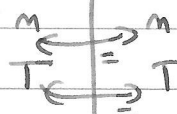


$$pV = nRT \quad | \quad \frac{m^3}{1000} = \frac{dm^3}{1000} = \frac{cm^3}{1000}$$

G8) $V_{\text{gaz}} = 20 \text{ ml} = 0,0002 \text{ m}^3$ | $? V_{\text{gaz}} = \frac{nRT}{p}$
 $p = 100 + 10 = 110 \text{ kPa} = 110000 \text{ Pa}$ | $p = 100 \text{ kPa} = 100000 \text{ Pa}$



2 inconnues
choix de l'une calcul de l'autre

$T = 298 \text{ K}$
 $n = \frac{pV}{RT} = \frac{110000 \cdot 0,0002}{8,31 \cdot 298}$
 $= 0,00089 \text{ mol}$

$T = 298 \text{ K}$
 $n = 0,089 \text{ mol}$
 $V_{\text{gaz}} = \frac{nRT}{p} = \frac{0,00089 \cdot 8,31 \cdot 298}{100000}$
 $= 0,00022 \text{ m}^3 = 22 \text{ ml}$

V: augmentation de 10%
car p diminue de 10%

G9) $V_{\text{gaz}} = 2 \text{ L} = 0,002 \text{ m}^3$
 $\theta = 20^\circ \text{C} \quad T = 20 + 273 = 293 \text{ K}$
 $p = 1011 \text{ hPa} = 101100 \text{ Pa}$
 $n = \frac{pV}{RT} = \frac{101100 \cdot 0,002}{8,31 \cdot 293}$
 $= 0,083 \text{ mol}$

$\theta = 50^\circ \text{C} \quad T = 50 + 273 = 323 \text{ K}$
 $? V = \frac{nRT}{p} = \frac{0,083 \cdot 8,31 \cdot 323}{101100}$
 $= 0,0022 \text{ m}^3$
 $= 2,2 \text{ L}$

V: augmentation de 10%
car T augmente de 10% en KELVIN
 $\frac{293 + 10}{100} = 323 \text{ K}$

$T = 293 \text{ K}$
 $? p = \frac{nRT}{V} = \frac{0,083 \cdot 8,31 \cdot 293}{0,0022}$
 $= 91859 \text{ Pa}$

$n = 0,083 \text{ mol}$
 p: diminution de 10%
 $(\frac{91859}{101100} \times 100 = 90\%)$
 pour que V augmente de 10%

$T = 293 \text{ K}$
 $p = 101100 \text{ Pa}$
 $? n = \frac{pV}{RT} = \frac{101100 \cdot 0,0022}{8,31 \cdot 293} = 0,091 \text{ mol}$

n: augmentation de 10%
 pour que V augmente de 10%
 $\frac{0,091}{0,083} = 101\%$