

## CHEMISTRY - CHAPTER 3: EQUATIONS

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### BALANCING EQUATIONS: FORMULAS GIVEN

### Practice Sheet #1

**Balance the following equations:**

1. Al + N<sub>2</sub> → AlN
2. Fe + O<sub>2</sub> → Fe<sub>3</sub>O<sub>4</sub>
3. CaCO<sub>3</sub> → CaO + CO<sub>2</sub>
4. NH<sub>4</sub>NO<sub>3</sub> → N<sub>2</sub>O + H<sub>2</sub>O
5. KI + Cl<sub>2</sub> → KCl + I<sub>2</sub>
6. Pb(NO<sub>3</sub>)<sub>2</sub> + HCl → PbCl<sub>2</sub> + HNO<sub>3</sub>
7. BaO<sub>2</sub> → BaO + O<sub>2</sub>
8. Al + H<sub>2</sub>SO<sub>4</sub> → Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> + H<sub>2</sub>
9. CH<sub>4</sub> + Cl<sub>2</sub> → CHCl<sub>3</sub> + HCl
10. MgCl<sub>2</sub> + NaOH → Mg(OH)<sub>2</sub> + NaCl
11. AgNO<sub>3</sub> + CuCl<sub>2</sub> → AgCl + Cu(NO<sub>3</sub>)<sub>2</sub>
12. ZnS + O<sub>2</sub> → ZnO + SO<sub>2</sub>
13. Na + H<sub>2</sub>O → H<sub>2</sub> + NaOH
14. BaCl<sub>2</sub> + (NH<sub>4</sub>)<sub>2</sub>CO<sub>3</sub> → BaCO<sub>3</sub> + NH<sub>4</sub>Cl
15. C<sub>6</sub>H<sub>6</sub> + O<sub>2</sub> → CO<sub>2</sub> + H<sub>2</sub>O
16. Na + H<sub>2</sub>O → NaOH + H<sub>2</sub>
17. Fe + FeCl<sub>3</sub> → FeCl<sub>2</sub>
18. Ba(OH)<sub>2</sub> + AlCl<sub>3</sub> → Al(OH)<sub>3</sub> + BaCl<sub>2</sub>
19. H<sub>3</sub>C<sub>2</sub>O<sub>4</sub> + KOH → K<sub>2</sub>C<sub>2</sub>O<sub>4</sub> + H<sub>2</sub>O
20. C<sub>2</sub>H<sub>2</sub>Cl<sub>4</sub> + Ca(OH)<sub>2</sub> → C<sub>2</sub>HCl<sub>3</sub> + CaCl<sub>2</sub> + H<sub>2</sub>O
21. (NH<sub>4</sub>)<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> → N<sub>2</sub> + Cr<sub>2</sub>O<sub>3</sub> + H<sub>2</sub>O
22. Zn<sub>3</sub>Sb<sub>2</sub> + H<sub>2</sub>O → Zn(OH)<sub>2</sub> + SbH<sub>3</sub>
23. HClO<sub>4</sub> + P<sub>4</sub>O<sub>10</sub> → H<sub>3</sub>PO<sub>4</sub> + Cl<sub>2</sub>O<sub>7</sub>
24. C<sub>6</sub>H<sub>5</sub>Cl + SiCl<sub>4</sub> + Na → (C<sub>6</sub>H<sub>5</sub>)<sub>4</sub>Si + NaCl
25. Sb<sub>2</sub>S<sub>3</sub> + HCl → H<sub>3</sub>SbCl<sub>6</sub> + H<sub>2</sub>S
26. IBr + NH<sub>3</sub> → NI<sub>3</sub> + NH<sub>4</sub>Br
27. KrF<sub>2</sub> + H<sub>2</sub>O → Kr + O<sub>2</sub> + HF
28. Na<sub>2</sub>CO<sub>3</sub> + C + N<sub>2</sub> → NaCN + CO
29. K<sub>4</sub>Fe(CN)<sub>6</sub> + H<sub>2</sub>SO<sub>4</sub> + H<sub>2</sub>O → K<sub>2</sub>SO<sub>4</sub> + FeSO<sub>4</sub> + (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> + CO