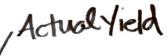
REAL STOICHIOMETRY QUIZ REVIEW

PERFORM THE FOLLOWING LIMITING REACTANT PROBLEMS:

1. If 25.3 g of aluminum reacts with 25.3 g of copper(II) sulfate, how many grams of copper are formed? Identify the limiting and excess reactants in this single

replacement reaction.
2 Al + 3 CuSO ₄ \rightarrow 3 Cu + Al ₂ (SO ₄) ₃ 25.39 25.39
25.3gAI ImolAI 3molCy 63.55gCy = 89.4gCy CySOy is the Limiting Reaction 25.3gCuSOy 1molCuSOy 3molCy 63.55gCy = 10.1gCy Alisthe excess
25.3gCusau ImolCusau 3molCusau 163.55gCu = 10.1gCu Alistho excess
Theoretical yield = 10.19C4
a) What is the limiting reactant in the reaction? The reactant in excess? CuSOu is LR, Al is in excess
is LR, is in excess
 If 24.5 g of iron are placed in 1.00 L of 0.25M HCl, how many grams of FeCl₂ are obtained? Identify the limiting and excess reactants in this single replacement reaction. Fe + 2 HCl → FeCl₂ + H₂ 24.53 0.25M
1 24.5gFe molFe 2molFeCk 126.75gFck = 55.6g FeCl2 55.85gFe 1molFeCl2 molFeCl2
2 1.00 L HCI 0.25 moith CI I molfellz 126.75g Felly = 15.8g Felly 1 L HCI 2 moith CI I molfelly = 15.8g Felly
Theoretical yield = 15.8g FeCt
What is the limiting reactant in the reaction? The reactant in excess?
HCI is LR, Fe is in excess

PERFORM THE FOLLOWING PERCENT YIELD CALCULATIONS: / Actual Yield



3. If 12.5 g of copper react with excess chlorine gas, then 25.4 g of copper(II) chloride are produced. Find the theoretical and percent yields.

$$Cu + Cl_2 \rightarrow CuCl_2$$

$$12.5e$$

$$?9$$

4. If 6.57 g of iron react with an excess of hydrochloric acid, HCl, then 11.2 g of iron(II) chloride are obtained in addition to hydrogen gas. Find the theoretical and percent yields.

5. If 5.45 g of potassium chlorate are decomposed to form potassium chloride, 1.75 g of oxygen gas are also given off. Find the theoretical and percent yields.