Answer on Question#59326 - Chemistry - Inorganic Chemistry

Question: If you could explain how to do this that'd be great! :

"determine the mass of LiOH produced when 0.38g of Li_3N reacts with H_2O according to the equation : $Li_3N + 3H_2O \rightarrow NH_3 + 3LiOH$"

Solution:

Determine the number of Li_3N (mol), which came in response:

$n = \frac{m}{M} = \frac{0.38}{35} = 0.0109$ mol

For reaction equation $n(LiOH) = 3 \bullet n(Li_3N) = 3 \bullet 0.0109 = 0.0327$ mol

We find the mass of lithium hydroxide, formed during the reaction:

$m = n \bullet M$(molar mass of LiOH) $= 0.0327 \bullet 24 = 0.78$g

Answer: 0.78 g