

Formulas and Nomenclature

I. Name the following compounds:

1. HCl
2. KOH
3. HgOH
4. KCl
5. FeCl₃
6. HNO₃
7. NH₄OH
8. Cu₂O
9. Al₂(SO₄)₃
10. N₂O₅
11. NaOH
12. CO₂
13. HF
14. Pb(OH)₂
15. NH₄NO₃
16. NaHCO₃
17. HgO
18. Zn(NO₂)₂
19. H₃PO₄
20. CsOH
21. Li₂O
22. Ca(OH)₂
23. CaBr₂
24. Fe₂O₃
25. H₂SO₄
26. FeCO₃
27. SO₃
28. Ba(BrO₃)₂
29. Al(OH)₃
30. HClO₄
31. Na₂C₂H₃O₂
32. Na₂SO₃
33. H₂CO₃
34. HFO₂
35. NH₄IO₃
36. LiH

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| 37. CO | 57. RaBr ₂ |
| 38. MgBr ₂ | 58. NaMnO ₄ |
| 39. SnBr ₂ | 59. PbI ₂ |
| 40. N ₂ O | 60. CaS |
| 41. NH ₄ F | 61. Bi ₂ Te ₃ |
| 42. AsCl ₃ | 62. KClO ₄ |
| 43. KHCO ₃ | 63. HgBr ₂ |
| 44. K ₂ O | 64. CoSi |
| 45. Ba ₃ As ₂ | 65. P ₃ N ₅ |
| 46. ZnO | 66. CuSO ₃ |
| 47. NaClO | 67. FePO ₄ |
| 48. SrS | 68. PbTe |
| 49. Al(BrO ₃) ₃ | 69. HgNO ₃ |
| 50. SbF ₃ | 70. K ₂ SiO ₃ |
| 51. Pd(CN) ₂ | 71. AgC ₂ H ₃ O ₂ |
| 52. ZnSiO ₃ | 72. TeL ₄ |
| 53. Mg(C ₂ H ₃ O ₂) ₂ | 73. Zn ₃ (PO ₄) ₂ |
| 54. Ca(MnO ₄) ₂ | 74. Ag ₂ S |
| 55. Be(NO ₃) ₂ | 75. Cd(HCO ₃) ₂ |
| 56. NiSeO ₄ | 76. ZnF ₂ |

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|---|---|
| 77. H_2SO_3 | 89. $\text{KAl}(\text{SO}_4)_2$ |
| 78. $\text{Ba}(\text{OH})_2$ | 90. K_2UO_4 |
| 79. PbS | 91. SmCl_3 |
| 80. NaH_2PO_4 | 92. K_2S_5 |
| 81. $\text{NH}_4\text{C}_2\text{H}_3\text{O}_2$ | 93. $\text{Fe}_3[\text{Fe}(\text{CN})_6]_2$ |
| 82. Ag_3N | 94. PtCl_2 |
| 83. SiL_4 | 95. PtL_4 |
| 84. ZnCO_3 | 96. NiI_3 |
| 85. H_3PO_3 | 97. MoCl_5 |
| 86. SnI_4 | 98. $\text{La}(\text{NO}_3)_3$ |
| 87. $\text{Pb}(\text{NO}_3)_2$ | 99. Dy_2O_3 |
| 88. NaF | 100. V_2O_5 |

II. Write the correct formula for each of the following compounds:

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|---------------------|-----------------------|
| 1. sulfuric acid | 5. calcium oxide |
| 2. sodium hydroxide | 6. hydrosulfuric acid |
| 3. sodium bromide | 7. lithium sulfate |
| 4. barium hydroxide | 8. carbon monoxide |

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|----------------------------|------------------------------|
| 9. manganese dioxide | 29. hydrogen acetate |
| 10. sulfur dioxide | 30. copper (II) nitrite |
| 11. iron (II) sulfate | 31. nitrogen dioxide |
| 12. hypochlorous acid | 32. phosphorus trichloride |
| 13. potassium permanganate | 33. sodium phosphate |
| 14. silver chloride | 34. potassium carbonate |
| 15. copper (II) hydroxide | 35. phosphoric acid |
| 16. ammonium sulfide | 36. lead (IV) chloride |
| 17. nickel bromide | 37. tin (II) bromide |
| 18. iron (II) oxide | 38. ammonium hydroxide |
| 19. bromic acid | 39. periodic acid |
| 20. ammonium bisulfate | 40. iron (II) hydroxide |
| 21. mercury (I) sulfate | 41. carbon dioxide |
| 22. iron (III) oxide | 42. dinitrogen pentoxide |
| 23. magnesium phosphate | 43. silver oxide |
| 24. nickel bicarbonate | 44. aluminum nitride |
| 25. zinc hydroxide | 45. manganese (II) hydroxide |
| 26. hydroiodic acid | 46. ammonium carbonate |
| 27. diphosphorus pentoxide | 47. aluminum oxide |
| 28. aluminum phosphate | 48. antimony pentasulfide |

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|------------------------------|---------------------------------|
| 49. barium carbonate | 69. mercury (II) nitride |
| 50. calcium phosphate | 70. lead (II) hydroxide |
| 51. cesium carbonate | 71. tin (IV) chloride |
| 52. potassium silicate | 72. selenium tetrafluoride |
| 53. silver chromate | 73. phosphorus pentabromide |
| 54. magnesium sulfite | 74. mercury (I) iodate |
| 55. chromium (III) phosphide | 75. iron (III) sulfate |
| 56. cobalt (III) nitrate | 76. nickel (II) sulfate |
| 57. zinc iodide | 77. silicon dioxide |
| 58. iron (II) fluoride | 78. lithium phosphate |
| 59. nickel (II) selenide | 79. potassium antimonide |
| 60. sodium bisulfate | 80. nitric acid |
| 61. lithium oxide | 81. magnesium nitride |
| 62. copper (I) carbonate | 82. cadmium nitrite |
| 63. strontium carbonate | 83. zinc acetate |
| 64. mercury (I) sulfate | 84. hydrogen nitrite |
| 65. potassium dichromate | 85. strontium hydroxide |
| 66. manganese (II) oxide | 86. lead (II) sulfate |
| 67. nickel (II) chloride | 87. aluminum bisulfate |
| 68. lead (II) acetate | 88. disodium hydrogen phosphate |

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| 89. ammonium aluminum sulphate | 100. potassium arsenate |
| 90. copper (II) sulfate pentahydrate | 101. silver potassium cyanide |
| 91. lead (II) nitrate | 102. sodium cyanate |
| 92. gold (III) chloride | 103. permanganic acid |
| 93. tin (II) hydroxide | 104. osmium tetrachloride |
| 94. hydrogen carbonate | 105. lanthanum oxide |
| 95. ammonium bromate | 106. germanium tetrachloride |
| 96. scandium bromide | 107. erbium acetate |
| 97. bromine iodide | 108. ytterbium oxide |
| 98. rubidium carbonate | 109. calcium hydride |
| 99. potassium thiosulfate | 110. iron (II) ferricyanide |

Formulas and Nomenclature: pp. 30-35

Group I.

1. hydrogen chloride or hydrochloric acid
2. potassium hydroxide
3. mercury(I) hydroxide or mercurous hydroxide
4. potassium chloride
5. iron(III) chloride or ferric chloride
6. nitric acid or hydrogen nitrate
7. ammonium hydroxide
8. copper(I) oxide or cuprous oxide
9. aluminum sulfate
10. dinitrogen pentoxide *Nitrogen V oxide*
11. sodium hydroxide
12. carbon dioxide *Carbon IV oxide*
13. hydrofluoric acid or hydrogen fluoride
14. lead(II) hydroxide or plumbous hydroxide
15. ammonium nitrate
16. sodium bicarbonate or sodium hydrogen carbonate
17. mercury(II) oxide or mercuric oxide
18. zinc nitrite
19. phosphoric acid or hydrogen phosphate
20. cesium hydroxide
21. lithium oxide
22. calcium hydroxide
23. calcium bromide
24. iron(III) oxide or ferric oxide
25. sulfuric acid or hydrogen sulfate
26. iron(II) carbonate or ferrous carbonate
27. sulfur trioxide *Sulfur VI oxide*
28. barium bromate
29. aluminum hydroxide
30. perchloric acid or hydrogen perchlorate
31. sodium acetate
32. sodium sulfite
33. carbonic acid or hydrogen carbonate
34. fluorous acid or hydrogen fluoride
35. ammonium iodate
36. lithium hydride
37. carbon monoxide *Carbon II oxide*
38. magnesium bromide
39. tin (IV) bromide or stannic bromide
40. nitrous oxide *Nitrogen (I) oxide*
41. ammonium fluoride

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43. potassium bicarbonate
44. potassium oxide
45. barium arsenide
46. zinc oxide
47. sodium hypochlorite
48. strontium sulfide
49. aluminum bromate
50. antimony trifluoride. *Anti. (III) fluoride*
51. palladium cyanide
52. zinc silicate
53. magnesium acetate
54. calcium permanganate
55. beryllium nitrate
56. nickel selenate
57. radium bromide
58. sodium permanganate
59. lead(II) iodide or plumbous iodide
60. calcium sulfide
61. bismuth telluride
62. potassium perchlorate
63. mercury(II) bromide or mercuric bromide
64. cobalt silicide
65. triphosphorus pentanitride
66. copper(II) sulfite or cupric sulfite
67. iron(III) phosphate or ferric phosphate
68. lead(II) telluride or plumbous telluride
69. mercury(I) nitrate or mercurous nitrate
70. potassium silicate
71. silver acetate
72. tellurium tetraiodide. *Tellurium IV Iodide*
73. zinc phosphate
74. silver sulfide
75. cadmium bicarbonate
76. zinc fluoride
77. sulfurous acid or hydrogen sulfite
78. barium hydroxide
79. lead(II) sulfide or plumbous sulfide
80. sodium dihydrogen phosphate or monobasic sodium phosphate
81. ammonium acetate
82. silver nitride
83. silicon tetraiodide *Si₄ IV iodide*
84. zinc carbonate
85. phosphorus acid or hydrogen phosphite

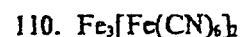
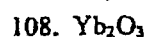
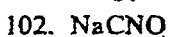
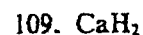
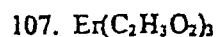
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86. tin(IV) iodide or stannic iodide
 87. lead(II) nitrate or plumbous nitrate
 88. sodium fluoride
 89. potassium aluminum sulfate
 90. potassium uranate
 91. samarium chloride
 92. potassium pentasulfide
 93. iron(II) ferricyanide or ferrous ferricyanide
 94. platinum(II) chloride or platinous chloride
 95. platinum (IV) iodide or platinumic iodide
 96. nitrogen triiodide *Nitrogen (III) Iodide*
 97. molybdenum pentachloride *Molybdenum (V) Chloride*
 98. lanthanum nitrate
 99. dysprosium oxide
 100. vanadium pentoxide *Vanadium (V) Oxide*

Group II.

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|----------------------------------|---------------------------------------|---|---|
| 1. H_2SO_4 | 26. HI | 51. Cs_2CO_3 | 76. NiSO_4 |
| 2. NaOH | 27. P_2O_5 | 52. K_2SiO_3 | 77. SiO_2 |
| 3. NaBr | 28. AlPO_4 | 53. Ag_2CrO_4 | 78. Li_3PO_4 |
| 4. $\text{Ba}(\text{OH})_2$ | 29. $\text{HC}_2\text{H}_3\text{O}_2$ | 54. MgSO_3 | 79. K_3Sb |
| 5. CaO | 30. $\text{Cu}(\text{NO}_2)_2$ | 55. CrP | 80. HNO_3 |
| 6. H_2S | 31. NO_2 | 56. $\text{Co}(\text{NO}_3)_2$ | 81. Mg_3N_2 |
| 7. Li_2SO_4 | 32. PCl_3 | 57. ZnI_2 | 82. $\text{Cd}(\text{NO}_2)_2$ |
| 8. CO | 33. Na_3PO_4 | 58. FeF_2 | 83. $\text{Zn}(\text{C}_2\text{H}_3\text{O}_2)_2$ |
| 9. MnO_2 | 34. K_2CO_3 | 59. NiSe | 84. HNO_2 |
| 10. SO_2 | 35. H_3PO_4 | 60. NaHSO_4 | 85. $\text{Sr}(\text{OH})_2$ |
| 11. FeSO_4 | 36. PbCl_4 | 61. Li_2O | 86. PbSO_4 |
| 12. HClO | 37. SnBr_2 | 62. Cu_2CO_3 | 87. $\text{Al}(\text{HSO}_4)_3$ |
| 13. KMnO_4 | 38. NH_4OH | 63. SrCO_3 | 88. Na_2HPO_4 |
| 14. AgCl | 39. HIO_4 | 64. Hg_2SO_4 | 89. $\text{NH}_4\text{Al}(\text{SO}_4)_2$ |
| 15. $\text{Cu}(\text{OH})_2$ | 40. $\text{Fe}(\text{OH})_2$ | 65. $\text{K}_2\text{Cr}_2\text{O}_7$ | 90. $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ |
| 16. $(\text{NH}_4)_2\text{S}$ | 41. CO_2 | 66. MnO | 91. $\text{Pb}(\text{NO}_3)_2$ |
| 17. NiBr_2 | 42. N_2O_5 | 67. NiCl_2 | 92. AuCl_3 |
| 18. FeO | 43. Ag_2O | 68. $\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2$ | 93. $\text{Sn}(\text{OH})_2$ |
| 19. HBrO_3 | 44. AlN | 69. Hg_3N_2 | 94. H_2CO_3 |
| 20. NH_4HSO_4 | 45. $\text{Mn}(\text{OH})_2$ | 70. $\text{Pb}(\text{OH})_2$ | 95. NH_4BrO_3 |
| 21. Hg_2SO_4 | 46. $(\text{NH}_4)_2\text{CO}_3$ | 71. SnCl_4 | 96. ScBr_3 |
| 22. Fe_2O_3 | 47. Al_2O_3 | 72. SeF_4 | 97. BrI |
| 23. $\text{Mg}_3(\text{PO}_4)_2$ | 48. Sb_2S_5 | 73. PBr_3 | 98. Rb_2CO_3 |
| 24. $\text{Ni}(\text{HCO}_3)_2$ | 49. BaCO_3 | 74. HgIO_3 | 99. $\text{K}_2\text{S}_2\text{O}_3$ |
| 25. $\text{Zn}(\text{OH})_2$ | 50. $\text{Ca}_3(\text{PO}_4)_2$ | 75. $\text{Fe}_2(\text{SO}_4)_3$ | 100. K_3AsO_4 |

(continued)



Equations: pp. 36-44

1. $\text{Fe} + \text{S} \rightarrow \text{FeS}$
2. $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$
3. $\text{AgNO}_3 + \text{NaBr} \rightarrow \text{NaNO}_3 + \text{AgBr}$
4. $2\text{KClO}_3 \xrightarrow{\Delta} 2\text{KCl} + 3\text{O}_2 \uparrow$
5. $2\text{H}_2\text{O} \xrightarrow{\Delta} 2\text{H}_2 + \text{O}_2 \uparrow$
6. $2\text{HgO} \xrightarrow{\Delta} 2\text{Hg} + \text{O}_2 \uparrow$
7. $2\text{KI} + \text{Pb}(\text{NO}_3)_2 \rightarrow \text{PbI}_2 + 2\text{KNO}_3$
8. $4\text{Al} + 3\text{O}_2 \rightarrow 2\text{Al}_2\text{O}_3$
9. $\text{MgCl}_2 + 2\text{NH}_4\text{NO}_3 \rightarrow \text{Mg}(\text{NO}_3)_2 + 2\text{NH}_4\text{Cl}$
10. $\text{FeCl}_3 + 3\text{NH}_4\text{OH} \rightarrow \text{Fe}(\text{OH})_3 + 3\text{NH}_4\text{Cl}$
11. $2\text{Na}_2\text{O}_2 + 2\text{H}_2\text{O} \rightarrow 4\text{NaOH} + \text{O}_2 \uparrow$
12. $\text{Fe}_2\text{O}_3 + 3\text{C} \rightarrow 2\text{Fe} + 3\text{CO} \uparrow$
13. $2\text{Fe} + 3\text{H}_2\text{O} \rightarrow 3\text{H}_2 \uparrow + \text{Fe}_2\text{O}_3$
14. $\text{FeCl}_3 + 3\text{KOH} \rightarrow 3\text{KCl} + \text{Fe}(\text{OH})_3$
15. $2\text{Al} + 3\text{H}_2\text{SO}_4 \rightarrow \text{Al}_2(\text{SO}_4)_3 + 3\text{H}_2 \uparrow$
16. $\text{Na}_2\text{CO}_3 + \text{Ca}(\text{OH})_2 \rightarrow 2\text{NaOH} + \text{CaCO}_3$
17. $\text{CO}_2 + \text{H}_2\text{O} \rightarrow \text{H}_2\text{CO}_3$
18. $4\text{P} + 5\text{O}_2 \rightarrow 2\text{P}_2\text{O}_5$
19. $2\text{Na} + 2\text{HOH} \rightarrow 2\text{NaOH} + \text{H}_2 \uparrow$
20. $\text{Zn} + \text{H}_2\text{SO}_4 \rightarrow \text{ZnSO}_4 + \text{H}_2 \uparrow$
21. $\text{Al}_2(\text{SO}_4)_3 + 3\text{Ca}(\text{OH})_2 \rightarrow 2\text{Al}(\text{OH})_3 + 3\text{CaSO}_4$
22. $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2$
23. $\text{Fe} + 2\text{CuNO}_3 \rightarrow \text{Fe}(\text{NO}_3)_2 + 2\text{Cu}$
24. $\text{FeS} + 2\text{HCl} \rightarrow \text{H}_2\text{S} \uparrow + \text{FeCl}_2$
25. $\text{K}_2\text{O} + \text{H}_2\text{O} \rightarrow 2\text{KOH}$
26. $(\text{NH}_4)_2\text{S} + \text{Pb}(\text{NO}_3)_2 \rightarrow 2\text{NH}_4\text{NO}_3 + \text{PbS}$
27. $3\text{Hg}(\text{OH})_2 + 2\text{H}_3\text{PO}_4 \rightarrow \text{Hg}_3(\text{PO}_4)_2 + 6\text{H}_2\text{O}$
28. $3\text{KOH} + \text{H}_3\text{PO}_4 \rightarrow \text{K}_3\text{PO}_4 + 3\text{H}_2\text{O}$
29. $\text{CaCl}_2 + 2\text{HNO}_3 \rightarrow \text{Ca}(\text{NO}_3)_2 + 2\text{HCl}$
30. $\text{K}_2\text{CO}_3 + \text{BaCl}_2 \rightarrow 2\text{KCl} + \text{BaCO}_3$
31. $\text{Mg}(\text{OH})_2 + \text{H}_2\text{SO}_4 \rightarrow \text{MgSO}_4 + 2\text{H}_2\text{O}$
32. $\text{SO}_2 + \text{H}_2\text{O} \rightarrow \text{H}_2\text{SO}_3$
33. $\text{Na}_2\text{CO}_3 + 2\text{HCl} \rightarrow 2\text{NaCl} + \text{H}_2\text{O} + \text{CO}_2 \uparrow$
34. $\text{Mg} + 2\text{HNO}_3 \rightarrow \text{Mg}(\text{NO}_3)_2 + \text{H}_2 \uparrow$
35. $2\text{Al} + \text{Fe}_2\text{O}_3 \rightarrow \text{Al}_2\text{O}_3 + 2\text{Fe}$
36. $2\text{K}_3\text{PO}_4 + 3\text{MgCl}_2 \rightarrow \text{Mg}_3(\text{PO}_4)_2 + 6\text{KCl}$
37. $4\text{NH}_3 + 3\text{O}_2 \rightarrow 2\text{N}_2 \uparrow + 6\text{H}_2\text{O}$

(continued)