



## BALANCE THE GIVEN CHEMICAL EQUATIONS

### Worksheet - 43

- $10 \text{ C}_5\text{H}_6\text{O} + \text{ \_\_\_\_ } \text{ HNO}_3 = 39 \text{ H}_2\text{O} + \text{ \_\_\_\_ } \text{ C}_2\text{O} + 9 \text{ N}_2$
- $3 \text{ NaNO}_3 + \text{ \_\_\_\_ } \text{ HCl} + \text{ Au} = \text{ HAuCl}_4 + \text{ \_\_\_\_ } \text{ NO}_2 + 3 \text{ NaCl} + 3 \text{ H}_2\text{O}$
- $2 \text{ Al} + \text{ \_\_\_\_ } \text{ Pb}(\text{NO}_3)_2 = 2 \text{ Al}(\text{NO}_3)_3 + \text{ \_\_\_\_ } \text{ Pb}$
- $\text{ \_\_\_\_ } \text{ Na} + 3 \text{ H}_2\text{O} = \text{ \_\_\_\_ } \text{ NaOH} + \text{ H}_2$
- $2 \text{ I}_2 + \text{ \_\_\_\_ } \text{ S}_2\text{O}_3^{2-} = \text{ \_\_\_\_ } \text{ I}^{-} + \text{ S}_4\text{O}_6^{2-}$
- $3 \text{ P}_2\text{S}_3 + \text{ \_\_\_\_ } \text{ HIO}_3 + 9 \text{ H}_2\text{O} = \text{ \_\_\_\_ } \text{ H}_3\text{PO}_4 + 9 \text{ S} + 5 \text{ HI}$
- $\text{ \_\_\_\_ } (\text{NH}_4)_2\text{Cr}_2\text{O}_7 = 5 \text{ Cr}_2\text{O}_3 + \text{ \_\_\_\_ } \text{ N}_2 + 2 \text{ H}_2\text{O}$
- $2 \text{ Ca}_5\text{F}(\text{PO}_4)_3 + 9 \text{ SiO}_2 + \text{ \_\_\_\_ } \text{ C} = 9 \text{ CaSiO}_3 + \text{ CaF}_2 + \text{ \_\_\_\_ } \text{ CO} + 6 \text{ P}$
- $\text{ \_\_\_\_ } \text{ N}_2\text{H}_4 + \text{ N}_2\text{O}_4 = \text{ \_\_\_\_ } \text{ N}_2 + 4 \text{ H}_2\text{O}$
- $\text{ \_\_\_\_ } \text{ H}_2(\text{g}) + \text{ N}_2(\text{g}) = \text{ \_\_\_\_ } \text{ NH}_3(\text{g})$
- $\text{ C}_6\text{H}_{12}\text{O}_6 + \text{ \_\_\_\_ } \text{ O}_2 = \text{ \_\_\_\_ } \text{ CO}_2 + 6 \text{ H}_2\text{O}$
- $\text{ \_\_\_\_ } \text{ H}_2\text{O}_2 = \text{ \_\_\_\_ } \text{ H}_2\text{O} + \text{ O}_2$
- $6 \text{ ClO}_2 + \text{ \_\_\_\_ } \text{ H}_2\text{O} = \text{ \_\_\_\_ } \text{ HClO}_3 + \text{ HCl}$
- $2 \text{ C}_2\text{H}_6 + \text{ \_\_\_\_ } \text{ O}_2 = 4 \text{ CO}_2 + \text{ \_\_\_\_ } \text{ H}_2\text{O}$
- $\text{ \_\_\_\_ } \text{ C}_2\text{H}_4\text{O}_2 + \text{ Ba}(\text{OH})_2 = \text{ \_\_\_\_ } \text{ H}_2\text{O} + (\text{C}_2\text{H}_3\text{O}_2)_2\text{Ba}$
- $\text{ \_\_\_\_ } \text{ HCl} + \text{ MgO} = \text{ MgCl}_2 + \text{ H}_2\text{O}$
- $2 \text{ NBr}_3 + \text{ \_\_\_\_ } \text{ NaOH} = \text{ N}_2 + \text{ \_\_\_\_ } \text{ NaBr} + 3 \text{ HOBr}$
- $\text{ \_\_\_\_ } \text{ FeCl}_3 + 3 \text{ Na}_2\text{CO}_3 = \text{ Fe}_2(\text{CO}_3)_3 + \text{ \_\_\_\_ } \text{ NaCl}$
- $2 \text{ Al} + \text{ \_\_\_\_ } \text{ HCl} = \text{ \_\_\_\_ } \text{ AlCl}_3 + \text{ H}_2$
- $\text{ \_\_\_\_ } \text{ C}_4\text{H}_6 + 11 \text{ O}_2 = \text{ \_\_\_\_ } \text{ CO}_2 + 6 \text{ H}_2\text{O}$



# ANSWERS

1.  $10 \text{ C}_5\text{H}_6\text{O} + 18 \text{ HNO}_3 = 39 \text{ H}_2\text{O} + 25 \text{ C}_2\text{O} + 9 \text{ N}_2$
2.  $3 \text{ NaNO}_3 + 7 \text{ HCl} + \text{Au} = \text{HAuCl}_4 + 3 \text{ NO}_2 + 3 \text{ NaCl} + 3 \text{ H}_2\text{O}$
3.  $2 \text{ Al} + 3 \text{ Pb}(\text{NO}_3)_2 = 2 \text{ Al}(\text{NO}_3)_3 + 3 \text{ Pb}$
4.  $3 \text{ Na} + 3 \text{ H}_2\text{O} = 3 \text{ NaOH} + \text{H}_2$
5.  $2 \text{ I}_2 + 2 \text{ S}_2\text{O}_3^{2-} = 4 \text{ I}^- + \text{S}_4\text{O}_6^{2-}$
6.  $3 \text{ P}_2\text{S}_3 + 5 \text{ HIO}_3 + 9 \text{ H}_2\text{O} = 6 \text{ H}_3\text{PO}_4 + 9 \text{ S} + 5 \text{ HI}$
7.  $5 (\text{NH}_4)_2\text{Cr}_2\text{O}_7 = 5 \text{ Cr}_2\text{O}_3 + 5 \text{ N}_2 + 2 \text{ H}_2\text{O}$
8.  $2 \text{ Ca}_5\text{F}(\text{PO}_4)_3 + 9 \text{ SiO}_2 + 15 \text{ C} = 9 \text{ CaSiO}_3 + \text{CaF}_2 + 15 \text{ CO} + 6 \text{ P}$
9.  $2 \text{ N}_2\text{H}_4 + \text{N}_2\text{O}_4 = 3 \text{ N}_2 + 4 \text{ H}_2\text{O}$
10.  $3 \text{ H}_2(\text{g}) + \text{N}_2(\text{g}) = 2 \text{ NH}_3(\text{g})$
11.  $\text{C}_6\text{H}_{12}\text{O}_6 + 6 \text{ O}_2 = 6 \text{ CO}_2 + 6 \text{ H}_2\text{O}$
12.  $2 \text{ H}_2\text{O}_2 = 2 \text{ H}_2\text{O} + \text{O}_2$
13.  $6 \text{ ClO}_2 + 3 \text{ H}_2\text{O} = 5 \text{ HClO}_3 + \text{HCl}$
14.  $2 \text{ C}_2\text{H}_6 + 7 \text{ O}_2 = 4 \text{ CO}_2 + 6 \text{ H}_2\text{O}$
15.  $2 \text{ C}_2\text{H}_4\text{O}_2 + \text{Ba}(\text{OH})_2 = 2 \text{ H}_2\text{O} + (\text{C}_2\text{H}_3\text{O}_2)_2\text{Ba}$
16.  $2 \text{ HCl} + \text{MgO} = \text{MgCl}_2 + \text{H}_2\text{O}$
17.  $2 \text{ NBr}_3 + 3 \text{ NaOH} = \text{N}_2 + 3 \text{ NaBr} + 3 \text{ HOBr}$
18.  $2 \text{ FeCl}_3 + 3 \text{ Na}_2\text{CO}_3 = \text{Fe}_2(\text{CO}_3)_3 + 6 \text{ NaCl}$
19.  $2 \text{ Al} + 2 \text{ HCl} = 2 \text{ AlCl} + \text{H}_2$
20.  $2 \text{ C}_4\text{H}_6 + 11 \text{ O}_2 = 8 \text{ CO}_2 + 6 \text{ H}_2\text{O}$



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