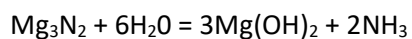


Answer on the Question #81648 – Chemistry – General Chemistry

At first, let's make equation of reaction:



$$m(\text{H}_2\text{O}) = 5.93\text{g}, m(\text{Mg}(\text{OH})_2) = 6.53\text{g};$$

We don't have accurate question, so let's find mass of Mg_3N_2 and NH_3 :

$$1) n(\text{Mg}(\text{OH})_2) = 6.53/58 \sim 0.113\text{moles};$$

So, 1 mole (Mg_3N_2) = 3 moles ($\text{Mg}(\text{OH})_2$), so, $n(\text{Mg}_3\text{N}_2) = 0.113/3 = 0.038\text{mol}$;

$$m(\text{Mg}_3\text{N}_2) = 0.038 * 100 = 3.8\text{g};$$

2) As I make higher, find $m(\text{NH}_3)$:

$$n(\text{H}_2\text{O}) = 5.93/18 = 0.33 \text{ mol};$$

From fraction $6 / 2$ or $3 / 1$, $n(\text{NH}_3) = 0.11\text{mol}$ and $m(\text{NH}_3) = 0.11 * 17 = 1.87\text{g}$.

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