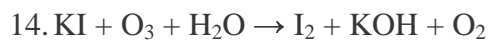
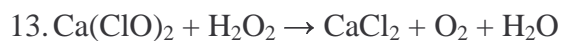
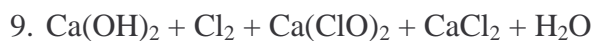
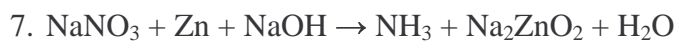
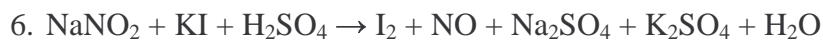
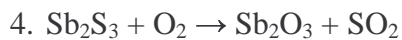
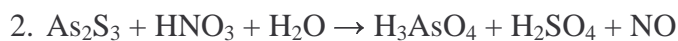


Zadania z uzgadniania reakcji redoks.

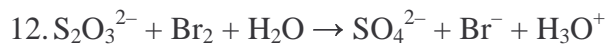
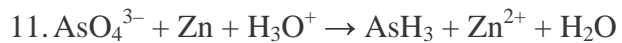
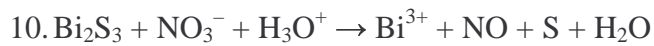
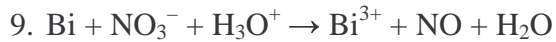
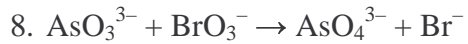
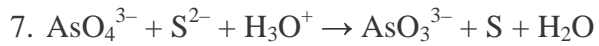
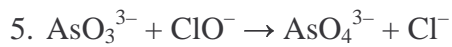
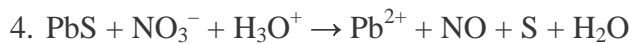
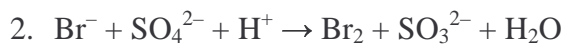
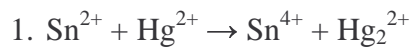
Reakcje cząsteczkowe – przykłady łatwiejsze

1.  $\text{HI} + \text{H}_2\text{SO}_4 \rightarrow \text{I}_2 + \text{H}_2\text{S} + \text{H}_2\text{O}$
2.  $\text{FeCl}_3 + \text{SnCl}_2 \rightarrow \text{FeCl}_2 + \text{SnCl}_4$
3.  $\text{H}_2\text{SO}_3 + \text{Cl}_2 + \text{H}_2\text{O} \rightarrow \text{H}_2\text{SO}_4 + \text{HCl}$
4.  $\text{Ca} + \text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2 + \text{H}_2$
5.  $\text{Al} + \text{HCl} \rightarrow \text{AlCl}_3 + \text{H}_2$
6.  $\text{H}_2\text{S} + \text{O}_2 \rightarrow \text{SO}_2 + \text{H}_2\text{O}$
7.  $\text{NH}_3 + \text{O}_2 \rightarrow \text{NO} + \text{H}_2\text{O}$
8.  $\text{NH}_3 + \text{O}_2 \rightarrow \text{H}_2\text{O} + \text{NO}_2$
9.  $\text{HNO}_3 + \text{NO} \rightarrow \text{H}_2\text{O} + \text{NO}_2$
10.  $\text{H}_2\text{S} + \text{HNO}_3 \rightarrow \text{H}_2\text{SO}_4 + \text{NO} + \text{H}_2\text{O}$
11.  $\text{PbO}_2 + \text{HCl} \rightarrow \text{PbCl}_2 + \text{Cl}_2 + \text{H}_2\text{O}$
12.  $\text{ZnS} + \text{O}_2 \rightarrow \text{ZnO} + \text{SO}_2$
13.  $\text{Pb} + \text{H}_3\text{PO}_4 \rightarrow \text{Pb}_3(\text{PO}_4)_2 + \text{H}_2$
14.  $\text{HClO}_4 + \text{H}_2\text{SO}_3 \rightarrow \text{HCl} + \text{H}_2\text{SO}_4$
15.  $\text{SnCl}_2 + \text{HgCl}_2 \rightarrow \text{SnCl}_4 + \text{Hg}$
16.  $\text{S} + \text{HNO}_3 \rightarrow \text{H}_2\text{SO}_4 + \text{NO}$
17.  $\text{BiCl}_3 + \text{SnCl}_2 \rightarrow \text{Bi} + \text{SnCl}_4$
18.  $\text{Hg} + \text{HNO}_3 \rightarrow \text{Hg(NO}_3)_2 + \text{NO} + \text{H}_2\text{O}$
19.  $\text{HNO}_3 + \text{HI} \rightarrow \text{NO}_2 + \text{HIO}_3 + \text{H}_2\text{O}$
20.  $\text{P} + \text{HNO}_3 + \text{H}_2\text{O} \rightarrow \text{H}_3\text{PO}_4 + \text{NO}$
21.  $\text{As}_2\text{O}_3 + \text{HNO}_3 + \text{H}_2\text{O} \rightarrow \text{H}_3\text{AsO}_4 + \text{N}_2\text{O}_3$
22.  $\text{AsH}_3 + \text{HNO}_3 \rightarrow \text{H}_3\text{AsO}_4 + \text{NO}_2 + \text{H}_2\text{O}$
23.  $\text{Br}_2 + \text{HClO} + \text{H}_2\text{O} \rightarrow \text{HBrO}_3 + \text{HCl}$
24.  $\text{CuS} + \text{HNO}_3 \rightarrow \text{CuO} + \text{S} + \text{NO} + \text{H}_2\text{O}$
25.  $\text{SO}_2 + \text{Br}_2 + \text{H}_2\text{O} \rightarrow \text{HBr} + \text{H}_2\text{SO}_4$
26.  $\text{HClO}_4 + \text{SO}_2 + \text{H}_2\text{O} \rightarrow \text{HCl} + \text{H}_2\text{SO}_4$
27.  $\text{HClO}_3 + \text{H}_2\text{SO}_3 \rightarrow \text{H}_2\text{SO}_4 + \text{HCl}$
28.  $\text{Sb}_2\text{S}_3 + \text{Fe} \rightarrow \text{FeS} + \text{Sb}$
29.  $\text{AsH}_3 + \text{HNO}_3 \rightarrow \text{H}_3\text{AsO}_4 + \text{NO} + \text{H}_2\text{O}$
30.  $\text{I}_2 + \text{Cl}_2 + \text{H}_2\text{O} \rightarrow \text{HIO}_3 + \text{HCl}$
31.  $\text{KIO}_3 + \text{HI} + \text{H}_2\text{SO}_4 \rightarrow \text{I}_2 + \text{K}_2\text{SO}_4 + \text{H}_2\text{O}$
32.  $\text{C} + \text{H}_2\text{SO}_4 \rightarrow \text{CO}_2 + \text{SO}_2 + \text{H}_2\text{O}$
33.  $\text{Al}_2\text{O}_3 + \text{Cl}_2 + \text{C} \rightarrow \text{AlCl}_3 + \text{CO}$

Reakcje cząsteczkowe – przykłady trudniejsze



## Reakcje jonowe – przykłady łatwiejsze



Reakcje jonowe – przykłady trudniejsze

