

Ex. livre DeBeck chimie 3^e/4^e chap 2 p 23 Concentration massique d'un sol.

1) m? $V_s = 200 \text{ mL} = 0,2 \text{ L}$

$\gamma = 12 \text{ g/L}$

$\downarrow \times V_s = 0,2 \text{ L}$

$m = 2,4 \text{ g}$

$m \left\{ \begin{array}{l} V_s \\ \gamma \end{array} \right.$

2) ? γ $V_s = 10 \text{ mL} = 0,01 \text{ L}$

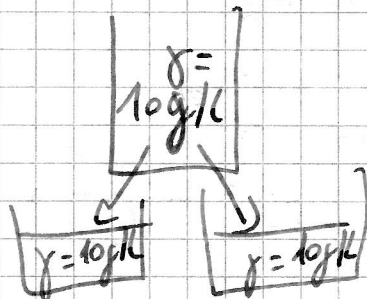
$m = 1 \text{ g}$

$\downarrow / V_s = 0,01 \text{ L}$

$\gamma = 100 \text{ g/L}$

$m \left\{ \begin{array}{l} V_s \\ \gamma \end{array} \right.$

3) ? γ_1 et γ_2



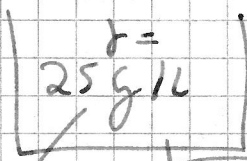
$V_s \searrow$ divisé en 2

$m \searrow$ divisé en 2

γ la m $\gamma = \frac{m}{V_s} \begin{matrix} :1 \\ :2 \end{matrix}$ reste la m

4) $V_s = 1 \text{ L}$

$\gamma = 25 \text{ g/L}$



m partout

$V_s \searrow$ m \searrow mais conc la m

5) a) $V_s = 200 \text{ mL}$ $m = 6 \text{ g}$

$\gamma = \frac{6}{0,2} = 30 \text{ g/L}$

si c = 1 g b) $V_s = 20 \text{ mL}$ $m = 5 \text{ g}$

$\gamma = \frac{5}{0,02} = 250 \text{ g/L}$

c) $V_s = 100 \text{ mL}$ $m = 4 \text{ g}$

$\gamma = \frac{4}{0,1} = 40 \text{ g/L}$

d) $V_s = 50 \text{ mL}$ $m = 3 \text{ g}$

$\gamma = \frac{3}{0,05} = 60 \text{ g/L}$

e) $V_s = 50 \text{ mL}$ $m = 2 \text{ g}$

$\gamma = \frac{2}{0,05} = 40 \text{ g/L}$

la + concentrée : γ let grand **d** m concentration **c** = **e**

ordre décroissant $d > c = e > a > b$

	$m(g)$	$V_s(L)$	$\gamma = \frac{m}{V_s} (g/L)$
A	0,25	0,02	$\frac{0,25}{0,02} = 12,5 g/L$
B	1	0,1	$\frac{1}{0,1} = 10 g/L$
C	3	0,25	$\frac{3}{0,25} = 12 g/L$
D	1,2	0,15	$\frac{1,2}{0,15} = 8 g/L$

la-cobree = la-concentree $D < B < C < A$

7 $V_{eau} = 150 mL = 0,15 L$
 $V_{si} = 50 mL = 0,05 L$ } $V_{sf} = V_{si} + V_{eau} = 0,2 L$
 $\gamma_i = 9 g/L$

Résolution formule $m_i = m_f$
 $\gamma_i V_{si} = \gamma_f V_{sf}$

$\gamma_f = \frac{\gamma_i V_{si}}{V_{sf}} = \frac{9 \cdot 0,05}{0,2} = 2,25 g/L$

Résolution logique

$V_{si} = 50 mL$ $V_{eau} = 150 mL$ $V_{sf} = 200 mL$
 volume $\times 4$: dilution par 4

$\gamma_i = 9 g/L$ / 4 $\gamma_f = 2,25 g/L$
 concentration / 4

	$m = \gamma \cdot V_s$	$V_s = \frac{m}{\gamma}$	$\gamma = \frac{m}{V_s}$
5g		2L	$\frac{5}{2} = 2,5 g/L$
40 dg = 4g		250 mL = 0,25 L	$\frac{4}{0,25} = 16 g/L$
6g		? $V_s = \frac{m}{\gamma} = \frac{6}{12} = 0,5 L$	12 g/L
3000 mg = 3g		? $V_s = \frac{m}{\gamma} = \frac{3}{4} = 0,75 L = 750 mL$	4 g/L
? $m = \gamma \cdot V_s = 8 \cdot 0,1 = 0,8 g$		100 mL = 0,1 L	8 g/L
? $m = \gamma \cdot V_s = 9 \cdot 0,6 = 5,4 g$		600 mL = 0,6 L	9 g/L

g dg cg mg
 40
 3000
 L ml
 1000
 0,250