## Mass - Mass Problems 2

Name:
Using the given mass, figure out the masses of the remaining products and reactants in the following chemical equations. Be sure the equations are balanced before you attempt the problem. Show your work to receive credit!

Use the following equation for problems 1-3:

$$
\mathrm{Mg}+\quad \mathrm{HCl} \longrightarrow \quad \mathrm{MgCl}_{2}+\quad \mathrm{H}_{2}
$$

1. How many grams of magnesium are needed to produce 100.0 g of hydrogen gas?
2. How many grams of hydrogen chloride are needed to produce 200.0 g of hydrogen gas?
3. If 500.0 g of magnesium chloride is produced, how many grams if hydrogen gas would be produced?

Use the following equation for problems 4-6:

$$
\mathrm{P}_{4}+\quad \mathrm{O}_{2} \longrightarrow \quad \mathrm{P}_{4} \mathrm{O}_{10}
$$

4. How many grams of $\mathrm{P}_{4} \mathrm{O}_{10}$ are produced if you burn 50.0 g of phosphorus, assuming sufficient oxygen?
5. How many grams of oxygen are needed to burn 50.0 g of phosphorus?
6. If 400.0 g of $\mathrm{P}_{4} \mathrm{O}_{10}$ is produced, how much phosphorus had to have been burned?
