%

M

$M_1V_1 = M_2V_2$

$\%_1V_1 = \%_2V_2$

(1) 12atm

(2) .0026 mol

$\frac{\text{mass}}{\text{mass}}$ $\frac{\text{Volume}}{\text{Volume}}$

% → $\frac{g}{mL}$ $\frac{g}{g}$ $\frac{mL}{mL}$

$\frac{\text{mass}}{\text{volume}}$

everyone was mult. by 100.

Molarity

$$M = \frac{\text{moles of solute}}{\text{L of solution}}$$

Molar

Solute - the substance being dissolved (usually in smaller quantities)

Solvent - dissolving the solute

Water - the universal Solvent

4. $\frac{25.00\text{g}}{x\ \text{mL}} \times 100 = 6.6\%$

$\frac{25.00\text{g}}{x\ \text{mL}} = \frac{0.66}{1}$

$\frac{(25.00)}{.066} = \frac{(x)(.066)}{.066}$

$378.7878\ \text{mL}$

$380\ \text{mL}$

8. $M = \frac{\text{moles of solute}}{\text{L of solution}}$

$\frac{0.340}{1} = \frac{x}{.25}$

$(0.340)(.25) = x$

$.085 \text{ mol}$

$\frac{.085 \text{ mol} \times 58.5 \text{ g}}{1 \text{ mol}} =$

Na 23
Cl 35.5
58.5

4.9725 g

5.0 g

9

$$4.5\% = 100 \times \frac{25.0\,g}{x}$$

$$\frac{.045}{1} = \frac{25.0}{x}$$

$$\frac{(.045)(x)}{.045} = \frac{25.0}{.045}$$

$$x = 555.555\ mL$$

$$x = 560\ mL$$

13. % and M $33.0\,g\ C_6H_{12}O_6$

(2)

0.200L

$$\frac{33.0\,g}{200\,mL} \times 100 = 16.5\%$$

$$M = \frac{\text{moles of solute}}{\text{L of solution}}$$

.200L

C_6 $12 \times 6 = 72$

H $1 \times 12 = 12$

O 16×6 96

180g = 1mol

$$\frac{33\,g \times 1\,mol}{180\,g} = .18\overline{3}\,mol$$

$$\frac{.183\,mol}{.200L} = .915\,M$$

5.

$$M_1 V_1 = M_2 V_2$$

$$(12.0)(x) = (5.0)(2.00)$$

$$\frac{(12.0)(x)}{12.0} = \frac{(10)}{12.0}$$

$$x = .833\overline{3}$$

$$x = .833\overline{3}\ L$$

$$x = .83\ L$$

$$x = 830\ mL$$

15.

$$\%_1 V_1 = \%_2 V_2$$

$$(15.3)(125) = x(325)$$

$$\frac{1912.5}{325} = \frac{x(325)}{325}$$

$$x = 5.884615\%$$

$$X = 5.88\%$$

14.

With add

$\%_1 V_1 = \%_2 V_2$

$(12.3)(15.0) = x(115.0)$

$\frac{184.5}{115.0} = \frac{x(115.0)}{115.0}$

$x = 1.6043\%$

$x = 1.60\%$

11. $15.3\% = 100 \times \left(\frac{x}{150}\right)$

$\frac{.153}{1} = \frac{x}{150}$

$(.153)(150) = x$

$22.959 = x$

$23 = x$

16. % M 25.0 NaCl

250 mL

$\% = \left(\frac{25.0}{250}\right) \times 100$

$\% = .1 \times 100$

$\% = 10.$

$\% = 1.0 \times 10^{1}$

$M = \frac{\text{moles of solute}}{\text{L of soln}}$

$M = \frac{x}{.250L}$

Na 23

Cl 35.5

58.5

$\frac{25.0g \times 1mol}{58.5g} = .42350\ mol$

$\frac{.42350}{.250} = 1.709\ M$

1.7 M

19. $?_g NaClO_3$ 1255mL

2.77 M

$M = \frac{\text{moles of solute}}{\text{L of soln}}$

$2.77 = \frac{x}{1.255}$

$(2.77)(1.255) = x$

$3.47635\ mol = x$

Na $23 \times 1 = 23$

Cl $35.5 \times 1 = 35.5$

O_3 $16 \times 3 = 48$

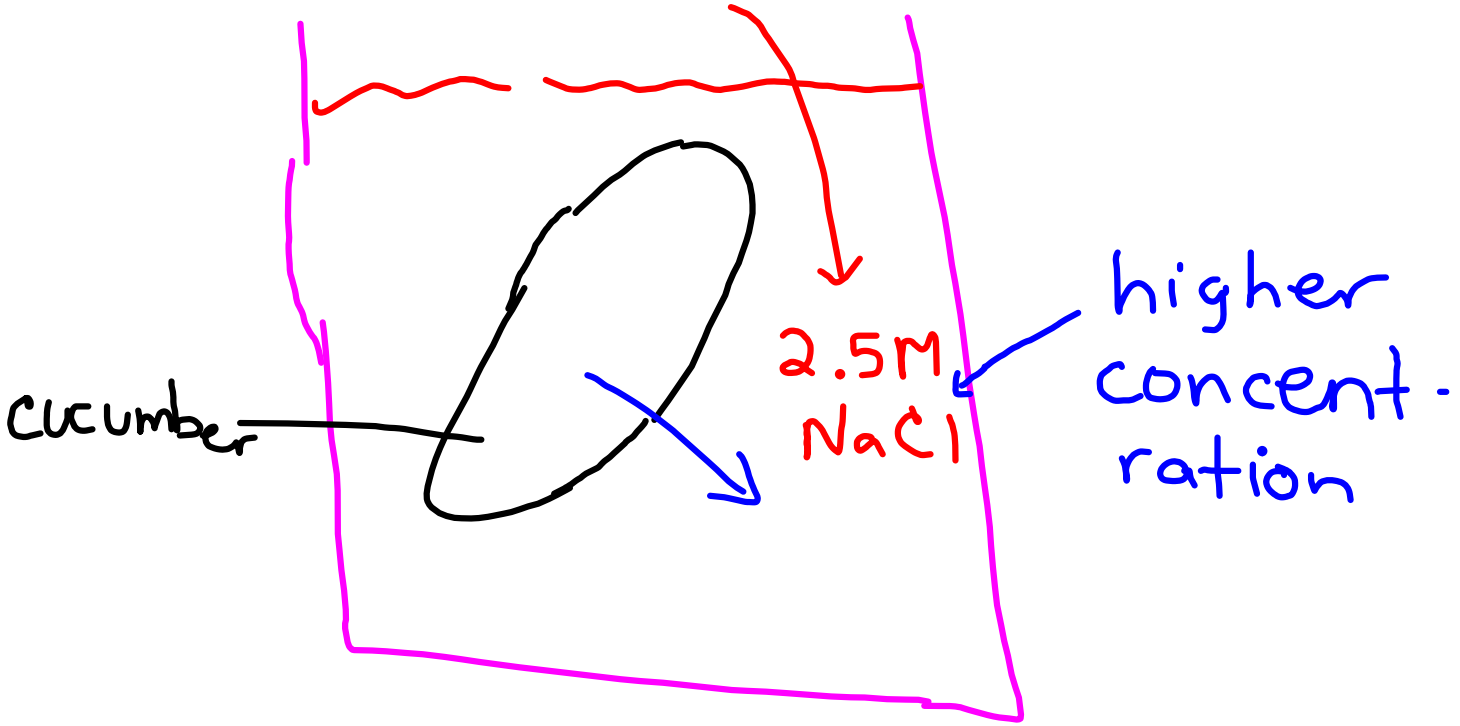
$106.5g = 1mol$

$\frac{3.47635mol \times 106.5g}{1mol} =$

370.231275g

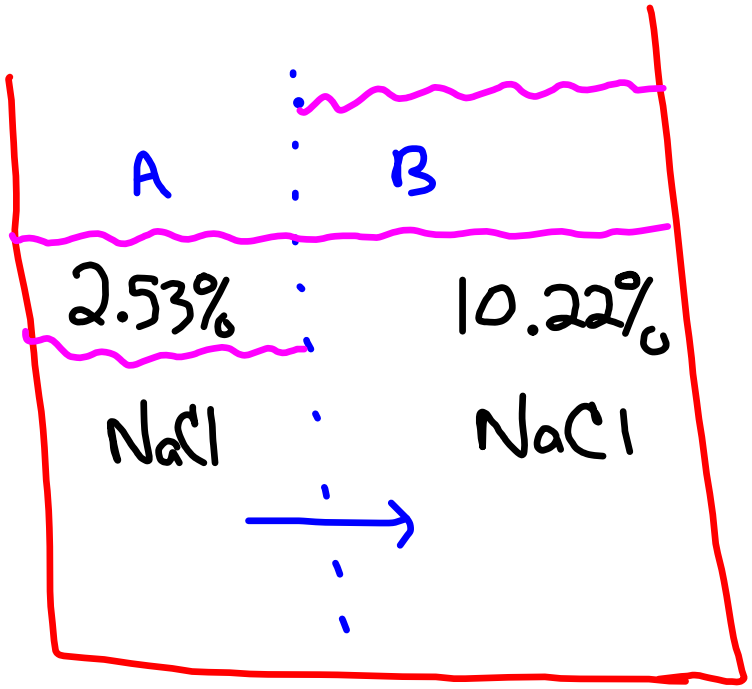
370g

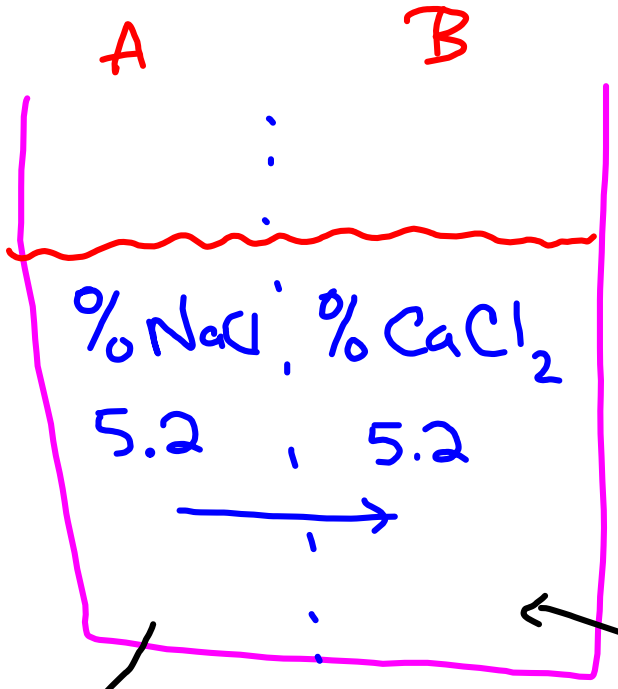
$3.70 \times 10^2 g$



A higher consentration of salt has more osmotic pressure.

21.





Na^+ Cl^-

Ca^{+2}
Cl^-
Cl^-

b/c there are more ions on the B side than on the A side.