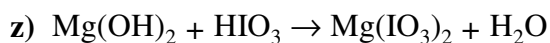
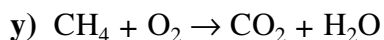
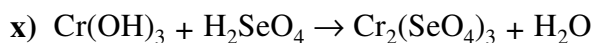
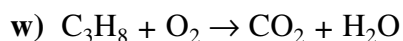
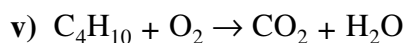
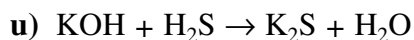
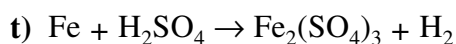
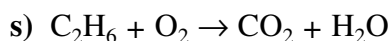
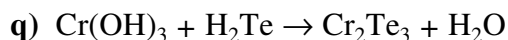
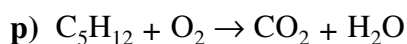
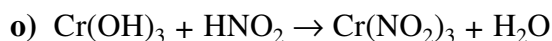
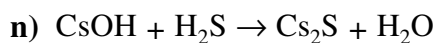
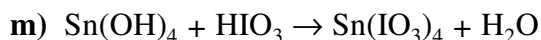
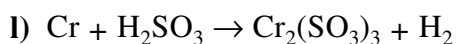
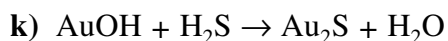
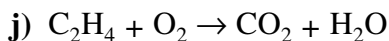
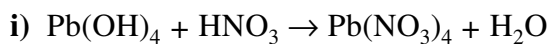
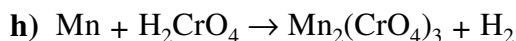
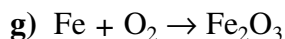
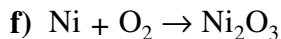
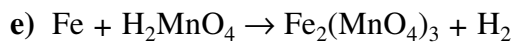
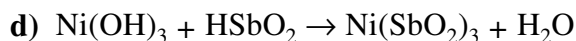
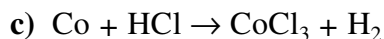
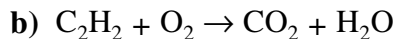
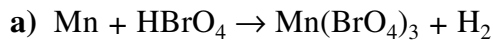


**Exercises of Balancing chemical reactions**


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1) Balance the following chemical equations:



**Exercises of Balancing chemical reactions**


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**Answers:**

- 1) a)  $2\text{Mn} + 6\text{HBrO}_4 \rightarrow 2\text{Mn}(\text{BrO}_4)_3 + 3\text{H}_2$   
 b)  $2\text{C}_2\text{H}_2 + 5\text{O}_2 \rightarrow 4\text{CO}_2 + 2\text{H}_2\text{O}$   
 c)  $2\text{Co} + 6\text{HCl} \rightarrow 2\text{CoCl}_3 + 3\text{H}_2$   
 d)  $\text{Ni}(\text{OH})_3 + 3\text{HSbO}_2 \rightarrow \text{Ni}(\text{SbO}_2)_3 + 3\text{H}_2\text{O}$   
 e)  $2\text{Fe} + 3\text{H}_2\text{MnO}_4 \rightarrow \text{Fe}_2(\text{MnO}_4)_3 + 3\text{H}_2$   
 f)  $4\text{Ni} + 3\text{O}_2 \rightarrow 2\text{Ni}_2\text{O}_3$   
 g)  $4\text{Fe} + 3\text{O}_2 \rightarrow 2\text{Fe}_2\text{O}_3$   
 h)  $2\text{Mn} + 3\text{H}_2\text{CrO}_4 \rightarrow \text{Mn}_2(\text{CrO}_4)_3 + 3\text{H}_2$   
 i)  $\text{Pb}(\text{OH})_4 + 4\text{HNO}_3 \rightarrow \text{Pb}(\text{NO}_3)_4 + 4\text{H}_2\text{O}$   
 j)  $\text{C}_2\text{H}_4 + 3\text{O}_2 \rightarrow 2\text{CO}_2 + 2\text{H}_2\text{O}$   
 k)  $2\text{AuOH} + \text{H}_2\text{S} \rightarrow \text{Au}_2\text{S} + 2\text{H}_2\text{O}$   
 l)  $2\text{Cr} + 3\text{H}_2\text{SO}_3 \rightarrow \text{Cr}_2(\text{SO}_3)_3 + 3\text{H}_2$   
 m)  $\text{Sn}(\text{OH})_4 + 4\text{HIO}_3 \rightarrow \text{Sn}(\text{IO}_3)_4 + 4\text{H}_2\text{O}$   
 n)  $2\text{CsOH} + \text{H}_2\text{S} \rightarrow \text{Cs}_2\text{S} + 2\text{H}_2\text{O}$   
 o)  $\text{Cr}(\text{OH})_3 + 3\text{HNO}_2 \rightarrow \text{Cr}(\text{NO}_2)_3 + 3\text{H}_2\text{O}$   
 p)  $\text{C}_5\text{H}_{12} + 8\text{O}_2 \rightarrow 5\text{CO}_2 + 6\text{H}_2\text{O}$   
 q)  $2\text{Cr}(\text{OH})_3 + 3\text{H}_2\text{Te} \rightarrow \text{Cr}_2\text{Te}_3 + 6\text{H}_2\text{O}$   
 r)  $\text{Ni}(\text{OH})_3 + 3\text{HCl} \rightarrow \text{NiCl}_3 + 3\text{H}_2\text{O}$   
 s)  $2\text{C}_2\text{H}_6 + 7\text{O}_2 \rightarrow 4\text{CO}_2 + 6\text{H}_2\text{O}$   
 t)  $2\text{Fe} + 3\text{H}_2\text{SO}_4 \rightarrow \text{Fe}_2(\text{SO}_4)_3 + 3\text{H}_2$   
 u)  $2\text{KOH} + \text{H}_2\text{S} \rightarrow \text{K}_2\text{S} + 2\text{H}_2\text{O}$   
 v)  $2\text{C}_4\text{H}_{10} + 13\text{O}_2 \rightarrow 8\text{CO}_2 + 10\text{H}_2\text{O}$   
 w)  $\text{C}_3\text{H}_8 + 5\text{O}_2 \rightarrow 3\text{CO}_2 + 4\text{H}_2\text{O}$   
 x)  $2\text{Cr}(\text{OH})_3 + 3\text{H}_2\text{SeO}_4 \rightarrow \text{Cr}_2(\text{SeO}_4)_3 + 6\text{H}_2\text{O}$   
 y)  $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$   
 z)  $\text{Mg}(\text{OH})_2 + 2\text{HIO}_3 \rightarrow \text{Mg}(\text{IO}_3)_2 + 2\text{H}_2\text{O}$