



BALANCE THE GIVEN CHEMICAL EQUATIONS

Worksheet - 22

- $\text{H}_2\text{C}_4\text{H}_4\text{O}_5(\text{aq}) + \text{ ___ } \text{NaOH}(\text{aq}) = \text{Na}_2\text{C}_4\text{H}_4\text{O}_5 + \text{ ___ } \text{H}_2\text{O}$
- $\text{ ___ } \text{KHF}_2 = \text{ ___ } \text{KF} + \text{H}_2 + \text{F}_2$
- $\text{H}_3\text{PO}_4 + \text{ ___ } \text{H}_2\text{O} = \text{PO}_4 + \text{ ___ } \text{H}_3\text{O}$
- $2 \text{H}_3\text{PO}_4 + \text{ ___ } \text{Fe}(\text{OH})_2 = \text{ ___ } \text{H}_2\text{O} + \text{Fe}_3(\text{PO}_4)_2$
- $8 \text{Ag}_2\text{S} = \text{ ___ } \text{Ag} + \text{S}_8$
- $\text{ ___ } \text{FeS}_2 + 3 \text{O}_2 = \text{ ___ } \text{Fe}_2\text{O}_3 + 4 \text{S}_02$
- $2 \text{CH}_3\text{CH}_3 + \text{ ___ } \text{O}_2 = 4 \text{CO}_2 + \text{ ___ } \text{H}_2\text{O}$
- $2 \text{Li}_3\text{PO}_4 + \text{ ___ } \text{BaCl}_2 = \text{ ___ } \text{LiCl} + \text{Ba}_3(\text{PO}_4)_2$
- $\text{C}_{12}\text{H}_{22}\text{O}_{11} + \text{ ___ } \text{HNO}_3 = \text{ ___ } \text{C}_2\text{H}_2\text{O}_4 + 36 \text{NO}_2 + 23 \text{H}_2\text{O}$
- $\text{Al}_2\text{O}_3 + \text{ ___ } \text{H}_2\text{SO}_4 = \text{Al}_2\text{O}_{12}\text{S}_3 + \text{ ___ } \text{H}_2\text{O}$
- $\text{ ___ } \text{FeCl}_2 + \text{KMnO}_4 + 8 \text{HCl} = 5 \text{FeCl}_3 + \text{MnCl}_2 + \text{ ___ } \text{H}_2\text{O} + \text{KCl}$
- $\text{ ___ } (\text{CH}_3(\text{CH}_2)_6\text{CH}_3) + 25 \text{O}_2 = 16 \text{CO}_2 + \text{ ___ } \text{H}_2\text{O}$
- $\text{ ___ } \text{P} + 5 \text{HNO}_3 + 2 \text{H}_2\text{O} = 5 \text{NO} + \text{ ___ } \text{H}_3\text{PO}_4$
- $2 \text{C}_3\text{H}_8\text{O}_3(\text{g}) + \text{ ___ } \text{O}_2(\text{g}) = 6 \text{CO}_2(\text{g}) + \text{ ___ } \text{H}_2\text{O}(\text{g})$
- $\text{Na}_2\text{CO}_3 + \text{ ___ } \text{HCL} = \text{CO}_2\text{H}_2\text{O} + \text{ ___ } \text{NaCl}$
- $\text{ ___ } \text{NO}_2 + \text{H}_2\text{O} = \text{ ___ } \text{HNO}_3 + \text{NO}$
- $\text{ ___ } \text{HNO}_3 + \text{I}_2 = \text{ ___ } \text{NO}_2 + 4 \text{H}_2\text{O} + 2 \text{HIO}_3$
- $\text{ ___ } \text{FeCl}_3 + 3 \text{Na}_2\text{CO}_3 = \text{Fe}_2(\text{CO}_3)_3 + \text{ ___ } \text{NaCl}$
- $2 \text{Al} + \text{ ___ } \text{H}_2\text{SO}_4 = \text{Al}_2(\text{SO}_4)_3 + \text{ ___ } \text{H}_2$
- $3 \text{WO}_3 + \text{SnCl}_2 + \text{ ___ } \text{HCl} = \text{W}_3\text{O}_8 + \text{H}_2\text{SnCl}_6 + \text{H}_2\text{O}$



ANSWERS

1. $\text{H}_2\text{C}_4\text{H}_4\text{O}_5(\text{aq}) + 2 \text{NaOH}(\text{aq}) = \text{Na}_2\text{C}_4\text{H}_4\text{O}_5 + 2 \text{H}_2\text{O}$
2. $2 \text{KHF}_2 = 2 \text{KF} + \text{H}_2 + \text{F}_2$
3. $\text{H}_3\text{PO}_4 + 3 \text{H}_2\text{O} = \text{PO}_4 + 3 \text{H}_3\text{O}$
4. $2 \text{H}_3\text{PO}_4 + 3 \text{Fe}(\text{OH})_2 = 6 \text{H}_2\text{O} + \text{Fe}_3(\text{PO}_4)_2$
5. $8 \text{Ag}_2\text{S} = 16 \text{Ag} + \text{S}_8$
6. $4 \text{FeS}_2 + 3 \text{O}_2 = 2 \text{Fe}_2\text{O}_3 + 4 \text{S}_{02}$
7. $2 \text{CH}_3\text{CH}_3 + 7 \text{O}_2 = 4 \text{CO}_2 + 6 \text{H}_2\text{O}$
8. $2 \text{Li}_3\text{PO}_4 + 3 \text{BaCl}_2 = 6 \text{LiCl} + \text{Ba}_3(\text{PO}_4)_2$
9. $\text{C}_{12}\text{H}_{22}\text{O}_{11} + 36 \text{HNO}_3 = 6 \text{C}_2\text{H}_2\text{O}_4 + 36 \text{NO}_2 + 23 \text{H}_2\text{O}$
10. $\text{Al}_2\text{O}_3 + 3 \text{H}_2\text{SO}_4 = \text{Al}_2\text{O}_{12}\text{S}_3 + 3 \text{H}_2\text{O}$
11. $5 \text{FeCl}_2 + \text{KMnO}_4 + 8 \text{HCl} = 5 \text{FeCl}_3 + \text{MnCl}_2 + 4 \text{H}_2\text{O} + \text{KCl}$
12. $2 (\text{CH}_3(\text{CH}_2)_6\text{CH}_3) + 25 \text{O}_2 = 16 \text{CO}_2 + 18 \text{H}_2\text{O}$
13. $3 \text{P} + 5 \text{HNO}_3 + 2 \text{H}_2\text{O} = 5 \text{NO} + 3 \text{H}_3\text{PO}_4$
14. $2 \text{C}_3\text{H}_8\text{O}_3(\text{g}) + 7 \text{O}_2(\text{g}) = 6 \text{CO}_2(\text{g}) + 8 \text{H}_2\text{O}(\text{g})$
15. $\text{Na}_2\text{CO}_3 + 2 \text{HCL} = \text{CO}_2\text{H}_2\text{O} + 2 \text{NaCl}$
16. $3 \text{NO}_2 + \text{H}_2\text{O} = 2 \text{HNO}_3 + \text{NO}$
17. $10 \text{HNO}_3 + \text{I}_2 = 10 \text{NO}_2 + 4 \text{H}_2\text{O} + 2 \text{HIO}_3$
18. $2 \text{FeCl}_3 + 3 \text{Na}_2\text{CO}_3 = \text{Fe}_2(\text{CO}_3)_3 + 6 \text{NaCl}$
19. $2 \text{Al} + 3 \text{H}_2\text{SO}_4 = \text{Al}_2(\text{SO}_4)_3 + 3 \text{H}_2$
20. $3 \text{WO}_3 + \text{SnCl}_2 + 4 \text{HCl} = \text{W}_3\text{O}_8 + \text{H}_2\text{SnCl}_6 + \text{H}_2\text{O}$



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