

**II ( ) 2013-2014**

10

**1.**

10

70

65

45

1.

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1. $+ ( + 1/4 )_2 = 2 + 1/2_2$ : (1)	<b>2</b>
2. $_2$ $_2$	<b>2</b>
3. $2 + 2 = 2$ $3 + 2$ (2), 45	<b>2</b>
4. , 10 : $V( _2 ) = 70 - 45 = 25$ ( )	<b>2</b>
5. $_2$ : $V( _2 ) = 65 - 45 = 20$ ( )	<b>2</b>
6. , , ... $n( ) : n(O_2) = 10 : 25$ $1 : ( + /4) = 1 : 2,5$ ; $( + 0,25 ) = 2,5$ (3)	<b>2</b>
7. $_2$ : $n( ) : n(CO_2) = 10 : 20$ $1 : = 1 : 2$ , $= 2$ ; (3): $( + 2,5 ) = 2,5$ , $= 2$ .	<b>2</b>
8. $_2$ $_2 -$ .	<b>2</b>
	<b>20</b>

**2.**

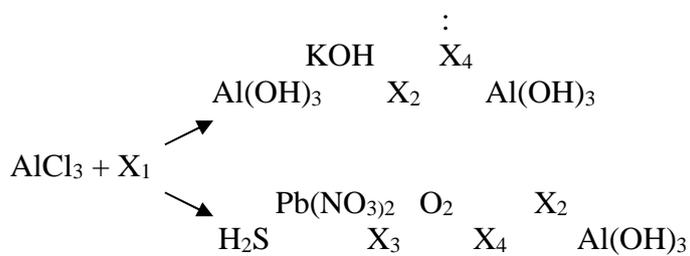
(IV)

(IV).

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( , )	
1. $\text{SO}_2$ $\text{CO}_2$ -	1
2. $\text{SO}_3$ - $\text{CO}_3$ -	1
3. $\text{SO}_3$ , $\text{CO}_3$	1
4. (IV) : $\text{S}^{2+} = \text{HS}^{-3}$	2
$\text{S}^{2+} + 2 = \text{S}^{3+} + 2$	1
5. : $\text{S}^{2+} = \text{S}^{-3}$	1
6. : $\text{S}^{2+} + \text{Na} = \text{Na}_3$	2
$\text{S}^{2+} + 2\text{Na} = \text{Na}_2\text{S} + \text{H}_2\text{O}$	1
$\text{S}^{2+} + \text{Ba} = \text{Ba}_3$	1
7. (IV) - ,	
$\text{SO}_2 + 2\text{H}_2\text{S} = 3\text{S} + 2\text{H}_2\text{O}$	2
$\text{S}^{+4} + 4e \rightarrow \text{S}^0 \quad 1$	
$\text{S}^{-2} - 2e \rightarrow \text{S}^0 \quad 2$	1
$\text{SO}_2$ -	
8. $5\text{SO}_2 + 2\text{KMnO}_4 + 2\text{H}_2\text{O} = 2\text{MnSO}_4 + \text{K}_2\text{SO}_4 + 2\text{H}_2\text{SO}_4$	2
$\text{S}^{+4} - 2e \rightarrow \text{S}^{+6} \quad 5$	
$\text{Mn}^{+7} + 5e \rightarrow \text{Mn}^{+2} \quad 2$	1
$\text{SO}_2$ -	
$\text{SO}_2 + \text{Br}_2 + 2\text{H}_2\text{O} = \text{H}_2\text{SO}_4 + 2\text{HBr}$	
9. $\text{S}^{+4} + 2 = 2$	2
$\text{S}^{+4} + 2 \rightarrow \text{S}^{+2} \quad 1$	
$\text{S}^0 - 2 \rightarrow \text{S}^{+2} \quad 1$	1
$\text{S}^{2-}$	
	20

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1. $2\text{AlCl}_3 + 3\text{K}_2\text{S} + 6\text{H}_2\text{O} = 2\text{Al}(\text{OH})_3 + 3\text{H}_2\text{S} + 6\text{KCl}$	<b>2</b>
2. $\text{Al}(\text{OH})_3 + \text{KOH} = \text{K}[\text{Al}(\text{OH})_4]$	<b>2</b>
3. $2\text{K}[\text{Al}(\text{OH})_4] + \text{SO}_2 = 2\text{Al}(\text{OH})_3 + \text{K}_2\text{SO}_3 + \text{H}_2\text{O}$ $\text{K}[\text{Al}(\text{OH})_4] + \text{SO}_2 = \text{Al}(\text{OH})_3 + \text{K}_2\text{SO}_3$	<b>2</b>
4. $2\text{AlCl}_3 + 3\text{K}_2\text{S} + 6\text{H}_2\text{O} = 2\text{Al}(\text{OH})_3 + 3\text{H}_2\text{S} + 6\text{KCl}$	<b>2</b>
5. $\text{H}_2\text{S} + \text{Pb}(\text{NO}_3)_2 = \text{PbS} + 2\text{HNO}_3$	<b>2</b>
6. $2\text{PbS} + 3\text{O}_2 = 2\text{SO}_2 + 2\text{PbO}$	<b>2</b>
7. $\text{SO}_2 + 2\text{K}[\text{Al}(\text{OH})_4] = 2\text{Al}(\text{OH})_3 + \text{K}_2\text{SO}_3 + \text{H}_2\text{O}$	<b>2</b>
$\text{X}_1 - \text{K}_2\text{S}$ ; $\text{X}_2 - \text{K}[\text{Al}(\text{OH})_4]$ ; $\text{X}_3 - \text{PbS}$ ; $\text{X}_4 - \text{SO}_2$ .	<b>4</b>
—	<b>2</b>
	<b>20</b>

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(III).

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<table border="1"> <thead> <tr> <th></th> <th><math>\text{K}_2\text{SO}_3</math></th> <th><math>\text{KCl}</math></th> <th><math>\text{KI}</math></th> <th><math>\text{KSCN}</math></th> <th><math>\text{AgNO}_3</math></th> <th><math>\text{FeCl}_3</math></th> <th><math>\text{I}_2</math></th> </tr> </thead> <tbody> <tr> <td><math>\text{K}_2\text{SO}_3</math></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><math>\text{KCl}</math></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><math>\text{KI}</math></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><math>\text{KSCN}</math></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> </tr> <tr> <td><math>\text{AgNO}_3</math></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> </tr> <tr> <td><math>\text{FeCl}_3</math></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> </tr> <tr> <td><math>\text{I}_2</math></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> </tr> </tbody> </table>			$\text{K}_2\text{SO}_3$	$\text{KCl}$	$\text{KI}$	$\text{KSCN}$	$\text{AgNO}_3$	$\text{FeCl}_3$	$\text{I}_2$	$\text{K}_2\text{SO}_3$	X							$\text{KCl}$		X						$\text{KI}$			X					$\text{KSCN}$				X				$\text{AgNO}_3$					X			$\text{FeCl}_3$						X		$\text{I}_2$							X
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$\text{AgNO}_3 + \text{KCNS} = \text{AgCNS} + \text{KNO}_3$ (6)	<b>2</b>																																																																
$\text{FeCl}_3 + 3\text{KCNS} = \text{Fe}(\text{CNS})_3 + 3\text{KCl}$ (7)	<b>2</b>																																																																
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234

140,8

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:  $(\binom{2}{2} \binom{5}{3}) = 53,49\%$ ;  $(\binom{3}{3}) = 46,51\%$ ;  $(\binom{3}{3} \binom{2}{2} \binom{5}{5}) = 75\%$ .

( , )	
1. $\binom{2}{2} \binom{5}{3} + \binom{3}{2} \binom{2}{2} = 2 \binom{2}{2} + 3 \binom{2}{2}$ $\binom{2}{2} \binom{5}{3} + \binom{3}{2} \binom{2}{2} = 2 \binom{2}{2} + 2 \binom{2}{2}$ $\binom{2}{2} \binom{5}{3} + \binom{3}{2} \binom{2}{2} = 3 \binom{2}{2} \binom{5}{3} + \binom{2}{2}$	<b>3</b>
2. $n(\binom{2}{2} \binom{5}{3}) = 46$ ; $n(\binom{3}{2} \binom{2}{2}) = 60$ , $m(\binom{2}{2} \binom{5}{3}) = 46$ ; $m(\binom{3}{2} \binom{2}{2}) = 60$ ; $m(\binom{3}{2} \binom{2}{2}) = 46 + 60 = 258$ .	<b>3</b>
3. $n(\binom{2}{2}) = 234 / 18 / 10 = 13$ .	<b>1</b>
4. (1) - $n(\binom{2}{2}) = 3$ ; (2) - $n(\binom{2}{2}) = 2$ ; $n(\binom{2}{2}) = 3 + 2 = 13$ ( ) .	<b>3</b>
5. $46 + 60 = 258 = 3 \binom{2}{2} \binom{5}{3}$ ; $3 + 2 = 13 = 2 \binom{2}{2} \binom{5}{3}$	<b>2</b>
6. $m(\binom{2}{2} \binom{5}{3}) = 46 = 46 \cdot 3 = 138$ ( ) ; $(\binom{2}{2} \binom{5}{3}) = 138/258 = 0.5349$ ; 53,49% $m(\binom{3}{2} \binom{2}{2}) = 60 = 60 \cdot 2 = 120$ ( ) ; $(\binom{3}{2} \binom{2}{2}) = 138/258 = 0.4651$ ; 46,51%	<b>2</b>
7. $\binom{3}{2} \binom{2}{2}$ , « » 1 . $n(\binom{3}{2} \binom{2}{2} \binom{5}{5}) = 2$ ; $m(\binom{3}{2} \binom{2}{2} \binom{5}{5}) = 2 \cdot 88 / 10 = 176$ . $(\binom{3}{2} \binom{2}{2} \binom{5}{5}) = 132/176 = 0,75$ , 75%.	<b>2</b>
	<b>20</b>

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