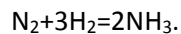


Ammonia is produced synthetically by the reaction below. How many moles of NH_3 are formed when 200.0g of N_2 reacts with hydrogen?

Solution:

Ammonia is produced by the reaction:



Based on this reaction, of 1 mole N_2 create 2 moles NH_3 .

We'll determine how many moles are in 200.0 g of N_2 :

$$v(\text{N}_2) = m(\text{N}_2)/M(\text{N}_2) = 200.0/28.0 = 7.14 \text{ mole.}$$

Consequently, from 7.14 moles N_2 formed $2 \cdot 7.14 = 14.28$ moles of NH_3 .

Answer:

Quantity moles of NH_3 are 14.28.