

What we know about the solution:	$c=20\%$; $d=1025\text{ g/L}$; $M=62\text{ g/mol}$; $V=450\text{ mL}$
Calculate:	$c\text{ (g/L)}$; n
Answers:	<ul style="list-style-type: none"> $c\text{ (g/L)} = 205\text{ g/L}$ $n = 1.49\text{ mol}$

What we know about the solution:	$c=2.5\text{ M}$; $M=40\text{ g/mol}$; $d=1015\text{ g/L}$
Calculate:	$c\text{ (g/L)}$; $c\text{ (}\%\text{)}$
Answers:	<ul style="list-style-type: none"> $c\text{ (g/L)} = 100\text{ g/L}$ $c\text{ (}\%\text{)} = 9.85\%$

What we know about the solution:	$c=4\text{ M}$; $M=80\text{ g/mol}$; $m=62\text{ g solute}$
Calculate:	V ; $c\text{ (g/L)}$
Answers:	<ul style="list-style-type: none"> $V = 193.8\text{ mL}$ $c\text{ (g/L)} = 320\text{ g/L}$


What we know about the solution:	$M=40\text{ g/mol}$; $V=250\text{ mL}$; $c=2.4\text{ M}$
Calculate:	n ; m ; $c\text{ (g/L)} =$
Answers:	<ul style="list-style-type: none"> $n = 0.6\text{ mol}$ $m = 24\text{ g}$ $c\text{ (g/L)} = 96\text{ g/L}$

What we know about the solution:	$M=98\text{ g/mol}$; $V=150\text{ mL}$; $c=1.2\text{ M}$; $d=1040\text{ g/L}$
Calculate:	n ; m ; $c\text{ (g/L)}$; $c\text{ (}\%\text{)}$
Answers:	<ul style="list-style-type: none"> $n = 0.18\text{ mol}$ $m = 17.64\text{ g}$ $c\text{ (g/L)} = 117.6\text{ g/L}$ $c\text{ (}\%\text{)} = 11.3\%$

What we know about the solution:	$M=63\text{ g/mol}$; $n=3\text{ mol}$; $c\text{ (g/L)} = 15\text{ g/L}$
Calculate:	V
Answers:	<ul style="list-style-type: none"> $V = 12.6\text{ L}$

What we know about the solution:	$d = 1025\text{ g/L}$; $c\text{ (}\%\text{)} = 20.4\%$; $M = 40\text{ g/mol}$; $n = 2.5\text{ mol}$
Calculate:	$c\text{ (g/L)}$; V
Answers:	<ul style="list-style-type: none"> $c\text{ (g/L)} = 209.1\text{ g/L}$ $V = 0.478\text{ L} = 478\text{ mL}$

What we know about the solution:	$M = 98\text{ g/mol}$; $V = 200\text{ mL}$; $n = 1.2\text{ mol}$; $d = 1020\text{ g/L}$
Calculate:	$c\text{ (}\%\text{)}$
Answers:	<ul style="list-style-type: none"> $c\text{ (}\%\text{)} = 57.6\%$



n
m
V

1.49 mol
0.45 L

$$n = \frac{205 \text{ g}}{\text{L}} \times 0.45 \text{ L} \times \frac{1 \text{ mol}}{62 \text{ g}} = 1.49 \text{ mol}$$


mol/L
g/L
%

205 g/L
20%

Mm
 " 62 g/mol

d = 1025 g/L

$$c(\text{g/L}) = \frac{20 \text{ g solute}}{100 \text{ g solution}} \times \frac{1025 \text{ g solution}}{1 \text{ L solution}} = 205 \text{ g/L}$$



n
m
V

mol/L
g/L
%


2.5 M
100 g/L
9.85%

Mm
 " 40 g/mol

d = 1015 g/L

$$c(\text{g/L}) = 2.5 \frac{\text{mol}}{\text{L}} \times \frac{40 \text{ g}}{1 \text{ mol}} = 100 \text{ g/L}$$

$$c(\%) = \frac{100 \text{ g solute}}{\text{L}} \times \frac{1 \text{ L}}{1015 \text{ g solution}} \times 100 = 9.85\%$$



n
m
V

62 g
193.8 mL


$$V = 62 \text{ g} \times \frac{1 \text{ L}}{320 \text{ g}} = 0.1938 \text{ L} = 193.8 \text{ mL}$$

mol/L
g/L
%

4 M
320 g/L

Mm
= 80 g/mol

$$c(\text{g/L}) = 4 \frac{\text{mol}}{\text{L}} \times \frac{80 \text{ g}}{1 \text{ mol}} = 320 \text{ g/L}$$



n
m
V

0.6 mol
24 g
0.25 L

$$n = 2.4 \frac{\text{mol}}{\text{L}} \times 0.25 \text{ L} = 0.6 \text{ mol}$$


$$m = 0.6 \text{ mol} \times \frac{40 \text{ g}}{1 \text{ mol}} = 24 \text{ g}$$

mol/L
g/L
%

2.4 M
96 g/L

Mm
= 40 g/mol

$$c(\text{g/L}) = 2.4 \frac{\text{mol}}{\text{L}} \times \frac{40 \text{ g}}{1 \text{ mol}} = 96 \text{ g/L}$$



$n = 1.2 \frac{\text{mol}}{\text{L}} \times 0.15 \text{ L} = 0.18 \text{ mol}$

n
m
V

0.18 mol
17.64 g
0.15 L

$m = 0.18 \text{ mol} \times \frac{98 \text{ g}}{1 \text{ mol}} = 17.64 \text{ g}$

mol/L
g/L
%


Mm
||
98 g/mol

1.2 M
117.6 g/L
11.3 %

d = 1040 g/L

$c(\text{g/L}) = 1.2 \frac{\text{mol}}{\text{L}} \times \frac{98 \text{ g}}{1 \text{ mol}} = 117.6 \text{ g/L}$

$c(\%) = \frac{117.6 \text{ g solute}}{\text{L}} \times \frac{1 \text{ L}}{1040 \text{ g solution}} \times 100 = 11.3\%$



n
m
V

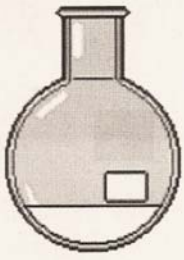
3 mol
12.6 L

$V = 3 \text{ mol} \times \frac{63 \text{ g}}{1 \text{ mol}} \times \frac{1 \text{ L}}{15 \text{ g}} = 12.6 \text{ L}$

mol/L
g/L
%

Mm
||
63 g/mol

15 g/L



n
m
V

2.5 mol
478 mL

$$V = 2.5 \text{ mol} \times \frac{40 \text{ g}}{1 \text{ mol}} \times \frac{1 \text{ L}}{209.1 \text{ g}} = 0.478 \text{ L} = 478 \text{ mL}$$

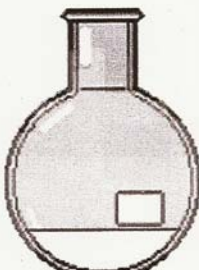
mol/L
g/L
%

209.1 g/L
20.4 %

Mm
||
409/mol

d = 1025 g/L

$$c(\text{g/L}) = \frac{20.4 \text{ g solute}}{100 \text{ g solution}} \times \frac{1025 \text{ g solution}}{1 \text{ L}} = 209.1 \text{ g/L}$$



n
m
V

1.2 mol
0.2 L

mol/L
g/L
%

57.6 %

Mm
||
98 g/mol

d = 1020 g/L

$$c(\%) = \frac{1.2 \text{ mol}}{0.2 \text{ L}} \times \frac{98 \text{ g solute}}{1 \text{ mol}} \times \frac{1 \text{ L}}{1020 \text{ g solution}} \times 100 = 57.6\%$$