WS 4.4 STOICHIOMETRY part 2

Show all work using dimensional analysis!

1. **3 cups flour + 1 egg ---> 1 loaf bread**

a) If you have 12 cups of flour and 3 eggs, how many loaves of bread can you make?

Ans: _____

b) Which ingredient do you run out of first (limiting reactant)? Ans: _____

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2. **$2\ Al + 6\ HCl \longrightarrow 3\ H_2 + 2\ AlCl_3$**

a) If you start with 205 g of aluminum and 75.6 g of HCl, how many grams of H_2 can be made?

Ans _____

b) What is the limiting reagent? ..... Ans _____

c) Suppose you only made 1.98 g of H_2. What is your % yield?

Ans _____

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3. **$2\ Fe_2S_3 + 3\ C \longrightarrow 4\ Fe + 3\ CS_2$**

a) How many grams of iron can be made from 119 g of Fe_2S_3 and 12.7 g C?

Ans _____

b) What is the limiting reagent? ..... Ans _____

c) After the above reaction, you produce 35.6 g of Fe. What is your % yield?

Ans _____

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4. **$6\ CO_2 + 6\ H_2O \longrightarrow C_6H_{12}O_6 + 6\ O_2$**

a) How many grams of sugar can be made from 50.0 g of CO_2 and 50.0 g of water?

Ans _____

b) What is the limiting reagent? ..... Ans _____

c) What is the excess reagent? ..... Ans _____

BONUS How many grams of the excess reagent are leftover?

(hint- you'll need to use stoichiometry to solve this!)

Ans _____

Ans (IRO+2): *numerical ans's only...* 2.07 3 4 34.1 55.6 64.0 75.2 95.7

Units (IRO): g g g % % loaves