

Final  $\frac{x}{30} = \frac{28}{35}$

①  $l=2$

S	P	d	f
0	1	2	3

$\overline{-2} \quad \overline{-1} \quad \overline{0} \quad \overline{1} \quad \overline{2}$

Jan 28-7:34 AM

②  $\frac{15.442}{(51.8 - 49.7)} = \frac{7.353333}{3 \text{ SE}}$

③  $6 \times 10^{23} \text{ atoms}$  →  $5 \text{ m PT}$

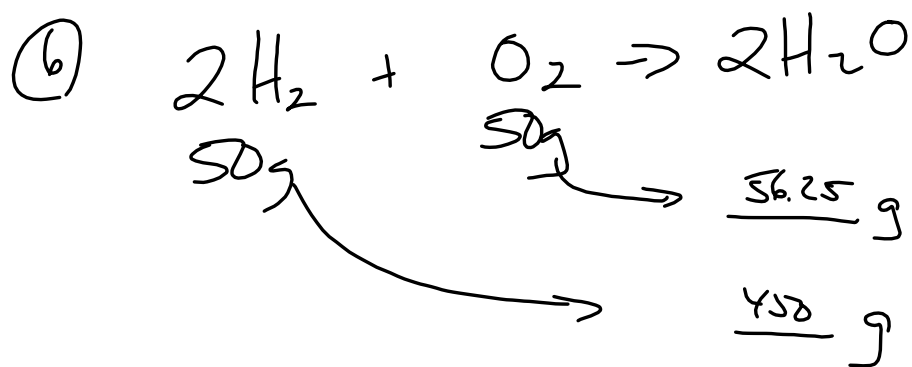
$6 \times 10^{23} \text{ molecules}$  →  $22.4 \text{ g}$

③  $\text{Na}_2\text{CO}_3 \cdot 10 \text{ H}_2\text{O}$

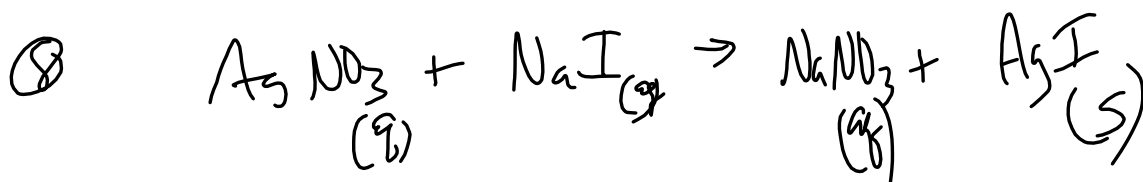
1 : 13 mole ratio

$2.1 \times 10^{21}$  : 0

Jan 28-8:14 AM



Jan 28-8:18 AM



Jan 28-8:21 AM

⑨ 250ml  $\leftarrow$   $\frac{0.1 \text{ M}}{0.1 \text{ mols/l}}$   $\text{Na}_2\text{SO}_4 \leftarrow \frac{142.05 \text{ g}}{\text{mole}}$

(Find g)

$\frac{142.05 \text{ g Na}_2\text{SO}_4}{1 \text{ mole}}$	$\frac{0.1 \text{ mole}}{1 \text{ l}}$	$0.250 \text{ l}$
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Jan 28-8:23 AM

⑩  $\text{N}_2 + 2\text{O}_2 \rightarrow 2\text{NO}_2 \quad 66.4 \text{ kJ}$   
 $2\text{NO}_2 \rightarrow 2\text{NO} + \text{O}_2 \quad + 114.2 \text{ kJ}$

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$\text{N}_2 + \text{O}_2 \rightarrow 2\text{NO} \quad 180.6 \text{ kJ}$

⑪  $Q = mc\Delta T$   $O=C=O$   
 $Q = (100 \text{ g})(4.18)(6.8)$   
 $Q = 2842.4 \text{ J} = 2.8 \text{ kJ}$

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⑩  $E = R_H \left( \frac{1}{n_1^2} - \frac{1}{n_2^2} \right)$  ←  $\frac{E}{h\nu} = \frac{hc}{\lambda}$   
 $\Rightarrow \lambda = \frac{hc}{E}$

$$\frac{(6.63 \times 10^{-34}) (3 \times 10^8)}{2.18 \times 10^{-18} \left( \frac{1}{25} - \frac{1}{4} \right)} = 4.34 \times 10^{-7} \text{ m}$$

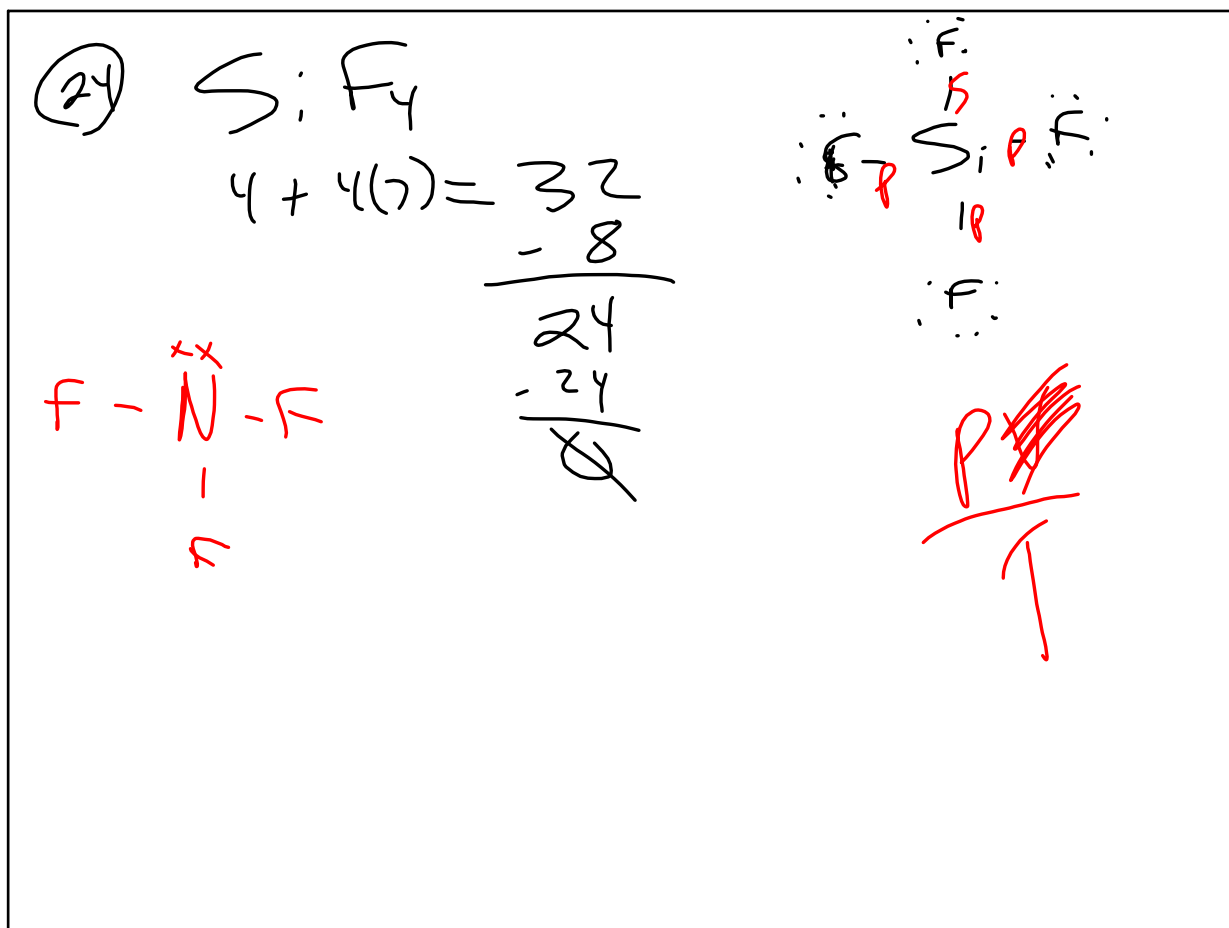
434 nm

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⑪ Principal quantum #  
 $n = \text{energy level}$

1 s  
 2 s + p  
 3 s p d  
 4 s p d f

Jan 28-8:36 AM



Jan 28-8:41 AM

(27)

$$\frac{0.6}{0.4 + 0.6 + 1.0} = \frac{0.6}{2} = 0.3$$

Jan 28-8:45 AM