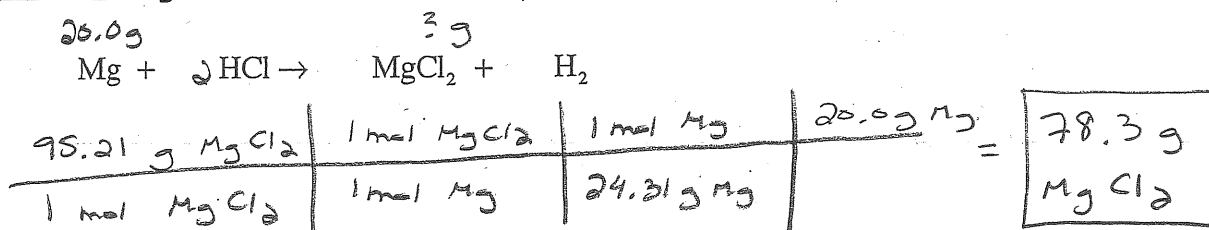


Name \_\_\_\_\_ Date \_\_\_\_\_

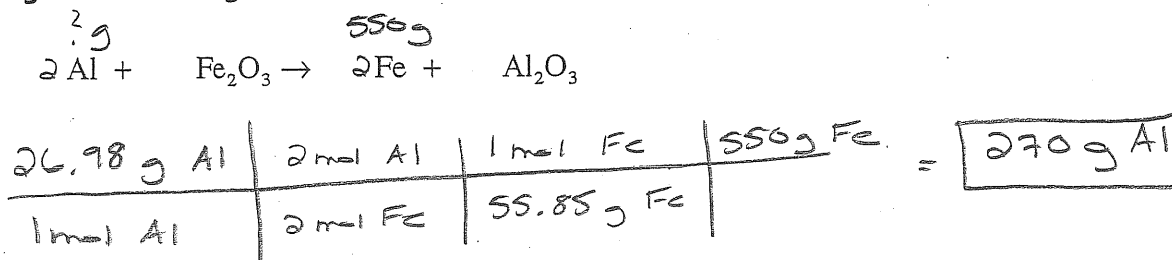
### Mass-to-Mass Stoichiometry Worksheet #1

In the following problems, calculate how much of the indicated product is made. Show all of your work.

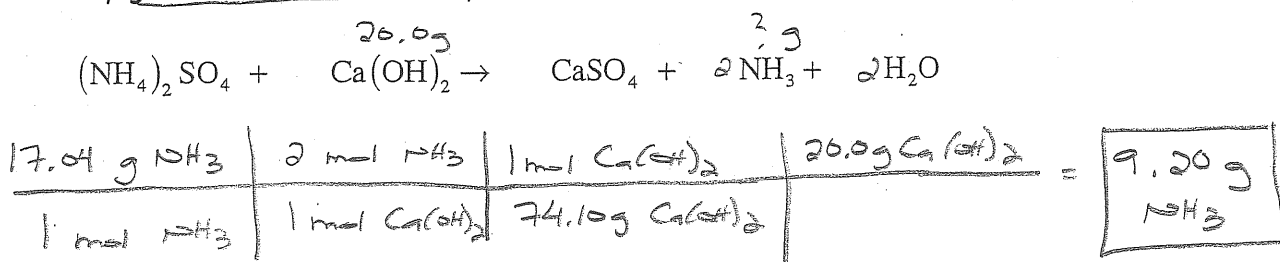
1) If 20.0 g of magnesium react with excess hydrochloric acid, how many grams of magnesium chloride will be produced?



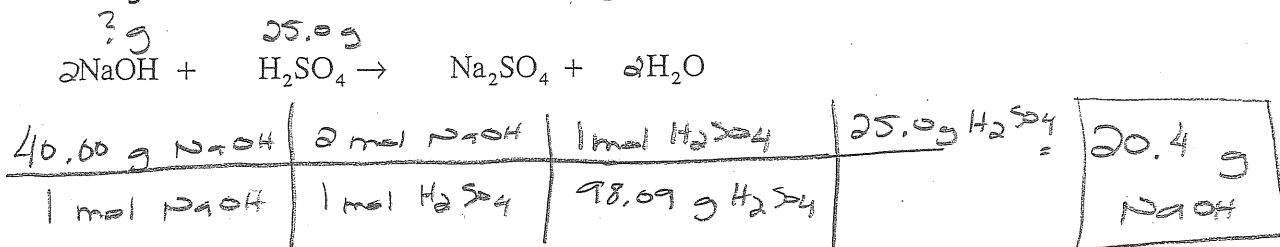
2) How many grams of aluminum would be required to produce 550 g Fe using the following reaction?



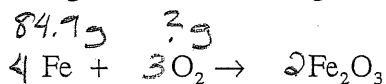
3) If excess ammonium sulfate reacts with 20.0 g of calcium hydroxide, how many grams of ammonia are produced?



4) How many grams of sodium hydroxide are needed to completely react with 25.0 g of sulfuric acid in the following reaction?

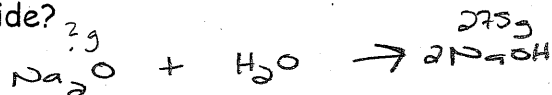


5) What mass of oxygen is needed to completely react with 84.9 g of Fe according to the following reaction?



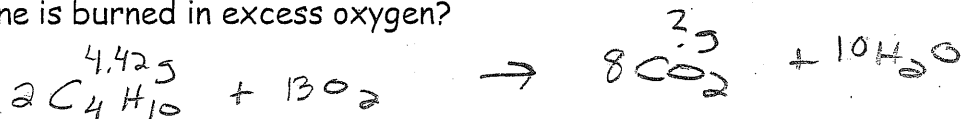
$32.00 \text{ g O}_2$	$3 \text{ mol O}_2$	$1 \text{ mol Fe}$	$84.9 \text{ g Fe}$	= <span style="border: 1px solid black; padding: 2px;"><math>36.5 \text{ g O}_2</math></span>
$1 \text{ mol O}_2$	$4 \text{ mol Fe}$	$55.85 \text{ g Fe}$		

6) Sodium oxide reacts with water to produce sodium hydroxide. What mass of sodium oxide must be used to produce 275 grams of sodium hydroxide?



$61.98 \text{ g Na}_2\text{O}$	$1 \text{ mol Na}_2\text{O}$	$1 \text{ mol NaOH}$	$275 \text{ g NaOH}$	= <span style="border: 1px solid black; padding: 2px;"><math>213 \text{ g Na}_2\text{O}</math></span>
$1 \text{ mol Na}_2\text{O}$	$2 \text{ mol NaOH}$	$40.00 \text{ g NaOH}$		

7) When butane,  $\text{C}_4\text{H}_{10}$ , burns in oxygen, the products are carbon dioxide and water. What mass of carbon dioxide will be produced when 4.42 g of butane is burned in excess oxygen?



$44.01 \text{ g CO}_2$	$8 \text{ mol CO}_2$	$1 \text{ mol C}_4\text{H}_{10}$	$4.42 \text{ g C}_4\text{H}_{10}$	= <span style="border: 1px solid black; padding: 2px;"><math>13.4 \text{ g CO}_2</math></span>
$1 \text{ mol CO}_2$	$2 \text{ mol C}_4\text{H}_{10}$	$58.14 \text{ g C}_4\text{H}_{10}$		