

Zjednodušte výrazy:

[Zpět:](#)

Výraz	Řešení	Výsledek
a) $\frac{a^{-2} \cdot \frac{1}{a^3}}{a^{-6}}$	$\frac{a^{-2} \cdot \frac{1}{a^3}}{a^{-6}} = \frac{a^{-2} \cdot a^{-3}}{a^{-6}} = a, \quad a \neq 0$	$a, \quad a \neq 0$
b) $\frac{a^{-1} \sqrt{a}}{\sqrt[3]{a^{-4}}}$	$\frac{a^{-1} \sqrt{a}}{\sqrt[3]{a^{-4}}} = \frac{a^{-1} \cdot a^{\frac{1}{2}}}{a^{-\frac{4}{3}}} = \frac{a^{-\frac{1}{2}}}{a^{-\frac{4}{3}}} = a^{\frac{-3+8}{6}} = a^{\frac{5}{6}}$	$a^{\frac{5}{6}}, \quad a \neq 0$
c) $\sqrt[4]{a^3 \sqrt{a^{-3}}} \cdot a^{\frac{1}{3}}$	$\sqrt[4]{a^3 \sqrt{a^{-3}}} \cdot a^{\frac{1}{3}} = a^{\frac{3}{4}} \cdot a^{-\frac{3}{8}} \cdot a^{\frac{1}{3}} = a^{\frac{18-9+8}{24}} = a^{\frac{17}{24}}$	$a^{\frac{17}{24}}, \quad a > 0$
d) $\sqrt[3]{16} \cdot \sqrt{2} \cdot \sqrt[4]{8}$	$\sqrt[3]{16} \cdot \sqrt{2} \cdot \sqrt[4]{8} = 2^{\frac{4}{3}} \cdot 2^{\frac{1}{2}} \cdot 2^{\frac{3}{4}} = 2^{\frac{16+6+9}{12}} = 2^{\frac{31}{12}}$	$2^{\frac{31}{12}}$
e) $\sqrt{75} + \sqrt{108} - 2\sqrt{48}$	$\begin{aligned} \sqrt{75} + \sqrt{108} - 2\sqrt{48} &= \sqrt{3 \cdot 25} + \sqrt{3 \cdot 36} - 2\sqrt{3 \cdot 16} = \\ &= 5 \cdot \sqrt{3} + 6 \cdot \sqrt{3} - 2 \cdot 4 \cdot \sqrt{3} = 11\sqrt{3} - 8\sqrt{3} = 3 \cdot \sqrt{3} \end{aligned}$	$3 \cdot \sqrt{3}$
f) $\frac{10000 \cdot 0,000001}{10^{-3}}$	$\frac{10000 \cdot 0,000001}{10^{-3}} = \frac{10^4 \cdot 10^{-6}}{10^{-3}} = 10$	10