

Radicals Expressed in Simplified Form

1. $\sqrt{50} = 5\sqrt{2}$
2. $\sqrt{98} = 7\sqrt{2}$
3. $\sqrt{128} = 2^3\sqrt{2}$
4. $\sqrt{250} = 5\sqrt{2 \cdot 5}$
5. $\sqrt[3]{16} = 2\sqrt[3]{2}$
6. $\sqrt[3]{250} = 5\sqrt[3]{2}$
7. $\sqrt[3]{320} = 2^2\sqrt[3]{5}$
8. $\sqrt[3]{375} = 5\sqrt[3]{3}$
9. $\sqrt[4]{80} = 2\sqrt[4]{5}$
10. $\sqrt[4]{1250} = 5\sqrt[4]{2}$
11. $\sqrt[5]{192} = 2\sqrt[5]{2 \cdot 3}$
12. $\sqrt[5]{1701} = 3\sqrt[5]{7}$
13. $\sqrt{x^4} = x^2$
14. $\sqrt{x^3 y^6} = xy^3\sqrt{x}$
15. $\sqrt{x^5 y^3 z^2} = x^2 yz\sqrt{xy}$
16. $\sqrt{x^9 y^6 z^7} = x^4 y^3 z^3 \sqrt{xz}$
17. $\sqrt[3]{x^7} = x^2\sqrt[3]{x}$
18. $\sqrt[3]{x^2 y^5} = y\sqrt[3]{x^2 y^2}$
19. $\sqrt[3]{x^6 y^9 z^4} = x^2 y^3 z\sqrt[3]{z}$
20. $\sqrt[3]{x^4 y^{11} z^9} = xy^3 z^3 \sqrt[3]{xy^2}$
21. $\sqrt[4]{x^8 y^4} = x^2 y$
22. $\sqrt[4]{x^5 y^6} = xy\sqrt[4]{xy^2}$
23. $\sqrt[4]{x^9 y^{11} z^6} = x^2 y^2 z^2 \sqrt[4]{xy^3 z^2}$
24. $\sqrt[5]{x^6 y^{11}} = xy^2\sqrt[5]{xy}$
25. $\sqrt[5]{x^{13} y^7 z^4} = x^2 y\sqrt[5]{x^3 y^2 z^4}$
26. $\sqrt[6]{x^8 y^{12} z^{13}} = xy^2 z^2 \sqrt[6]{x^2 z}$
27. $\sqrt[3]{625x^4} = 5x\sqrt[3]{5x}$
28. $\sqrt[4]{81x^6 y^7} = 3xy\sqrt[4]{x^2 y^3}$
29. $\sqrt[4]{32x^6 y^5 z^7} = 2xyz\sqrt[4]{2x^2 yz^3}$
30. $\sqrt[3]{243x^7 y^9} = 3x^2 y^3 \sqrt[3]{3^2 x}$
31. $\sqrt[5]{3125x^7 y^2 z^{10}} = 5xz^2\sqrt[5]{x^2 y^2}$
32. $\sqrt[5]{256x^7 y^6 z^3} = 2xy\sqrt[5]{2^3 x^2 yz^3}$
33. $25^{\frac{1}{2}} = 5$
34. $36^{\frac{1}{2}} = 6$
35. $81^{\frac{1}{4}} = 3$
36. $64^{\frac{1}{3}} = 4$
37. $16^{\frac{5}{2}} = 2^{10} = 1024$
38. $49^{\frac{3}{2}} = 7^3 = 343$
39. $81^{\frac{3}{4}} = 3^3 = 27$
40. $625^{\frac{5}{4}} = 5^5 = 3125$
41. $243^{\frac{2}{5}} = 3^2 = 9$
42. $16^{\frac{7}{4}} = 2^7 = 128$
43. $4^{-\frac{1}{2}} = \frac{1}{4^{\frac{1}{2}}} = \frac{1}{2}$
44. $64^{-\frac{1}{2}} = \frac{1}{64^{\frac{1}{2}}} = \frac{1}{2^3} = \frac{1}{8}$
45. $32^{-\frac{3}{5}} = \frac{1}{32^{\frac{3}{5}}} = \frac{1}{2^3} = \frac{1}{8}$

$$46. 625^{-\frac{3}{4}} = \frac{1}{625^{\frac{3}{4}}} = \frac{1}{5^3} = \frac{1}{125} \quad 47. 8^{-\frac{7}{3}} = \frac{1}{8^{\frac{7}{3}}} = \frac{1}{2^7} = \frac{1}{128}$$

$$48. 576^{-\frac{3}{2}} = \frac{1}{576^{\frac{3}{2}}} = \frac{1}{24^3} = \frac{1}{13824}$$

$$49. \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

$$50. \frac{1}{\sqrt{x}} = \frac{\sqrt{x}}{x}$$

$$51. \frac{2}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$$

$$52. \frac{3}{\sqrt{y}} = \frac{3\sqrt{y}}{y}$$

$$53. \frac{1}{\sqrt{5x}} = \frac{\sqrt{5x}}{5x}$$

$$54. \frac{4}{\sqrt{2x}} = \frac{2\sqrt{2x}}{x}$$

$$55. \frac{3}{\sqrt{5xy}} = \frac{3\sqrt{5xy}}{5xy}$$

$$56. \frac{2}{5\sqrt{x}} = \frac{2\sqrt{x}}{5x}$$

$$57. \frac{1}{\sqrt[3]{x}} = \frac{\sqrt[3]{x^2}}{x}$$

$$58. \frac{1}{\sqrt[3]{x^2}} = \frac{\sqrt[3]{x}}{x}$$

$$59. \frac{1}{\sqrt[4]{x}} = \frac{\sqrt[4]{x^3}}{x}$$

$$60. \frac{1}{\sqrt[4]{x^2}} = \frac{\sqrt[4]{x^2}}{x}$$

$$61. \frac{1}{\sqrt[5]{x}} = \frac{\sqrt[5]{x^4}}{x}$$

$$62. \frac{1}{\sqrt[5]{x^3}} = \frac{\sqrt[5]{x^2}}{x}$$

$$63. \frac{1}{\sqrt[5]{x^4}} = \frac{\sqrt[5]{x}}{x}$$

$$64. \frac{1}{\sqrt[6]{x^2}} = \frac{\sqrt[6]{x^4}}{x}$$

$$65. \frac{1}{\sqrt[6]{x^3}} = \frac{\sqrt[6]{x^3}}{x}$$

$$66. \frac{1}{\sqrt[7]{x^3}} = \frac{\sqrt[7]{x^4}}{x}$$

$$67. \frac{1}{\sqrt[8]{x^5}} = \frac{\sqrt[8]{x^3}}{x}$$

$$68. \frac{1}{\sqrt[10]{x^6}} = \frac{\sqrt[10]{x^4}}{x}$$

$$69. \frac{2}{\sqrt{xy}} = \frac{2\sqrt{xy}}{xy}$$

$$70. \frac{3}{\sqrt{x^3y}} = \frac{3\sqrt{xy}}{x^2y}$$

$$71. \frac{2}{\sqrt{x^5y^7}} = \frac{2\sqrt{xy}}{x^3y^4}$$

$$72. \frac{3}{\sqrt[3]{x^2y}} = \frac{3\sqrt{xy^2}}{xy}$$

$$73. \frac{4}{\sqrt[3]{x^4y^2}} = \frac{4\sqrt[3]{x^2y}}{x^2y}$$

$$74. \frac{2}{\sqrt[4]{x^3y^5}} = \frac{2\sqrt[4]{xy^3}}{xy^2}$$

$$75. \frac{2}{\sqrt[5]{x^2y^4}} = \frac{2\sqrt[5]{x^3y}}{xy}$$

$$76. \frac{1}{\sqrt[6]{x^4y^7}} = \frac{\sqrt[6]{x^2y^5}}{xy^2}$$

$$77. \frac{2}{\sqrt[6]{x^5y^9z}} = \frac{2\sqrt[6]{xy^3z^5}}{xy^2z}$$

$$78. \frac{3}{\sqrt[7]{x^2y^{11}}} = \frac{3\sqrt[7]{x^5y^3}}{xy^2}$$

$$79. \frac{4}{\sqrt[7]{x^9 y^3 z^{12}}} = \frac{4\sqrt[7]{x^5 y^4 z^2}}{x^2 y z^2}$$

$$80. \frac{2}{\sqrt[10]{x^3 y^{13} z^{21}}} = \frac{2\sqrt[10]{x^7 y^7 z^9}}{x y^2 z^3}$$

$$81. \frac{1}{(x^3 y)^{\frac{1}{2}}} = \frac{\sqrt{xy}}{x^2 y}$$

$$82. \frac{2}{(x^4 y)^{\frac{1}{3}}} = \frac{2\sqrt[3]{x^2 y^2}}{x^2 y}$$

$$83. \frac{2}{(x^3 y^5 z)^{\frac{1}{4}}} = \frac{2\sqrt[4]{xy^3 z^3}}{x y^2 z}$$

$$84. \frac{3}{(x^2 y^7 z^3)^{\frac{1}{5}}} = \frac{3\sqrt[5]{x^3 y^3 z^2}}{x y^2 z}$$

$$85. \frac{1}{(x^2 y^4)^{\frac{2}{3}}} = \frac{\sqrt[3]{x^2 y}}{x^2 y^3}$$

$$86. \frac{2}{(x^5 y^3)^{\frac{3}{4}}} = \frac{2\sqrt[4]{xy^3}}{x^4 y^3}$$

$$87. \frac{3}{(xy^6 z^4)^{\frac{5}{6}}} = \frac{3\sqrt[6]{xz^4}}{x y^5 z^4}$$

$$88. \frac{1}{(xy^2 z^{11})^{\frac{3}{7}}} = \frac{\sqrt[7]{x^4 y z^2}}{x y z^5}$$

$$89. \left(x^{\frac{1}{2}} + y^{\frac{1}{2}}\right)\left(x^{\frac{1}{2}} - y^{\frac{1}{2}}\right) = x - y$$

$$90. \left(x^{\frac{3}{2}} + y^{\frac{1}{2}}\right)\left(x^{\frac{3}{2}} - y^{\frac{1}{2}}\right) = x^{\frac{6}{2}} - y = x^3 - y$$

$$91. \left(x^{\frac{2}{3}} + y^{\frac{1}{3}}\right)\left(x^{\frac{2}{3}} - y^{\frac{1}{3}}\right) = x^{\frac{4}{3}} - y^{\frac{2}{3}}$$

$$92. \left(x^{\frac{1}{2}} + y^{\frac{1}{3}}\right)\left(x^{\frac{1}{2}} + y^{\frac{1}{3}}\right) = x + 2x^{\frac{1}{2}}y^{\frac{1}{3}} + y^{\frac{2}{3}}$$

$$93. \left(2x^{\frac{1}{2}} + 3y^{\frac{1}{2}}\right)\left(x^{\frac{1}{2}} + y^{\frac{1}{2}}\right) = 2x + 5x^{\frac{1}{2}}y^{\frac{1}{2}} + 3y$$

$$94. \left(5x^{\frac{1}{3}} - 3y^{\frac{1}{2}}\right)\left(x^{\frac{1}{3}} - 2y^{\frac{1}{2}}\right) = 5x^{\frac{2}{3}} - 13x^{\frac{1}{3}}y^{\frac{1}{2}} + 6y$$

$$95. \left(x^{\frac{1}{2}} + y^{\frac{1}{2}}\right)^2 = x + 2x^{\frac{1}{2}}y^{\frac{1}{2}} + y$$

$$96. \left(x^{\frac{2}{3}} - y^{\frac{1}{4}}\right)^2 = x^{\frac{4}{3}} - 2x^{\frac{2}{3}}y^{\frac{1}{4}} + y^{\frac{2}{4}}$$