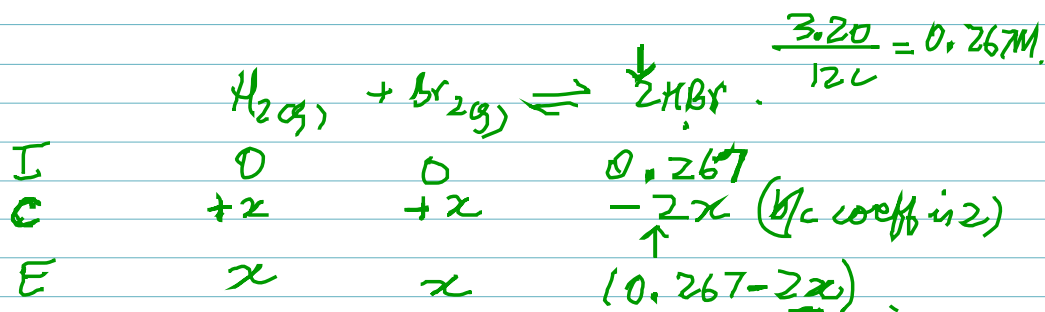


Sample 1 -

Eq. 6) Equilibrium Calculation (ICE) ②

✱ The reaction  $\text{H}_2(\text{g}) + \text{Br}_2(\text{g}) \rightleftharpoons 2\text{HBr}$  has a  $K_c$  of  $2.18 \times 10^6$  at  $730^\circ\text{C}$ . Calculate the conc. of  $\text{H}_2$ ,  $\text{Br}_2$  and  $\text{HBr}$  if starting conc. of  $\text{HBr}$  is 3.20 mol in a 12.0L container.

Ans.

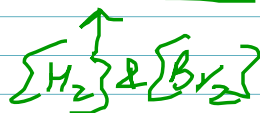
$$K_c = \frac{[\text{HBr}]^2}{[\text{H}_2][\text{Br}_2]} = \frac{(0.267 - 2x)^2}{(x)(x)}$$

$$2.18 \times 10^6 = \frac{(0.267 - 2x)^2}{x^2}$$

✓ everything above.

$$1.48 \times 10^3 = \frac{0.267 - 2x}{x}$$

$$x = \boxed{1.80 \times 10^{-4}}$$



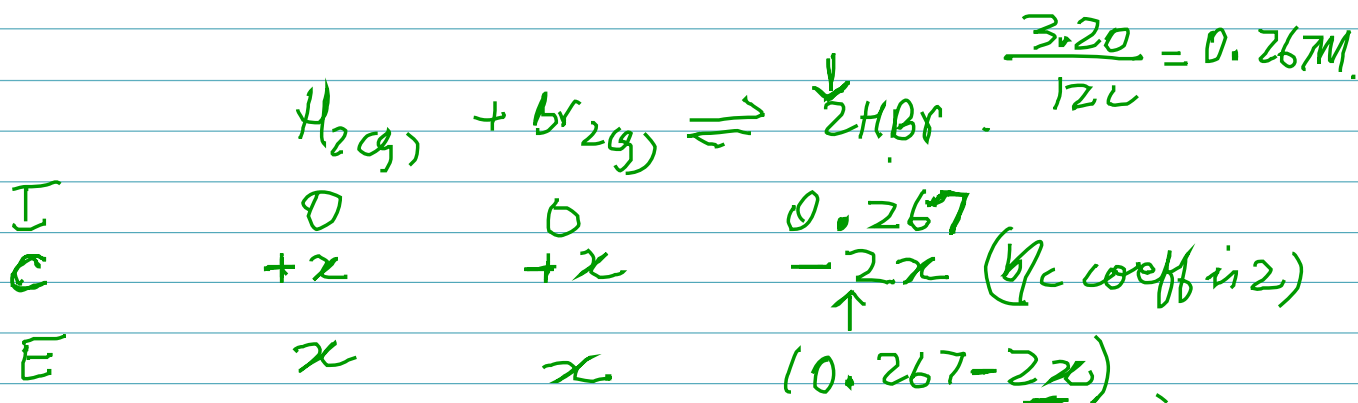
\* coeff!! ✱ 2x

Saprosyfa ..

## Eq. 6) Equilibrium Calculation (ICE) ②

\* The reaction  $\text{H}_2(\text{g}) + \text{Br}_2(\text{g}) \rightleftharpoons 2\text{HBr}$  has a  $K_c$  of  $2.18 \times 10^6$  at  $730^\circ\text{C}$ . Calculate the conc. of  $\text{H}_2$ ,  $\text{Br}_2$  and  $\text{HBr}$  if starting conc. of  $\text{HBr}$  is 3.20 mol in a 12.0L container.

Ans.



$$K_c = \frac{[\text{HBr}]^2}{[\text{H}_2][\text{Br}_2]} = \frac{(0.267 - 2x)^2}{(x)(x)}$$
$$2.18 \times 10^6 = \frac{(0.267 - 2x)^2}{x^2}$$

✓ everything above.

$$1.48 \times 10^3 = \frac{0.267 - 2x}{x}$$

$$x = \boxed{1.80 \times 10^{-4}}$$

↑  
 $[\text{H}_2]$  &  $[\text{Br}_2]$

\* coeff!! ~~x~~ 2x