Limiting Reagent/Reactant and INXS Problems

We are going to bake a cake--the recipe is as follows:

2 eggs + 1 c of flour → 1 cake

I looked in my fridge and found 4 eggs and I looked in my cupboard and found 6 cups of flour.

What is the maximum number of cakes can I bake?

Answer: _____

Which ingredient is **limiting** or stopping us from making more cakes? _____

Which ingredient is "**in excess**" i.e. which one is there too much of? _____

How much of the **INXS** ingredient was used to make the cakes?

How much of the **INXS** ingredient was **left over**?

A **BCE** is a recipe involving a **ratio of moles**.

$$\mathbf{2\ Mg(s) \quad + \quad O_2(g) \quad \rightarrow \quad 2\ MgO(s)}$$

2 mole of Mg atoms will react with _____

_____

15.00 g of magnesium reacts with 15.00 g of oxygen.

What maximum mass of magnesium oxide will form?

Answer: _____

Which reactant (reagent) is limiting the mass of magnesium oxide that forms? _____

Which reactant (reagent) is in excess (or is there too much of)? _____

How much of the INXS reagent was used (reacted) to make the magnesium oxide?

How much of the INXS reagent was left over at the end of the reaction?

5.00 g of aluminum reacts with 5.00 g of copper (II) sulfate according to the following reaction:

$$\mathbf{2\ Al + 3\ CuSO_4 \rightarrow Al_2(SO_4)_3 + 3\ Cu}$$

1) What is the maximum number of grams of copper can form? _____

2) What is the limiting reagent? _____

3) What is the reactant that is in excess? _____

4) How many grams of the excess reagent is left over? _____