

כפל שורשים

1.	$\sqrt{5} \cdot \sqrt{4} =$	11.	$\sqrt{4x} \cdot \sqrt{4x} =$
2.	$\sqrt{50} =$	12.	$\sqrt{16z^2y^4} =$
3.	$\sqrt[y]{x^m} \cdot \sqrt[y]{x^2} =$	13.	$\left(\frac{1}{4}\right)^{\frac{2}{3}} \cdot \sqrt[3]{x} =$
4.	$\sqrt{600} =$	14.	$\sqrt{5} \cdot \sqrt{5} \cdot \sqrt{5} =$
5.	$\sqrt{54} =$	15.	$\frac{\sqrt[3]{y^3}}{\sqrt{y} \cdot \sqrt{y} \cdot \sqrt{y}} =$
6.	$\sqrt{36y^4} =$	16.	$3^{\frac{1}{y}} \cdot \sqrt[3y]{8} =$
7.	$\frac{\sqrt{9} \cdot \sqrt{4}}{12} =$	17.	$\frac{\sqrt{2} + \sqrt{32}}{\sqrt{128}} =$
8.	$\frac{\sqrt[5]{z^{15} \cdot y^{-10} \cdot c^5}}{\sqrt{z^6 \cdot y^{-4} \cdot c^2}} =$	18.	$\sqrt{3^x \cdot 3^y} \cdot \sqrt{27^x} =$
9.	$\sqrt{2} + \sqrt{8} =$	19.	$\sqrt[3]{10} \cdot \sqrt[3]{5} \cdot \sqrt[3]{20} =$
10.	$\sqrt[n]{3} \cdot 3^{\frac{4}{n}} =$	20.	$(\sqrt{2} + \sqrt{5})^2 - \sqrt{40} =$

**כפל שורשים - תשובות**

1.	$\sqrt{5} \cdot \sqrt{4} = \sqrt{20}$	11.	$\sqrt{4x} \cdot \sqrt{4x} = 4x$
2.	$\sqrt{50} = \sqrt{25} \cdot \sqrt{2} = 5\sqrt{2}$	12.	$\sqrt{16z^2y^4} = \sqrt{16} \cdot \sqrt{z^2} \cdot \sqrt{y^4} = 4z^{\frac{2}{2}}y^{\frac{4}{2}} = 4zy^2$
3.	$\sqrt[m]{x^m} \cdot \sqrt[m]{x^2} = \sqrt[m]{x^m \cdot x^2} = \sqrt[m]{x^{m+2}}$	13.	$\left(\frac{1}{4}\right)^{\frac{2}{3}} \cdot \sqrt[3]{x} = 4^{\frac{2}{3}} \cdot \sqrt[3]{x} = \sqrt[3]{4^2} \cdot \sqrt[3]{x} = \sqrt[3]{16x}$
4.	$\sqrt{600} = \sqrt{6} \cdot \sqrt{100} = 10\sqrt{6} = 10\sqrt{3}\sqrt{2}$	14.	$\sqrt{5} \cdot \sqrt{5} \cdot \sqrt{5} = 5\sqrt{5}$
5.	$\sqrt{54} = \sqrt{9} \cdot \sqrt{6} = 3\sqrt{6} = 3\sqrt{3 \cdot 2} = 3\sqrt{3}\sqrt{2}$	15.	$\frac{\sqrt[3]{y^3}}{\sqrt{y} \cdot \sqrt{y} \cdot \sqrt{y}} = \frac{y}{y\sqrt{y}} = \frac{1}{\sqrt{y}}$
6.	$\sqrt{36y^4} = \sqrt{36} \cdot \sqrt{y^4} = 6 \cdot y^{\frac{4}{2}} = 6y^2$	16.	$3^{\frac{1}{3}} \cdot \sqrt[3]{8} = \sqrt[3]{3} \cdot \sqrt[3]{2^3} = \sqrt[3]{3} \cdot 2^{\frac{1}{3}} = \sqrt[3]{3} \cdot \sqrt[3]{2} = \sqrt[3]{6}$
7.	$\frac{\sqrt{9} \cdot \sqrt{4}}{12} = \frac{\sqrt{36}}{12} = \frac{6}{12} = \frac{1}{2}$	17.	$\frac{\sqrt{2} + \sqrt{32}}{\sqrt{128}} = \frac{\sqrt{2} + \sqrt{16 \cdot 2}}{\sqrt{64 \cdot 2}} = \frac{\sqrt{2} + 4\sqrt{2}}{8\sqrt{2}} = \frac{5\sqrt{2}}{8\sqrt{2}} = \frac{5}{8}$
8.	$\frac{\sqrt[5]{z^{15} \cdot y^{-10} \cdot c^5}}{\sqrt{z^6 \cdot y^{-4} \cdot c^2}} = \frac{z^{\frac{15}{5}} \cdot y^{-\frac{10}{5}} \cdot c^{\frac{5}{5}}}{z^{\frac{6}{2}} \cdot y^{-\frac{4}{2}} \cdot c^{\frac{2}{2}}} = \frac{z^3 \cdot y^{-2} \cdot c}{z^3 \cdot y^{-2} \cdot c} = z^{3-3} \cdot y^{(-2)-(-2)} \cdot c^1 = z^0 \cdot y^0 \cdot c^1 = 1$	18.	$\sqrt{3^x \cdot 3^y} \cdot \sqrt{27^x} = \sqrt{3^{x+y}} \cdot \sqrt{3^{3x}} = \sqrt{3^{x+y} \cdot 3^{3x}} = \sqrt{3^{4x+y}}$
9.	$\sqrt{2} + \sqrt{8} = \sqrt{2} + 2\sqrt{2} = 3\sqrt{2}$	19.	$\sqrt[3]{10} \cdot \sqrt[3]{5} \cdot \sqrt[3]{20} = \sqrt[3]{10 \cdot 5 \cdot 20} = \sqrt[3]{1000} = 10$
10.	$\sqrt[n]{3} \cdot 3^{\frac{4}{n}} = \sqrt[n]{3} \cdot \sqrt[n]{3^4} = \sqrt[n]{3^1 \cdot 3^4} = \sqrt[n]{3^5}$	20.	$(\sqrt{2} + \sqrt{5})^2 - \sqrt{40} = 2 + 2\sqrt{2}\sqrt{5} + 5 - \sqrt{4 \cdot 10} = 7 + 2\sqrt{5 \cdot 2} - \sqrt{4} \cdot \sqrt{10} = 7 + 2\sqrt{10} - 2\sqrt{10} = 7$

חילוק שורשים

1.	$\sqrt{\frac{36}{25}} =$	11.	$\frac{16}{\sqrt{16}} =$
2.	$\frac{\sqrt{18}}{\sqrt{2}} =$	12.	$\frac{x^{\frac{3}{7}}}{\sqrt[7]{x^2}} =$
3.	$\sqrt[3]{\frac{8}{27}} =$	13.	$\frac{\sqrt[6]{x^5}}{\left(\frac{1}{x^3}\right)^{\frac{1}{2}}} =$
4.	$\frac{2}{\sqrt{2}} =$	14.	$\frac{\sqrt{3x}}{\sqrt{6x^3}} =$
5.	$\sqrt{\frac{a^4}{z^{16}}} =$	15.	$\frac{6y}{\sqrt{3y}} =$
6.	$\frac{\sqrt{14a^2}}{\sqrt{7a^2}} =$	16.	$a\sqrt{a} + \frac{a^2}{\sqrt{a}} =$
7.	$\sqrt{\frac{16a^4}{49}} =$	17.	$\frac{\sqrt[6]{3y^3}}{\sqrt{y} \cdot \left(\frac{1}{2y}\right)^{-\frac{2}{4}}} =$
8.	$\frac{x^{\frac{1}{6}}}{\sqrt[6]{x}} =$	18.	$\frac{\sqrt[4]{3x}\sqrt[4]{4x}\sqrt[4]{4x}}{(36x)^{\frac{1}{4}}} =$
9.	$\frac{12}{\sqrt{6}} =$	19.	$\sqrt{\frac{a^2b^4c^6}{my^2}} =$
10.	$\frac{4x^2}{\sqrt{16x}} =$	20.	$\frac{\left(\frac{1}{2}\right)^{-\frac{3}{2}}}{\sqrt{2} \cdot \left(\frac{1}{27}\right)^{\frac{1}{6}}} =$

**חילוק שורשים - פתרונות**

1.	$\sqrt{\frac{36}{25}} = \frac{\sqrt{36}}{\sqrt{25}} = \frac{6}{5} = 1\frac{1}{5}$	11.	$\frac{16}{\sqrt{16}} = \sqrt{16} = 4$
2.	$\frac{\sqrt{18}}{\sqrt{2}} = \sqrt{\frac{18}{2}} = \sqrt{9} = 3$	12.	$\frac{x^{\frac{3}{7}}}{\sqrt[7]{x^2}} = \frac{\sqrt[7]{x^3}}{\sqrt[7]{x^2}} = \sqrt[7]{\frac{x^3}{x^2}} = \sqrt[7]{x}$
3.	$\sqrt[3]{\frac{8}{27}} = \frac{\sqrt[3]{8}}{\sqrt[3]{27}} = \frac{2}{3}$	13.	$\frac{\sqrt[6]{x^5}}{\left(x^{\frac{1}{3}}\right)^{\frac{1}{2}}} = \frac{\sqrt[6]{x^5}}{x^{\frac{1}{6}}} = \frac{\sqrt[6]{x^5}}{\sqrt[6]{x}} = \sqrt[6]{\frac{x^5}{x}} = \sqrt[6]{x^4} = x^{\frac{4}{6}} = x^{\frac{2}{3}} = \sqrt[3]{x^2}$
4.	$\frac{2}{\sqrt{2}} = \sqrt{2}$	14.	$\frac{\sqrt{3x}}{\sqrt{6x^3}} = \sqrt{\frac{3x}{6x^3}} = \sqrt{\frac{1}{2} \cdot x^{-2}} = \sqrt{\frac{x^{-2}}{2}} = \frac{\sqrt{x^{-2}}}{\sqrt{2}} = \frac{x^{-1}}{\sqrt{2}} = \frac{1}{\sqrt{2}} \cdot \frac{1}{x} = \frac{1}{x\sqrt{2}}$
5.	$\frac{\sqrt{a^4}}{z^{16}} = \frac{\sqrt{a^4}}{\sqrt{z^{16}}} = \frac{a^2}{z^8}$	15.	$\frac{6y}{\sqrt{3y}} = \frac{2 \cdot 3y}{\sqrt{3y}} = 2\sqrt{3y}$
6.	$\frac{\sqrt{14a^2}}{\sqrt{7a^2}} = \sqrt{\frac{14a^2}{7a^2}} = \sqrt{2}$	16.	$a\sqrt{a} + \frac{a^2}{\sqrt{a}} = a\sqrt{a} + \frac{a \cdot a}{\sqrt{a}} = a\sqrt{a} + a\sqrt{a} = 2a\sqrt{a}$
7.	$\sqrt{\frac{16a^4}{49}} = \frac{\sqrt{16a^4}}{\sqrt{49}} = \frac{4a^2}{7}$	17.	$\frac{\sqrt[6]{3y^3}}{\sqrt{y} \cdot \left(\frac{1}{2y}\right)^{\frac{2}{4}}} = \frac{\sqrt[6]{3} \cdot \sqrt[6]{y^3}}{\sqrt{y} \cdot 2y^{\frac{1}{2}}} = \frac{\sqrt[6]{3} \cdot y^{\frac{3}{6}}}{\sqrt{y} \cdot \sqrt{2y}} =$ $\frac{\sqrt[6]{3} \cdot y^{\frac{1}{2}}}{\sqrt{2y^2}} = \sqrt[6]{3} \cdot \frac{\sqrt{y}}{\sqrt{2y^2}} = \sqrt[6]{3} \cdot \sqrt{\frac{y}{2y^2}} = \sqrt[6]{3} \cdot \sqrt{\frac{1}{2} \cdot y^{-1-2}} =$ $\sqrt[6]{3} \cdot \sqrt{\frac{1}{2} \cdot \frac{1}{y}} = \sqrt[6]{3} \cdot \sqrt{\frac{1}{2y}}$
8.	$\frac{x^{\frac{1}{6}}}{\sqrt[6]{x}} = \frac{\sqrt[6]{x}}{\sqrt[6]{x}} = 1$	18.	$\frac{\sqrt[4]{3x} \sqrt[4]{4x} \sqrt[4]{4x}}{(36x)^{\frac{1}{4}}} = \frac{\sqrt[4]{48x^3}}{\sqrt[4]{36x}} = \sqrt[4]{\frac{48x^3}{36x}} = \sqrt[4]{\frac{4}{3} \cdot x^{3-1}} = \sqrt[4]{\frac{4}{3} \cdot x^2} = \sqrt[4]{\frac{4x^2}{3}}$
9.	$\frac{12}{\sqrt{6}} = \frac{2 \cdot 6}{\sqrt{6}} = 2\sqrt{6}$	19.	$\sqrt{\frac{a^2 b^4 c^6}{my^2}} = \frac{\sqrt{a^2} \sqrt{b^4} \sqrt{c^6}}{\sqrt{m} \sqrt{y^2}} = \frac{ab^2 c^3}{\sqrt{m} \cdot y}$

10.	$\frac{4x^2}{\sqrt{16x}} = \frac{4x^2}{\sqrt{16} \cdot \sqrt{x}} = \frac{4x^2}{4\sqrt{x}} = \frac{x \cdot x}{\sqrt{x}} =$	20.	$\frac{\left(\frac{1}{2}\right)^{-\frac{3}{2}}}{\sqrt{2} \cdot \left(\frac{1}{27}\right)^{-\frac{1}{6}}} = \frac{2^{\frac{3}{2}}}{\sqrt{2} \cdot 27^{\frac{1}{6}}} = \frac{\sqrt{2^3}}{\sqrt{2} \cdot (3^3)^{\frac{1}{6}}} =$ $\frac{\sqrt{8}}{\sqrt{2} \cdot 3^{\frac{1}{2}}} = \frac{\sqrt{8}}{\sqrt{2}\sqrt{3}} = \frac{\sqrt{8}}{\sqrt{6}} = \sqrt{\frac{8}{6}} = \sqrt{\frac{4}{3}} = \frac{2}{\sqrt{3}}$
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שורש של שורש

1.	$\sqrt{\sqrt{81}} =$	11.	$\sqrt{\sqrt{64} \cdot (\sqrt{64})^2} =$
2.	$\sqrt{\sqrt{x^2}} =$	12.	$\sqrt{\frac{\sqrt{8x^3}}{\left(\frac{1}{2x}\right)^{\frac{1}{2}}}} =$
3.	$\sqrt{\sqrt[3]{64}} =$	13.	$\sqrt{\frac{\sqrt{a^3}}{\sqrt{3a^5}}} =$
4.	$\sqrt{\sqrt{\sqrt{256}}} =$	14.	$\sqrt{\frac{\sqrt{8}}{\sqrt{32}}} =$
5.	$\sqrt{\sqrt{25} \cdot \sqrt{16}} =$	15.	$\sqrt{\sqrt{z^2 y^6 x^8}} =$
6.	$\sqrt{a^4 \sqrt{x^2}} =$	16.	$\sqrt{\sqrt{50}} =$
7.	$\sqrt[a]{\sqrt{x^{\frac{2}{a}}}} =$	17.	$\sqrt[z]{\sqrt{y^x}} =$
8.	$\left(\sqrt[3]{a^{12} \sqrt{4}}\right)^{\frac{1}{2}} =$	18.	$\left(\sqrt[y]{\sqrt[a]{x} \cdot 5^{-\frac{1}{a}}}\right)^y =$
9.	$\sqrt{\sqrt{16a^4}} =$	19.	$\frac{\sqrt[3]{\sqrt[6]{x^2} \cdot x^{\frac{2}{5}}}}{\sqrt[4]{x^5} \cdot \sqrt[4]{x^3}} =$
10.	$\sqrt{\left(\sqrt{a^6}\right)^{-2}} =$	20.	$\left(\frac{\sqrt{\sqrt{200} + \sqrt{8}}}{16^{\frac{1}{2}}}\right)^{-2} =$

שורש של שורש - פתרונות

1.	$\sqrt{\sqrt{81}} = {}^{2,2}\sqrt{81} = {}^4\sqrt{81} = 3$	11.	$\sqrt{\sqrt{64} \cdot (\sqrt{64})^2} = \sqrt{64\sqrt{64}} = 8 \cdot {}^{2,2}\sqrt{64} =$ $8 \cdot {}^4\sqrt{8^2} = 8 \cdot 8^{\frac{1}{2}} = 8\sqrt{8}$
2.	$\sqrt{\sqrt{x^2}} = \sqrt{x}$	12.	$\sqrt{\frac{\sqrt{8x^3}}{\left(\frac{1}{2x}\right)^{\frac{1}{2}}}} = \sqrt{\frac{\sqrt{8x^3}}{2x^{\frac{1}{2}}}} = \sqrt{\frac{\sqrt{8x^3}}{\sqrt{2x}}} = \sqrt{\sqrt{\frac{8x^3}{2x}}} =$ $\sqrt{\sqrt{4x^2}} = \sqrt{2x}$
3.	$\sqrt[3]{\sqrt[3]{64}} = {}^{2,3}\sqrt{64} = {}^6\sqrt{64} = 2$	13.	$\sqrt{\frac{\sqrt{a^3}}{\sqrt{3a^5}}} = \sqrt{\frac{\sqrt{a^3}}{\sqrt{3}\sqrt{a^5}}} = \sqrt{\frac{1}{\sqrt{3}} \cdot \frac{\sqrt{a^3}}{\sqrt{a^5}}} =$ $\sqrt{\frac{1}{\sqrt{3}} \cdot \sqrt{\frac{a^3}{a^5}}} = \sqrt{\frac{1}{\sqrt{3}} \cdot \sqrt{a^{-2}}} = \sqrt{\frac{1}{\sqrt{3}} \cdot a^{-1}} =$ $\sqrt{\frac{1}{\sqrt{3}} \cdot \frac{1}{a}} = \sqrt{\frac{1}{a\sqrt{3}}} = \frac{1}{\sqrt{a \cdot 4}\sqrt{3}}$
4.	$\sqrt{\sqrt{\sqrt{256}}} = {}^8\sqrt{256} = 2$	14.	$\sqrt{\frac{\sqrt{8}}{\sqrt{32}}} = \sqrt{\sqrt{\frac{8}{32}}} = {}^4\sqrt{\frac{1}{4}} = {}^4\sqrt{\frac{1}{2^2}} = \frac{1}{\sqrt{2}}$
5.	$\sqrt{\sqrt{25} \cdot \sqrt{16}} = \sqrt{5 \cdot 4} = 2\sqrt{5}$	15.	$\sqrt{\sqrt{z^2 y^6 x^8}} = {}^4\sqrt{z^2 y^6 x^8} = {}^4\sqrt{z^2} \cdot {}^4\sqrt{y^6} \cdot {}^4\sqrt{x^8} = \sqrt{z} \cdot \sqrt{y^3} \cdot x^2$
6.	$\sqrt{a^4 \sqrt{x^2}} = \sqrt{a^4 x} = a^2 \sqrt{x}$	16.	$\sqrt{\sqrt{50}} = {}^4\sqrt{2 \cdot 25} = {}^4\sqrt{5^2} \cdot {}^4\sqrt{2} = \sqrt{5} \cdot {}^4\sqrt{2}$
7.	${}^a\sqrt{\sqrt{x^{\frac{2}{a}}}} = {}^{2a}\sqrt{x^{\frac{2}{a}}} = x^{\frac{2}{2a^2}} = x^{\frac{1}{a^2}} = {}^{a^2}\sqrt{x}$	17.	$\sqrt[3]{\sqrt{a} y^x} = {}^{3a}\sqrt{y^x} = y^{\frac{x}{3a}}$
8.	$\left(\sqrt[3]{a^{12} \sqrt{4}}\right)^{\frac{1}{2}} = \left(\sqrt[3]{2a^{12}}\right)^{\frac{1}{2}} =$ $\frac{1}{\left(\sqrt[3]{2a^{12}}\right)^{\frac{1}{2}}} = \frac{1}{\sqrt[2]{\sqrt[3]{2a^{12}}}} = \frac{1}{\sqrt[6]{2a^{12}}} =$ $\frac{1}{\sqrt[6]{a^{12}} \sqrt[6]{2}} = \frac{1}{a^2 \sqrt[6]{2}}$	18.	$\left(\sqrt[3]{\sqrt{a} x \cdot 5^{-\frac{1}{a}}}\right)^y = \left(\sqrt[3]{\sqrt{a} x \cdot \frac{1}{\sqrt[3]{5}}}\right)^y = \frac{\sqrt[3]{x}}{\sqrt[3]{5}} = \sqrt[3]{\frac{x}{5}}$

<p><b>9.</b></p>	$\sqrt{\sqrt{16a^4}} = \sqrt[4]{16a^4} = 2a$	<p><b>19.</b></p> $\frac{\sqrt[3]{6\sqrt{x^2 \cdot x^{\frac{2}{5}}}}}{\sqrt[4]{x^5 \cdot \sqrt[4]{x^3}}} = \frac{\sqrt[18]{x^{\frac{12}{5}}}}{\sqrt[4]{x^8}} = \frac{x^{\frac{12}{5}}}{x^{\frac{8}{4}}} = \frac{x^{\frac{12}{5}}}{x^2} = \frac{x^{\frac{12}{5}}}{x^{\frac{10}{5}}} = x^{\frac{12-10}{5}} = x^{\frac{2}{5}}$ $x^{\frac{2}{5}} = \frac{1}{\sqrt[5]{x^3}}$
<p><b>10.</b></p>	$\sqrt{(\sqrt{a^6})^{-2}} = (\sqrt{a^6})^{-1} = \frac{1}{\sqrt{a^6}} = \frac{1}{a^3}$	<p><b>20.</b></p> $\left(\frac{\sqrt{\sqrt{200} + \sqrt{8}}}{16^{\frac{1}{2}}}\right)^{-2} = \left(\frac{\sqrt{16}}{\sqrt{\sqrt{200} + \sqrt{8}}}\right)^2 =$ $\frac{16}{\sqrt{200} + \sqrt{8}} = \frac{16}{\sqrt{100 \cdot 2} + \sqrt{2 \cdot 4}} =$ $\frac{16}{10\sqrt{2} + 2\sqrt{2}} = \frac{16}{12\sqrt{2}} = \frac{4}{3\sqrt{2}} =$ $\frac{2 \cdot 2}{3\sqrt{2}} = \frac{2}{3}\sqrt{2}$



המרת חזקה לשורש

1.	$y^{\frac{1}{3x}} =$	11.	$\sqrt{\frac{3^5}{3^3}} =$
2.	$\sqrt[5]{7^{20}} =$	12.	$\sqrt{\frac{3^{x+y}}{3^{2x-y}}} =$
3.	$5^{\frac{2}{2x}} =$	13.	$\sqrt{4^x \cdot 4^x \cdot 2^x} =$
4.	$\sqrt[y]{x^2} =$	14.	$\sqrt[3]{9^{\frac{3}{2}} \cdot 3^{\frac{1}{3}}} =$
5.	$9^{\frac{1}{2}} =$	15.	$\sqrt{2^9 \cdot 2^7} =$
6.	$\sqrt[2]{8^4} =$	16.	$(\sqrt[4]{81})^x =$
7.	$\sqrt[100]{y^5} =$	17.	$\sqrt[3]{(\sqrt{9} \cdot \sqrt{4})^2} =$
8.	$5^{\frac{2}{3}} \cdot 5^{\frac{2}{3}} =$	18.	$2^{\frac{2}{4}} \cdot \sqrt{2^3} =$
9.	$\sqrt[3]{x^2 \cdot y^2} =$	19.	$\sqrt[5]{8^4} \cdot 2^{\frac{8}{5}} =$
10.	$\sqrt{4^x \cdot 4^{2y}} =$	20.	$\sqrt[4]{16 \left(\frac{1}{4}\right)^{-6}} - 2^4 =$

**המרת חזקה לשורש - פתרונות**

1.	$y^{\frac{1}{3x}} = \sqrt[3x]{y}$	11.	$\sqrt{\frac{3^5}{3^3}} = \sqrt{3^2} = 3$
2.	$\sqrt[5]{7^{20}} = 7^{\frac{20}{5}} = 7^4$	12.	$\sqrt{\frac{3^{x+y}}{3^{2x-y}}} = \sqrt{3^{x+y-(2x-y)}} = \sqrt{3^{2y-x}} = 3^{\frac{2y-x}{2}} = 3^{y-\frac{x}{2}}$
3.	$5^{\frac{2}{2x}} = 5^{\frac{1}{x}} = \sqrt[2]{5}$	13.	$\sqrt{4^x \cdot 4^x \cdot 2^x} = \sqrt{2^{2x} \cdot 2^{2x} \cdot 2^x} = \sqrt{2^{5x}} = 2^{\frac{5x}{2}}$
4.	$\sqrt[y]{x^2} = x^{\frac{2}{y}}$	14.	$\sqrt[3]{9^{\frac{3}{2}} \cdot 3^{\frac{1}{3}}} = \sqrt[3]{3^{\frac{2 \cdot 3}{2}} \cdot 3^{\frac{1}{3}}} = \sqrt[3]{3^3 \cdot 3^{\frac{1}{3}}} = \sqrt[3]{3^{\frac{10}{3}}} = 3^{\frac{10}{9}}$
5.	$9^{\frac{1}{2}} = \sqrt{9} = 3$	15.	$\sqrt{2^9 \cdot 2^7} = \sqrt{2^{16}} = 2^{\frac{16}{2}} = 2^8$
6.	$\sqrt[2]{8^4} = 8^{\frac{4}{2}} = 8^2 = 64$	16.	$(\sqrt[4]{81})^x = 3^x$
7.	$100\sqrt{y^5} = y^{\frac{5}{100}} = y^{\frac{1}{20}} = \sqrt[20]{y}$	17.	$\sqrt[3]{(\sqrt{9} \cdot \sqrt{4})^2} = \sqrt[3]{(3 \cdot 2)^2} = \sqrt[3]{6^2} = 6^{\frac{2}{3}}$
8.	$5^{\frac{2}{3}} \cdot 5^{\frac{2}{3}} = 5^{\frac{4}{3}} = \sqrt[3]{5^4}$	18.	$2^{\frac{2}{4}} \cdot \sqrt{2^3} = 2^{\frac{1}{2}} \cdot 2^{\frac{3}{2}} = 2^{\frac{4}{2}} = 2^2 = 4$
9.	$\sqrt[3]{x^2 \cdot y^2} = \sqrt[3]{(x \cdot y)^2} = (xy)^{\frac{2}{3}}$	19.	$\sqrt[5]{8^4} \cdot 2^{\frac{8}{5}} = \sqrt[5]{2^{12}} \cdot 2^{\frac{8}{5}} = 2^{\frac{12}{5}} \cdot 2^{\frac{8}{5}} = 2^{\frac{20}{5}} = 2^4 = 16$
10.	$\sqrt{4^x \cdot 4^{2y}} = \sqrt{4^{x+2y}} = 4^{\frac{x+2y}{2}} = 4^{\frac{x}{2}+y}$	20.	$\sqrt[4]{16 \left(\frac{1}{4}\right)^{-6}} - 2^4 = \sqrt[4]{16 \cdot 4^6} - 2^4 = \sqrt[4]{2^4 \cdot 2^{12}} - 2^4 = \sqrt[4]{2^{16}} - 2^4 = 2^{\frac{16}{4}} - 2^4 = 2^4 - 2^4 = 0$

**כפל וחילוק של שורש בעצמו**

1.	$\sqrt{2} \cdot \sqrt{2} =$	11.	$\frac{\sqrt{5}}{\sqrt{2}} + \frac{2}{\sqrt{10}} =$
2.	$\sqrt{2} \cdot \frac{1}{\sqrt{2}} =$	12.	$\frac{\sqrt{2} \cdot \sqrt{40}}{2} =$
3.	$\sqrt{3} \cdot \frac{\sqrt{3}}{3} =$	13.	$\frac{\sqrt{64} \cdot 10}{\sqrt{16}} =$
4.	$\frac{2}{\sqrt{2}} \cdot \frac{4}{\sqrt{2}} =$	14.	$\left(\frac{1}{6} + \frac{\sqrt{3}}{6}\right) \frac{6\sqrt{3}}{2} =$
5.	$\frac{5\sqrt{2}}{15} \cdot \frac{3}{\sqrt{3}} =$	15.	$\frac{15\sqrt{3}}{\sqrt{15}} =$
6.	$(\sqrt{2} + \sqrt{3}) \cdot \sqrt{2} =$	16.	$\frac{\sqrt{30}}{\sqrt{5}} \cdot \frac{5}{30} =$
7.	$(\sqrt{2} + 1)(\sqrt{2} - 1) =$	17.	$\frac{\sqrt{81}}{\sqrt{9}} \cdot \frac{1}{\sqrt{2}} =$
8.	$(\sqrt{10} + 5)^2 =$	18.	$\sqrt{\frac{3}{4}} \cdot \sqrt{\frac{16}{9}} =$
9.	$\frac{\sqrt{100}}{10} + \frac{3}{\sqrt{3}} \cdot \frac{\sqrt{15}}{\sqrt{3}} =$	19.	$\left(\frac{\sqrt{5} - \sqrt{3}}{\sqrt{5}}\right) \cdot \frac{1}{\sqrt{3}} \cdot \sqrt{5} =$
10.	$\frac{\sqrt{40}}{\sqrt{10}} =$	20.	$\frac{\sqrt{x}}{x} \cdot x^2 =$

כפל וחילוק של שורש בעצמו – תשובות.

1.	$\sqrt{2} \cdot \sqrt{2} = 2$	11.	$\frac{\sqrt{5}}{\sqrt{2}} + \frac{2}{\sqrt{10}} = \frac{\sqrt{5}\sqrt{5}}{\sqrt{10}} + \frac{2}{\sqrt{10}} = \frac{7}{\sqrt{10}}$
2.	$\sqrt{2} \cdot \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{\sqrt{2}} = 1$	12.	$\frac{\sqrt{2} \cdot \sqrt{40}}{2} = \frac{\sqrt{80}}{2} = \frac{\sqrt{80}}{\sqrt{4}} = \sqrt{20}$
3.	$\sqrt{3} \cdot \frac{\sqrt{3}}{3} = \frac{\sqrt{3} \cdot \sqrt{3}}{3} = \frac{3}{3} = 1$	13.	$\frac{\sqrt{64} \cdot 10}{\sqrt{16}} = \sqrt{4} \cdot 10 = 20$
4.	$\frac{2}{\sqrt{2}} \cdot \frac{4}{\sqrt{2}} = \frac{8}{2} = 4$	14.	$\left(\frac{1}{6} + \frac{\sqrt{3}}{6}\right) \frac{6\sqrt{3}}{2} = \frac{6\sqrt{3}}{12} + \frac{18}{12} = \frac{6(\sqrt{3}+3)}{12} = \frac{\sqrt{3}+3}{2}$
5.	$\frac{5\sqrt{2}}{15} \cdot \frac{3}{\sqrt{3}} = \frac{\sqrt{2}}{3} \cdot \sqrt{3} = \frac{\sqrt{2 \cdot 3}}{3} = \frac{\sqrt{6}}{3}$	15.	$\frac{15\sqrt{3}}{\sqrt{15}} = \sqrt{15}\sqrt{3} = \sqrt{45}$
6.	$(\sqrt{2} + \sqrt{3}) \cdot \sqrt{2} = 2 + \sqrt{3}\sqrt{2} = 2 + \sqrt{6}$	16.	$\frac{\sqrt{30}}{\sqrt{5}} \cdot \frac{5}{30} = \sqrt{6} \cdot \frac{1}{6} = \frac{\sqrt{6}}{6} = \frac{6^{\frac{1}{2}}}{6^1} = 6^{-\frac{1}{2}} = \frac{1}{6^{\frac{1}{2}}} = \frac{1}{\sqrt{6}}$
7.	$(\sqrt{2} + 1)(\sqrt{2} - 1) = 1$	17.	$\frac{\sqrt{81}}{\sqrt{9}} \cdot \frac{1}{\sqrt{2}} = \frac{\sqrt{9}}{1} \cdot \frac{1}{\sqrt{2}} = \sqrt{\frac{9}{2}}$
8.	$(\sqrt{10} + 5)^2 = 10 + 10\sqrt{10} + 25 = 35 + 10\sqrt{10}$	18.	$\sqrt{\frac{3}{4}} \cdot \sqrt{\frac{16}{9}} = \sqrt{\frac{3 \cdot 16}{4 \cdot 9}} = \sqrt{\frac{4}{3}} = \frac{2}{\sqrt{3}}$
9.	$\frac{\sqrt{100}}{10} + \frac{3}{\sqrt{3}} \cdot \frac{\sqrt{15}}{\sqrt{3}} = 1 + \frac{3\sqrt{15}}{3} = 1 + \sqrt{15}$	19.	$\left(\frac{\sqrt{5}-\sqrt{3}}{\sqrt{5}}\right) \cdot \frac{1}{\sqrt{3}} \cdot \sqrt{5} = \left(\frac{\sqrt{5}-\sqrt{3}}{\sqrt{5}}\right) \cdot \frac{\sqrt{5}}{\sqrt{3}} = \frac{\sqrt{5}(\sqrt{5}-\sqrt{3})}{\sqrt{5}\sqrt{3}} = \frac{\sqrt{5}-\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{5}}{\sqrt{3}} - 1$
10.	$\frac{\sqrt{40}}{\sqrt{10}} = \sqrt{\frac{40}{10}} = \sqrt{4} = 2$	20.	$\frac{\sqrt{x}}{x} \cdot x^2 = \frac{\sqrt{x} \cdot x^2}{x} = \sqrt{x} \cdot x = x^{1.5}$