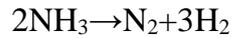


It is possible to find concentration of all components (c) during some time of reaction from given data:



$$k = 2.5 \times 10^{-4} \text{ mol/min}$$

$$[\text{NH}_3]_0 = 0.05 \text{ mol}$$

$$k = \frac{[\text{N}_2][\text{H}_2]^3}{[\text{NH}_3]^2}$$

When in the beginning of reaction you have only NH_3 , concentration of N_2 is equal to concentration of 3H_2 .

$$k = \frac{[c][3c]^3}{[\text{NH}_3 - 2c]^2}$$

If time is X min, the concentrations are:

$$2.5 \times 10^{-4} X = \frac{[c][3c]^3}{[0.05 - 2c]^2}$$

$$2.5 \times 10^{-4} X = \frac{27c^2}{(0.0025 - 0.2c + 4c^2)}$$

$$0.000000625X - 0.00005Xc + 0.001c^2 - 27c^2 = 0$$

So if you know time X you can solve this equation and find concentrations.