

Final 2017

② 
$$\begin{array}{r} 15.46 \\ - 12.05 \\ \hline \end{array}$$

$\Delta V = 3.41 \text{ mL}$

$$D = \frac{M}{V} = \frac{18.258}{3.11} = 5.854 \text{ g/L}$$

③

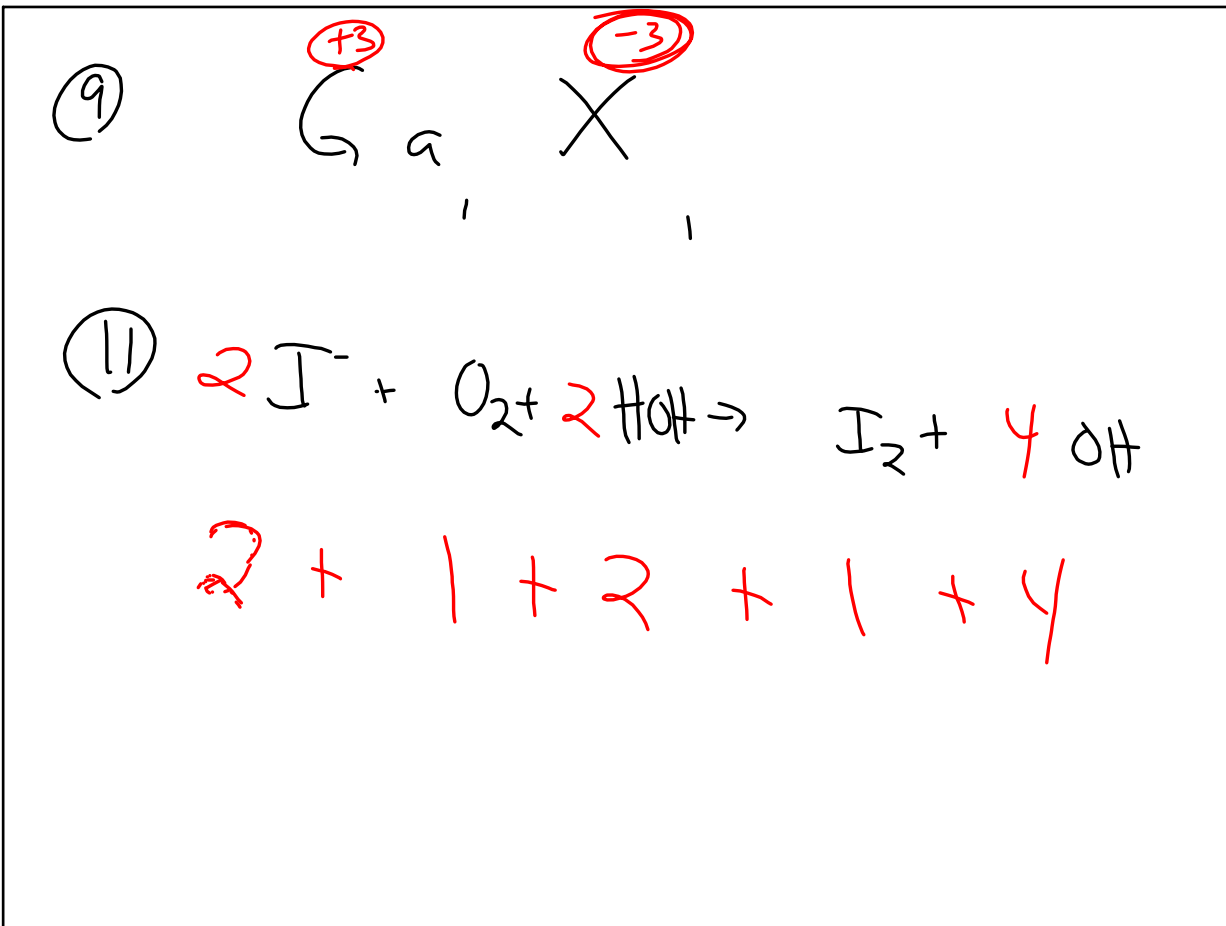
Jan 10-8:06 AM

⑤ 
$$\text{HNO}_3(aq) + \text{KOH}(aq) \rightarrow \text{KNO}_3(aq) + \text{H}_2\text{O}(l)$$

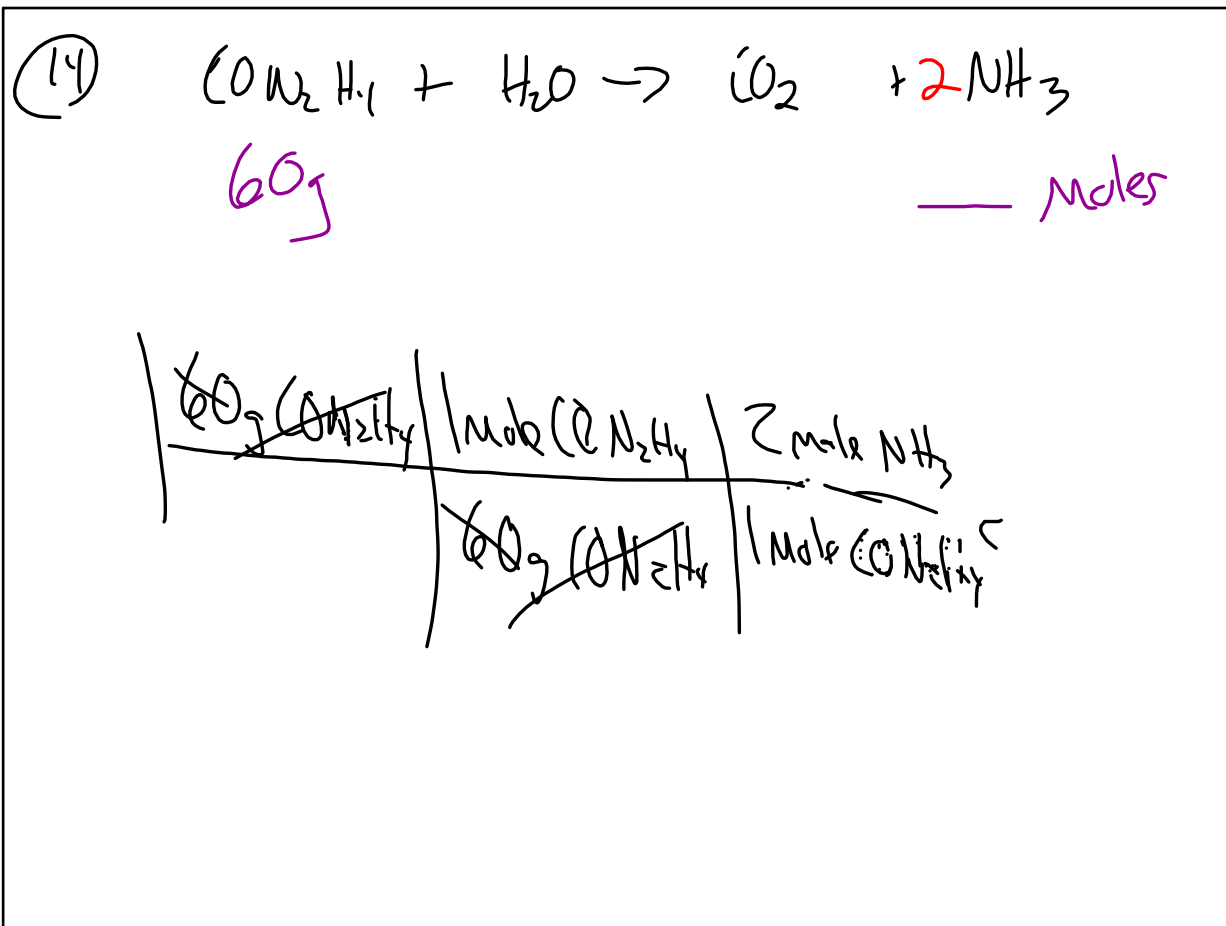
$$\text{H}^+ + \cancel{\text{NO}_3^-} + \cancel{\text{K}^+} + \text{OH}^- \rightarrow \cancel{\text{K}^+} + \cancel{\text{NO}_3^-} + \text{H}_2\text{O}$$

$$\text{H}^+(aq) + \text{OH}^-(aq) \rightarrow \text{H}_2\text{O}(l)$$

Jan 10-8:19 AM



Jan 10-8:30 AM



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C <sub>A</sub>	H <sub>B</sub>	O <sub>C</sub>	O <sub>D</sub> ← moles.
3.2	1.48	1.47	0.49
$\frac{3.2}{0.49}$	$\frac{1.48}{0.49}$	$\frac{1.47}{0.49}$	$\frac{0.49}{0.49}$
6.5	3	3	1
13	H <sub>6</sub>	O <sub>6</sub>	O <sub>2</sub>

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⑩  $N_2 + 3H_2 \rightarrow 2NH_3$

1g used up.      3g      2g

Mole ratio

1g N <sub>2</sub>	1 mole N <sub>2</sub>	2 mole NH <sub>3</sub>	17g NH <sub>3</sub>
28g N <sub>2</sub>	1 mole N <sub>2</sub>	1 mole NH <sub>3</sub>	17g NH <sub>3</sub>

⇒ 1.21g NH<sub>3</sub>

3g H <sub>2</sub>	1 mole H <sub>2</sub>	2 mole NH <sub>3</sub>	17g NH <sub>3</sub>
2g H <sub>2</sub>	3 mole H <sub>2</sub>	1 mole NH <sub>3</sub>	17g NH <sub>3</sub>

⇒ 17g NH<sub>3</sub>

1g H <sub>2</sub>	1 mole H <sub>2</sub>	3 mole H <sub>2</sub>	2g H <sub>2</sub>
2g H <sub>2</sub>	1 mole H <sub>2</sub>	1 mole H <sub>2</sub>	0.21g used

Jan 10-8:42 AM