



BALANCE THE GIVEN CHEMICAL EQUATIONS

Worksheet - 52

1. $4 \text{ Fe} + \text{ ____ } \text{ HNO}_3 = \text{ ____ } \text{ Fe}(\text{NO}_3)_2 + \text{ ____ } \text{ NH}_4\text{NO}_3 + 3 \text{ H}_2\text{O}$
2. $\text{ ____ } \text{ KOH} + \text{ H}_2\text{SO}_4 = \text{ K}_2\text{SO}_4 + \text{ ____ } \text{ H}_2\text{O}$
3. $4 \text{ HCl} + \text{ ____ } \text{ As}_2\text{O}_3 + 4 \text{ NaNO}_3 + 7 \text{ H}_2\text{O} = \text{ ____ } \text{ NO} + 6 \text{ H}_3\text{AsO}_4 + 4 \text{ NaCl}$
4. $\text{ ____ } \text{ HCl} + \text{ O}_2 = 2 \text{ Cl}_2 + \text{ ____ } \text{ H}_2\text{O}$
5. $\text{ ____ } \text{ NaBr} + \text{ H}_3\text{PO}_4 = \text{ Na}_3\text{PO}_4 + \text{ ____ } \text{ HBr}$
6. $\text{ H}_2\text{SO}_4 + \text{ ____ } \text{ NaOH} = \text{ Na}_2\text{SO}_4 + \text{ ____ } \text{ H}_2\text{O}$
7. $\text{ Ba}(\text{OH})_2 + \text{ ____ } \text{ HCl} = \text{ BaCl}_2 + \text{ ____ } \text{ H}_2\text{O}$
8. $\text{ ____ } \text{ BeO} + 2 \text{ C} = \text{ Be}_2\text{C} + \text{ CO}_2$
9. $\text{ CH}_4 + \text{ ____ } \text{ O}_2 = \text{ CO}_2 + \text{ ____ } \text{ H}_2\text{O}$
10. $\text{ ____ } \text{ Al}(\text{OH})_3(\text{s}) + 3 \text{ H}_2\text{SO}_4(\text{aq}) = \text{ Al}_2(\text{SO}_4)_3(\text{aq}) + \text{ ____ } \text{ H}_2\text{O}(\text{l})$
11. $\text{ ____ } \text{ NaBr} + \text{ Cl}_2 = \text{ ____ } \text{ NaCl} + \text{ Br}_2$
12. $2 \text{ ICl}_3 + \text{ ____ } \text{ H}_2\text{O} = \text{ ICl} + \text{ HIO}_3 + \text{ ____ } \text{ HCl}$
13. $2 \text{ C}_2\text{H}_3\text{Cl} + \text{ ____ } \text{ O}_2 = \text{ ____ } \text{ CO}_2 + 2 \text{ H}_2\text{O} + 2 \text{ HCl}$
14. $\text{ C}_3\text{H}_8\text{O}(\text{l}) + \text{ ____ } \text{ O}_2(\text{g}) = \text{ ____ } \text{ CO} + 4 \text{ H}_2\text{O}$
15. $\text{ ____ } \text{ Sn} + 4 \text{ HNO}_3 + \text{ H}_2\text{O} = \text{ ____ } \text{ H}_2\text{SnO}_3 + 4 \text{ NO}$
16. $\text{ C}_6\text{H}_{12}\text{O}_6(\text{s}) + \text{ ____ } \text{ O}_2(\text{g}) = 6 \text{ CO}_2(\text{g}) + \text{ ____ } \text{ H}_2\text{O}(\text{l})$
17. $\text{ ____ } \text{ Fe}_3\text{O}_4 + \text{ C} = \text{ ____ } \text{ FeO} + \text{ CO}_2$
18. $\text{ ____ } \text{ HCl} + 3 \text{ As}_2\text{O}_3 + 4 \text{ NaNO}_3 + 7 \text{ H}_2\text{O} = \text{ ____ } \text{ NO} + 6 \text{ H}_3\text{AsO}_4 + 4 \text{ NaCl}$
19. $3 \text{ Ca}(\text{OH})_2 + \text{ ____ } \text{ H}_3\text{PO}_4 = \text{ Ca}_3(\text{PO}_4)_2 + \text{ ____ } \text{ H}_2\text{O}$
20. $\text{ ____ } \text{ KClO}_3 = \text{ ____ } \text{ KCl} + 3 \text{ O}_2$



ANSWERS

1. $4 \text{ Fe} + 10 \text{ HNO}_3 = 4 \text{ Fe}(\text{NO}_3)_2 + \text{NH}_4\text{NO}_3 + 3 \text{ H}_2\text{O}$
2. $2 \text{ KOH} + \text{H}_2\text{SO}_4 = \text{K}_2\text{SO}_4 + 2 \text{ H}_2\text{O}$
3. $4 \text{ HCl} + 3 \text{ As}_2\text{O}_3 + 4 \text{ NaNO}_3 + 7 \text{ H}_2\text{O} = 4 \text{ NO} + 6 \text{ H}_3\text{AsO}_4 + 4 \text{ NaCl}$
4. $4 \text{ HCl} + \text{O}_2 = 2 \text{ Cl}_2 + 2 \text{ H}_2\text{O}$
5. $3 \text{ NaBr} + \text{H}_3\text{PO}_4 = \text{Na}_3\text{PO}_4 + 3 \text{ HBr}$
6. $\text{H}_2\text{SO}_4 + 2 \text{ NaOH} = \text{Na}_2\text{SO}_4 + 2 \text{ H}_2\text{O}$
7. $\text{Ba}(\text{OH})_2 + 2 \text{ HCl} = \text{BaCl}_2 + 2 \text{ H}_2\text{O}$
8. $2 \text{ BeO} + 2 \text{ C} = \text{Be}_2\text{C} + \text{CO}_2$
9. $\text{CH}_4 + 2 \text{ O}_2 = \text{CO}_2 + 2 \text{ H}_2\text{O}$
10. $2 \text{ Al}(\text{OH})_3(\text{s}) + 3 \text{ H}_2\text{SO}_4(\text{aq}) = \text{Al}_2(\text{SO}_4)_3(\text{aq}) + 6 \text{ H}_2\text{O}(\text{l})$
11. $2 \text{ NaBr} + \text{Cl}_2 = 2 \text{ NaCl} + \text{Br}_2$
12. $2 \text{ ICl}_3 + 3 \text{ H}_2\text{O} = \text{ICl} + \text{HIO}_3 + 5 \text{ HCl}$
13. $2 \text{ C}_2\text{H}_3\text{Cl} + 5 \text{ O}_2 = 4 \text{ CO}_2 + 2 \text{ H}_2\text{O} + 2 \text{ HCl}$
14. $\text{C}_3\text{H}_8\text{O}(\text{l}) + 3 \text{ O}_2(\text{g}) = 3 \text{ CO} + 4 \text{ H}_2\text{O}$
15. $3 \text{ Sn} + 4 \text{ HNO}_3 + \text{H}_2\text{O} = 3 \text{ H}_2\text{SnO}_3 + 4 \text{ NO}$
16. $\text{C}_6\text{H}_{12}\text{O}_6(\text{s}) + 6 \text{ O}_2(\text{g}) = 6 \text{ CO}_2(\text{g}) + 6 \text{ H}_2\text{O}(\text{l})$
17. $2 \text{ Fe}_3\text{O}_4 + \text{C} = 6 \text{ FeO} + \text{CO}_2$
18. $4 \text{ HCl} + 3 \text{ As}_2\text{O}_3 + 4 \text{ NaNO}_3 + 7 \text{ H}_2\text{O} = 4 \text{ NO} + 6 \text{ H}_3\text{AsO}_4 + 4 \text{ NaCl}$
19. $3 \text{ Ca}(\text{OH})_2 + 2 \text{ H}_3\text{PO}_4 = \text{Ca}_3(\text{PO}_4)_2 + 6 \text{ H}_2\text{O}$
20. $2 \text{ KClO}_3 = 2 \text{ KCl} + 3 \text{ O}_2$



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