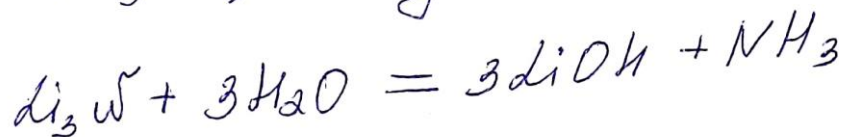


How many grams of lithium hydroxide will be produced if 0.38 grams of lithium nitride reacts according to the following equation: $\text{Li}_3\text{N} + 3\text{H}_2\text{O} = 3\text{LiOH} + \text{NH}_3$.

Solution:

$$m(\text{LiOH}) = ?$$

$$m(\text{Li}_3\text{N}) = 0.38 \text{ g}$$



$$n(\text{Li}_3\text{N}) = \frac{0.38 \text{ g}}{34.83 \text{ g/moles}} = 0.0109 \text{ moles}$$

$$\text{then, } n(\text{LiOH}) = 3 \times 0.0109 \text{ moles} = 0.0327 \text{ moles}$$

$$m(\text{LiOH}) = 0.0327 \text{ moles} \times 23.95 \text{ g/moles} = 0.7832 \text{ g} \sim 0.78 \text{ g}$$

$$\text{Answer: } m(\text{LiOH}) = 0.78 \text{ g}$$