightarrow 8\ CO_2 + 10\ H_2O$

4. You have 3.45 moles of C_4H_{10} how many moles of carbon dioxide will you produce?

5. You have 3.45 moles of C_4H_{10} how many moles of water will you produce?

6. If you produced 25.25 mol of carbon dioxide how many moles of oxygen you use?

7. How many moles of water are produced when 12.28 moles of C_4H_{10} is consumed with excess oxygen?

$2\ KClO_3$ ---> $2\ KCl + 3\ O_2$

8. How many moles of $KClO_3$ are decomposed if you produce 16.25 moles of oxygen?

9. How many moles of KCl are produced with 16.25 moles of oxygen?

10. How many moles of $KClO_3$ are decomposed if you produce 6.95 moles of KCl?

$4\ NH_{3\ (g)} + 5\ O_{2\ (g)}$ ---> $4\ NO_{\ (g)} + 6\ H_2O_{\ (l)}$

11. If you react 9.25 mol of ammonia (NH_3) with excess oxygen how many moles of water are produced?

12. If you react 4.78 mol of oxygen with excess ammonia (NH_3) how many moles of NO are produced?

13. You produce 28.14 moles of water how many moles of ammonia did you consume?

14. 12.39 moles of oxygen are consumed to produce how many moles of water?

Final answers rounded to the correct number of significant figures.

1. 6.75 mol O_2	2. 3.45 mol NaCl	3. 31.8 mol O_2	4. 13.8 mol CO_2	5. 17.3 mol H_2O
6. 41.0 mol O_2	7. 61.4 mol H_2O	8. 10.8 mol $KClO_3$	9. 10.8 mol KCl	10. 6.95 mol $KClO_3$
11. 13.9 mol H_2O	12. 3.82 mol H_2O	13. 18.76 mol NH_3	14. 14.87 mol H_2O	