

$$\textcircled{2} \quad \text{mass \%} = \frac{\text{mass of solute}}{\text{mass of solution}} \times 100$$

$$\textcircled{81.6\%} = \frac{125.2\text{g}}{153.4\text{g}} \times 100$$

③

$$\frac{40\%}{100} = \frac{x}{454g} \times \frac{100}{100}$$

$$454 \times 0.4 = \frac{x}{\cancel{454g}} \times \cancel{454}$$

$$(181.6g) = x$$

$$\textcircled{4} \quad 100 \times 70\% = \frac{x}{100g} \times 100$$

$$x = 70g$$

$$\frac{70g}{1} \times \frac{1 \text{ mole HNO}_3}{63g} = 1.1 \text{ moles}$$

⑤ $M = \frac{\text{moles}}{L}$ 25 mL = 0.025 L

$0.025 L \times 2 M HCl = \frac{x}{\cancel{0.025 L} \times 0.025}$

$x = 0.05 \text{ moles}$

⑥

$$M = \frac{\text{mole}}{L}$$

$$4L \times 0.051M = \frac{\text{mole}}{4.00L} \times 4$$

↓

$$\frac{0.204 \text{ moles}}{1} \times \frac{174g}{1 \text{ mole}} = 35.5g$$

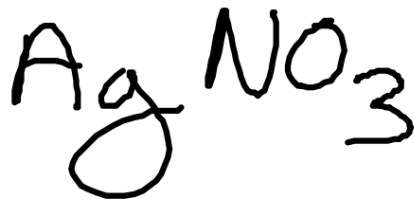
⑦

$$M = \frac{\text{moles}}{L}$$

~~0.145 X~~ $4.31M = \frac{\text{moles}}{0.145L}$ ~~X 0.145~~

0.625 moles AgNO₃

$$\frac{0.625 \text{ moles}}{1} \times \frac{170 \text{ g}}{1 \text{ mole}} = 106.2 \text{ g}$$



$$\begin{array}{r} 107.9 \\ 14 \\ 48 \\ \hline 169.9 \end{array}$$

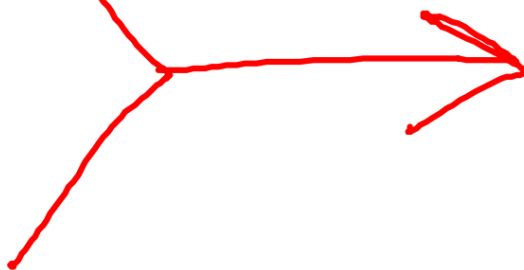
8

$$M = \frac{\text{mole}}{L}$$

$$0.256 \times 0.895 M = \frac{x}{0.256 L} \times 0.256$$

$$0.229 \text{ moles} = x$$

NH_4Cl



⑧ continued ...

$$\begin{array}{r} \text{NH}_4\text{Cl} = 14 \\ + 4 \\ + 35.5 \\ \hline \end{array}$$

53.5g

$$\frac{0.229 \text{ moles NH}_4\text{Cl}}{1}$$

$$\times \frac{53.5 \text{ g}}{1 \text{ mole NH}_4\text{Cl}}$$

$$= 12.3 \text{ g}$$

ANSWER

9

12M

Stock



2.4M
225mL

Dilute

225mL =
0.225L

A

$$M = \frac{\text{moles}}{L}$$

$$\text{moles} = M_{\text{dilute}} \times V_{\text{dilute}}$$

$$0.54 \text{ moles} = 2.4 \text{ M} \times 0.225 \text{ L}$$

Solute



#9 continued...

$$\textcircled{B} \quad M = \frac{\text{mole}}{L}$$

$$L = \frac{\text{mole}}{M}$$

$$= \frac{0.54 \text{ moles}}{12 M}$$

$$L = 0.045 L = \textcircled{45 \text{ mL}}$$

ANSWER

10.

(A)

$$L_{\text{Dilute}} \times M_{\text{Dilute}} = \text{moles}$$

$$6L \times 0.1M = 0.6 \text{ moles of Solute}$$

$$(B) L = \frac{\text{mole}}{M}$$

$$L = \frac{0.6 \text{ moles}}{12M}$$

Answer.

$$0.05L$$