

**II ( ) 2013-2014**

10

**1.**

10                      70

65 .

45 .

:

1.

2.

: 2 2

:

( , )	
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.**

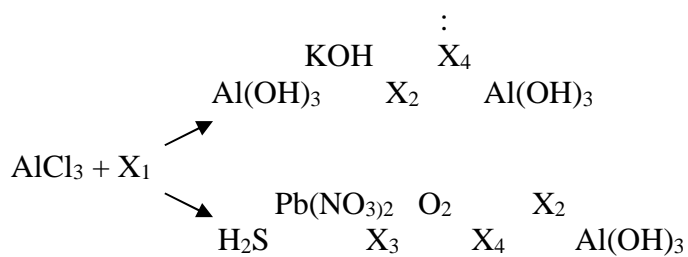
(IV)

(IV).

?

( , )	
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) : $\text{S}^{2+} = \text{HS}^-$	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
$\text{S}^{+4} + 4e \text{ S}^0 \quad 1$	
$\text{S}^{-2} - 2e \text{ S}^0 \quad 2$	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
$\text{S}^{+4} - 2e \text{ S}^{+6} \quad 5$	
$\text{Mn}^{+7} + 5e \text{ Mn}^{+2} \quad 2$	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
$\text{S}^{+4} + 2 \text{ S}^{+2} \quad 1$	
$\text{S}^0 - 2 \text{ S}^{+2} \quad 1$	1
$\text{S}^{2-}$	
	20

3.



1 - 4.

1.

( , )	
-------	--

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

4.

(III).

1.

2.

3.

( )																																																																	
1.	<b>1</b>																																																																
2.	<b>3</b>																																																																
<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
		$\text{K}_2\text{SO}_3$	$\text{KCl}$	$\text{KI}$	$\text{KSCN}$	$\text{AgNO}_3$	$\text{FeCl}_3$	$\text{I}_2$																																																									
$\text{K}_2\text{SO}_3$		X																																																															
$\text{KCl}$			X																																																														
$\text{KI}$				X																																																													
$\text{KSCN}$					X																																																												
$\text{AgNO}_3$						X																																																											
$\text{FeCl}_3$						X																																																											
$\text{I}_2$							X																																																										
3.																																																																	
$\text{K}_2\text{SO}_3 + \text{I}_2 + \text{H}_2\text{O} = \text{K}_2\text{SO}_4 + 2\text{HI}$ ( ) (1)	<b>2</b>																																																																
$\text{K}_2\text{SO}_3 + 2\text{AgNO}_3 = \text{Ag}_2\text{SO}_3 + 2\text{KNO}_3$ (2)	<b>2</b>																																																																
$\text{Ag}_2\text{SO}_3 + 3\text{K}_2\text{SO}_3 = 2\text{K}_3[\text{Ag}(\text{SO}_3)_2]$ (3)	<b>2</b>																																																																
$2\text{K}_2\text{SO}_3 + \text{AgNO}_3 = \text{K}_3[\text{Ag}(\text{SO}_3)_2] + \text{KNO}_3$																																																																	
$\text{AgNO}_3 + \text{KCl} = \text{AgCl} + \text{KNO}_3$ (4)	<b>2</b>																																																																
$\text{AgNO}_3 + \text{KI} = \text{AgI} + \text{KNO}_3$ (5)	<b>2</b>																																																																
$\text{AgNO}_3 + \text{KCNS} = \text{AgCNS} + \text{KNO}_3$ (6)	<b>2</b>																																																																
$\text{FeCl}_3 + 3\text{KCNS} = \text{Fe}(\text{CNS})_3 + 3\text{KCl}$ (7)	<b>2</b>																																																																
$2\text{FeCl}_3 + 2\text{KI} = \text{I}_2 + 2\text{FeCl}_2 + 2\text{KCl}$ (8)	<b>2</b>																																																																
$2\text{FeCl}_3 + 6\text{KI} = 3\text{I}_2 + 2\text{FeI}_2 + 6\text{KCl}$																																																																	
	<b>20</b>																																																																

5.

258

234

140,8

( )

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

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

- 100