

Raccolta di espressioni con l'estrazione di radice quadrata e frazioni.

Completi di soluzione guidata.

Square root Expressions.

1. $\sqrt{\frac{3}{4} - \frac{1}{3} - \frac{1}{2} \cdot \left(1 - \frac{5}{6}\right) + \frac{2}{3}}$ 1
[soluzione](#)
2. $\sqrt{\left[\left(1 - \frac{3}{4}\right) : \frac{1}{8}\right] : \left[\left(1 + \frac{1}{2}\right) - \frac{3}{4} : \left(1 - \frac{1}{4}\right)\right]}$ 2
[soluzione](#)
3. $\sqrt{\left(\frac{5}{2} - \frac{1}{4}\right) \cdot \left[1 + \left(\frac{2}{5} + \frac{1}{10}\right) \cdot \left(1 - \frac{1}{2}\right)\right] : \left[\frac{1}{2} + 1 : \left(1 + \frac{1}{3}\right)\right]}$ 3/2
[soluzione](#)
4. $\left(\frac{6}{7} : \frac{2}{21}\right) \cdot \left(1 - \frac{3}{4}\right)^2 \cdot \sqrt{\frac{3}{4} - \frac{11}{36}}$ 3/8
[soluzione](#)
5. $\left[\left(\frac{17}{20} - \frac{4}{15}\right) \cdot \frac{16}{21} - \left(1 - \frac{3}{4}\right)\right] : \sqrt{\left(1 - \frac{1}{6}\right) \cdot \frac{10}{3}}$ [soluzione](#)
6. $\sqrt{\left\{4 - \left(\frac{3}{4} + \frac{1}{2} + \frac{5}{4}\right) - \left[\left(\frac{5}{3} + \frac{2}{5} - 2\right) + \frac{3}{5}\right]\right\} \cdot \frac{1}{30}}$ [soluzione](#)
7. $\sqrt{\left(\frac{19}{30} - \frac{11}{20}\right) : \frac{5}{12} + \left(\frac{13}{12} - \frac{11}{15}\right) \cdot \frac{16}{35}}$ [soluzione](#)
8. $\sqrt{\left[\left(3 + \frac{7}{3} - \frac{24}{5}\right) \cdot \frac{5}{4} + \left(\frac{11}{10} - \frac{5}{6}\right) : \frac{2}{9}\right] \cdot \frac{7}{15}}$ [soluzione](#)
9. $\sqrt{\frac{1}{4} : \left\{\left[\left(1 - \frac{3}{4}\right) : \frac{1}{8}\right] \cdot \left[\left(1 + \frac{1}{2}\right) - \frac{3}{4} : \left(1 - \frac{1}{4}\right)\right]\right\}}$ [soluzione](#)
10. $\sqrt{2^2 \cdot \left[\left(\frac{1}{2} + \frac{3}{4}\right)^3 : \frac{5}{4} - \left(\frac{5}{4} - \frac{1}{2}\right)^2\right]}$ [soluzione](#)
11. $\sqrt{\frac{3}{4} : \left(\frac{1}{3} + 1\right)} + \sqrt{\frac{1}{2} : 2 \cdot \left(\frac{3}{2}\right)^2}$ [soluzione](#)

12.
$$\sqrt{\frac{1}{3} + \left(\frac{1}{3}\right)^2 \cdot \left(\frac{1}{3}\right)^2 : \left(\frac{1}{3}\right)^3 - \frac{2}{3^2}}$$

[soluzione](#)

13.
$$\sqrt{\frac{1}{3} + \left(\frac{2}{3}\right)^1 - \left(\frac{2}{3}\right)^0 + \frac{10}{6} - \frac{2}{3}}$$

[soluzione](#)

Soluzioni

$$\begin{aligned} & \sqrt{\frac{3}{4} - \frac{1}{3} - \frac{1}{2} \cdot \left(1 - \frac{5}{6}\right) + \frac{2}{3}} = \\ & = \sqrt{\frac{3}{4} - \frac{1}{3} - \frac{1}{2} \cdot \left(\frac{6-5}{6}\right) + \frac{2}{3}} = \\ & = \sqrt{\frac{3}{4} - \frac{1}{3} - \frac{1}{2} \cdot \frac{1}{6} + \frac{2}{3}} = \\ & = \sqrt{\frac{3}{4} - \frac{1}{3} - \frac{1}{12} + \frac{2}{3}} = \\ & = \sqrt{\frac{9-4-1+8}{12}} = \\ & = \sqrt{\frac{12}{12}} = \\ & = \sqrt{1} = 1 \end{aligned}$$

$$\begin{aligned}
 & \sqrt{\left[\left(1 - \frac{3}{4}\right) : \frac{1}{8}\right] : \left[\left(1 + \frac{1}{2}\right) - \frac{3}{4} : \left(1 - \frac{1}{4}\right)\right]} = \\
 & = \sqrt{\left[\frac{4-3}{4} : \frac{1}{8}\right] : \left[\frac{2+1}{2} - \frac{3}{4} : \left(\frac{4-1}{4}\right)\right]} = \\
 & = \sqrt{\left[\frac{1}{4} \cdot \frac{8}{1}\right] : \left[\frac{3}{2} - \frac{3}{4} : \frac{3}{4}\right]} = \\
 & = \sqrt{2 : \left[\frac{3}{2} - \frac{3}{4} \cdot \frac{4}{3}\right]} = \\
 & = \sqrt{2 : \left[\frac{3}{2} - 1\right]} = \\
 & = \sqrt{2 : \left[\frac{3-2}{2}\right]} = \\
 & = \sqrt{2 \cdot 2} = \\
 & = \sqrt{2^2} = 2
 \end{aligned}$$

$$\begin{aligned} & \sqrt{\left(\frac{5}{2} - \frac{1}{4}\right) \cdot \left[1 + \left(\frac{2}{5} + \frac{1}{10}\right) \cdot \left(1 - \frac{1}{2}\right)\right] : \left[\frac{1}{2} + 1 : \left(1 + \frac{1}{3}\right)\right]} = \\ & = \sqrt{\left(\frac{10-1}{4}\right) \cdot \left[1 + \left(\frac{4+1}{10}\right) \cdot \frac{1}{2}\right] : \left[\frac{1}{2} + 1 : \left(\frac{3+1}{3}\right)\right]} = \\ & = \sqrt{\frac{9}{4} \cdot \left[1 + \frac{5}{10} \cdot \frac{1}{2}\right] : \left[\frac{1}{2} + \frac{3}{4}\right]} = \\ & = \sqrt{\frac{9}{4} \cdot \left[1 + \frac{1}{4}\right] : \left[\frac{2+3}{4}\right]} = \\ & = \sqrt{\frac{9}{4} \cdot \left[\frac{4+1}{4}\right] \cdot \frac{4}{5}} = \\ & = \sqrt{\frac{9}{4} \cdot \frac{5}{4} \cdot \frac{4}{5}} = \\ & = \sqrt{\frac{9}{4}} = \\ & = \frac{\sqrt{9}}{\sqrt{4}} = \frac{3}{2} \end{aligned}$$

$$\begin{aligned} & \left(\frac{6}{7} \cdot \frac{2}{21}\right) \cdot \left(1 - \frac{3}{4}\right)^2 \cdot \sqrt{\frac{3}{4} - \frac{11}{36}} = \\ & = \left(\frac{\cancel{6}}{7} \cdot \frac{\cancel{21}}{2}\right) \cdot \left(\frac{4-3}{4}\right)^2 \cdot \sqrt{\frac{27-11}{36}} = \\ & = 9 \cdot \left(\frac{1}{4}\right)^2 \cdot \sqrt{\frac{16}{36}} = \\ & = 9 \cdot \frac{1}{16} \cdot \frac{\sqrt{16}}{\sqrt{36}} = \\ & = 9^3 \cdot \frac{1}{4} \cdot \frac{4^1}{6 \cdot 2} = \frac{3}{8} \end{aligned}$$

$$\begin{aligned}
 & \left[\left(\frac{17}{20} - \frac{4}{15} \right) \cdot \frac{16}{21} - \left(1 - \frac{3}{4} \right) \right] : \sqrt{\left(1 - \frac{1}{6} \right) \cdot \frac{10}{3}} = \\
 & = \left[\left(\frac{51 - 16}{60} \right) \cdot \frac{16}{21} - \left(\frac{4 - 3}{4} \right) \right] : \sqrt{\left(\frac{6 - 1}{6} \right) \cdot \frac{10}{3}} = \\
 & = \left[\frac{35}{60} \cdot \frac{16}{21} - \frac{1}{4} \right] : \sqrt{\frac{5}{6} \cdot \frac{10}{3}} = \\
 & = \left[\frac{4}{9} - \frac{1}{4} \right] : \sqrt{\frac{25}{9}} = \\
 & = \left[\frac{16 - 9}{36} \right] : \frac{\sqrt{25}}{\sqrt{9}} = \\
 & = \frac{7}{36} \cdot \frac{3}{5} = \frac{7}{60}
 \end{aligned}$$

$$\begin{aligned}
 & \sqrt{\left\{4 - \left(\frac{3}{4} + \frac{1}{2} + \frac{5}{4}\right) - \left[\left(\frac{5}{3} + \frac{2}{5} - 2\right) + \frac{3}{5}\right]\right\} \cdot \frac{1}{30}} = \\
 & = \sqrt{\left\{4 - \left(\frac{3+2+5}{4}\right) - \left[\left(\frac{25+6-30}{15}\right) + \frac{3}{5}\right]\right\} \cdot \frac{1}{30}} = \\
 & = \sqrt{\left\{4 - \frac{10}{4} - \left[\frac{1}{15} + \frac{3}{5}\right]\right\} \cdot \frac{1}{30}} = \\
 & = \sqrt{\left\{4 - \frac{5}{2} - \frac{1+9}{15}\right\} \cdot \frac{1}{30}} = \\
 & = \sqrt{\left\{4 - \frac{5}{2} - \frac{10^2}{15^3}\right\} \cdot \frac{1}{30}} = \\
 & = \sqrt{\left\{\frac{24-15-4}{6}\right\} \cdot \frac{1}{30}} = \\
 & = \sqrt{\frac{5}{6} \cdot \frac{1}{30}} = \\
 & = \sqrt{\frac{1}{36}} = \\
 & = \frac{\sqrt{1}}{\sqrt{36}} = \frac{1}{6}
 \end{aligned}$$

$$\begin{aligned} & \sqrt{\left(\frac{19}{30} - \frac{11}{20}\right) \cdot \frac{5}{12} + \left(\frac{13}{12} - \frac{11}{15}\right) \cdot \frac{16}{35}} = \\ & = \sqrt{\left(\frac{38-33}{60}\right) \cdot \frac{5}{12} + \left(\frac{65-44}{60}\right) \cdot \frac{16}{35}} = \\ & = \sqrt{\left(\frac{1}{12}\right) \cdot \frac{12}{5} + \left(\frac{7}{20}\right) \cdot \frac{16}{35}} = \\ & = \sqrt{\frac{1}{5} + \frac{4}{25}} = \\ & = \sqrt{\frac{5+4}{25}} = \\ & = \sqrt{\frac{9}{25}} = \\ & = \frac{\sqrt{9}}{\sqrt{25}} = \frac{3}{5} \end{aligned}$$

$$\begin{aligned}
 & \sqrt{\left[\left(3 + \frac{7}{3} - \frac{24}{5}\right) \cdot \frac{5}{4} + \left(\frac{11}{10} - \frac{5}{6}\right) : \frac{2}{9}\right] \cdot \frac{7}{15}} = \\
 & = \sqrt{\left[\left(\frac{45 + 35 - 72}{15}\right) \cdot \frac{5}{4} + \left(\frac{33 - 25}{30}\right) : \frac{2}{9}\right] \cdot \frac{7}{15}} = \\
 & = \sqrt{\left[\frac{8}{15} \cdot \frac{5}{4} + \frac{8}{30} : \frac{2}{9}\right] \cdot \frac{7}{15}} = \\
 & = \sqrt{\left[\frac{2}{3} \cdot \frac{1}{1} + \frac{8}{30} \cdot \frac{9}{2}\right] \cdot \frac{7}{15}} = \\
 & = \sqrt{\left[\frac{2}{3} + \frac{4}{10} \cdot \frac{3}{1}\right] \cdot \frac{7}{15}} = \\
 & = \sqrt{\left[\frac{2}{3} + \frac{6}{5}\right] \cdot \frac{7}{15}} = \\
 & = \sqrt{\left[\frac{10 + 18}{15}\right] \cdot \frac{7}{15}} = \\
 & = \sqrt{\left[\frac{28}{15}\right] \cdot \frac{7}{15}} = \\
 & = \sqrt{\frac{196}{225}} = \\
 & = \frac{\sqrt{196}}{\sqrt{225}} = \frac{13}{15}
 \end{aligned}$$

$$\begin{aligned}
 & \sqrt{\frac{1}{4} : \left\{ \left[\left(1 - \frac{3}{4} \right) : \frac{1}{8} \right] \cdot \left[\left(1 + \frac{1}{2} \right) - \frac{3}{4} : \left(1 - \frac{1}{4} \right) \right] \right\}} = \\
 & = \sqrt{\frac{1}{4} : \left\{ \left[\frac{4-3}{4} : \frac{1}{8} \right] \cdot \left[\frac{2+1}{2} - \frac{3}{4} : \left(\frac{4-1}{4} \right) \right] \right\}} = \\
 & = \sqrt{\frac{1}{4} : \left\{ \left[\frac{1}{4} \cdot \frac{8}{1} \right] \cdot \left[\frac{3}{2} - \frac{3}{4} : \frac{3}{4} \right] \right\}} = \\
 & = \sqrt{\frac{1}{4} : \left\{ 2 \cdot \left[\frac{3}{2} - 1 \right] \right\}} = \\
 & = \sqrt{\frac{1}{4} : \left\{ 2 \cdot \left[\frac{3-2}{2} \right] \right\}} = \\
 & = \sqrt{\frac{1}{4} : \left\{ 2 \cdot \frac{1}{2} \right\}} = \\
 & = \sqrt{\frac{1}{4} : 1} = \\
 & = \sqrt{\frac{1}{4}} = \\
 & = \frac{\sqrt{1}}{\sqrt{4}} = \frac{1}{2}
 \end{aligned}$$


$$\begin{aligned}
 & \sqrt{2^2 \cdot \left[\left(\frac{1}{2} + \frac{3}{4} \right)^3 : \frac{5}{4} - \left(\frac{5}{4} - \frac{1}{2} \right)^2 \right]} = \\
 & = \sqrt{4 \cdot \left[\left(\frac{2+3}{4} \right)^3 : \frac{5}{4} - \left(\frac{5-2}{4} \right)^2 \right]} = \\
 & = \sqrt{4 \cdot \left[\left(\frac{5}{4} \right)^3 : \frac{5}{4} - \left(\frac{3}{4} \right)^2 \right]} = \quad \left(\frac{5}{4} \right)^{3-1} = \left(\frac{5}{4} \right)^2 = \frac{5^2}{4^2} \\
 & = \sqrt{4 \cdot \left[\frac{25}{16} - \frac{9}{16} \right]} = \\
 & = \sqrt{4 \cdot \left[\frac{25-9}{16} \right]} = \\
 & = \sqrt{4} = 2
 \end{aligned}$$



$$\begin{aligned}
 & \sqrt{\frac{3}{4} : \left(\frac{1}{3} + 1\right)} + \sqrt{\frac{1}{2} : 2 \cdot \left(\frac{3}{2}\right)^2} = \\
 & = \sqrt{\frac{3}{4} : \frac{1+3}{3}} + \sqrt{\frac{1}{2} : 2 \cdot \frac{9}{4}} = \\
 & = \sqrt{\frac{3}{4} \cdot \frac{3}{4}} + \sqrt{\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{9}{4}} = \\
 & = \sqrt{\frac{9}{16}} + \sqrt{\frac{9}{16}} = \\
 & = \frac{\sqrt{9}}{\sqrt{16}} + \frac{\sqrt{9}}{\sqrt{16}} = \\
 & = \frac{3}{4} + \frac{3}{4} = \\
 & = \frac{6}{4} = \frac{3}{2}
 \end{aligned}$$


$$\begin{aligned}
 & \sqrt{\frac{1}{3} + \left(\frac{1}{3}\right)^2 \cdot \left(\frac{1}{3}\right)^2 : \left(\frac{1}{3}\right)^3 - \frac{2}{3^2}} = \\
 & = \sqrt{\frac{1}{3} + \left(\frac{1}{3}\right)^{2+2-3} - \frac{2}{9}} = \\
 & = \sqrt{\frac{1}{3} + \left(\frac{1}{3}\right)^1 - \frac{2}{9}} = \\
 & = \sqrt{\frac{1}{3} + \frac{1}{3} - \frac{2}{9}} = \\
 & = \sqrt{\frac{3+3-2}{9}} = \sqrt{\frac{4}{9}} = \frac{\sqrt{4}}{\sqrt{9}} = \frac{2}{3}
 \end{aligned}$$


$$\begin{aligned}
& \sqrt{\frac{1}{3} + \left(\frac{2}{3}\right)^1 - \left(\frac{2}{3}\right)^0 + \frac{10}{6} - \frac{2}{3}} = \\
& = \sqrt{\frac{4}{3} + \frac{2}{3} - 1 + \frac{10^5}{6_3} - \frac{2}{3}} = \\
& = \sqrt{\frac{4 + 2 - 3 + 5 - 2}{3}} = \\
& = \sqrt{\frac{3}{3}} = \sqrt{1} = 1
\end{aligned}$$


Keywords

 *Matematica, Aritmetica, espressioni, numero irrazionale, irrazionali, numero reale, elevamento a potenza, base, esponente, potenza, proprietà delle potenze, estrazione di radice quadrata, radicali, estrazione di radice, radice quadrata, quadrati perfetti, radice quadrata a mano, I, radq()*

  *Math, Arithmetic, Expression, Irrational number, Real number, Arithmetic Operations, Raise to a Power, base, exponent, power, Solved expressions with raise to a power, square root, roots, sqr(), sqrt()*

 *Matemática, Aritmética, potencia, expresiones, potencias, propiedades de las potencias, Potencias y expresiones, Raíz, Raíz cuadrada*

 *Mathématique, Arithmétique, Expression, Exercices de calcul et expression avec des puissances, propriété des puissances, Racine, Racine carrée*

 *Mathematik, Arithmetik, Potenz, Rechenregeln, Allgemeinere Basen, Allgemeinere Exponenten, Radizierung, Quadrat-Radizierung*