

II.

1) Zjednodušte výrazy:

[Zpět:](#)

Výraz	Řešení	Výsledek
a) $\frac{b^{-2} \cdot \frac{1}{b^2}}{b^{-4}}$	$\frac{b^{-2} \cdot \frac{1}{b^2}}{b^{-4}} = \frac{b^{-2} \cdot b^{-2}}{b^{-4}} = \frac{b^{-4}}{b^{-4}} = 1$	1, $b \neq 0$
b) $\frac{b^{-1} \sqrt{b^3}}{\sqrt[3]{b^{-4}}}$	$\frac{b^{-1} \sqrt{b^3}}{\sqrt[3]{b^{-4}}} = \frac{b^{-1} \cdot b^{\frac{3}{2}}}{b^{-\frac{4}{3}}} = b^{\frac{-6+9+8}{6}} = b^{\frac{11}{6}}$	$b^{\frac{11}{6}},$ $b > 0$
c) $\sqrt[4]{b^2 \sqrt{b^{-5}}} \cdot b^{\frac{1}{3}}$	$\sqrt[4]{b^2 \sqrt{b^{-5}}} \cdot b^{\frac{1}{3}} = b^{\frac{1}{2}} \cdot b^{-\frac{5}{8}} \cdot b^{\frac{1}{3}} = b^{\frac{12-15+8}{24}} = b^{\frac{5}{24}}$	$b^{\frac{5}{24}},$ $b > 0$
d) $\sqrt[4]{27} \cdot \sqrt{9^3} \cdot \sqrt[5]{81}$	$\sqrt[4]{27} \cdot \sqrt{9^3} \cdot \sqrt[5]{81} = 3^{\frac{3}{4}} \cdot 3^{\frac{6}{2}} \cdot 3^{\frac{4}{5}} = 3^{\frac{15+60+16}{20}} = 3^{\frac{91}{20}}$	$3^{\frac{91}{20}}$
e) $\sqrt{80} + \sqrt{180} - \sqrt{20}$	$\sqrt{80} + \sqrt{180} - \sqrt{20} = \sqrt{16 \cdot 5} + \sqrt{36 \cdot 5} - \sqrt{4 \cdot 5} = 4\sqrt{5} + 6\sqrt{5} - 2\sqrt{5} = 8\sqrt{5}$	$8\sqrt{5}$
f) $\frac{100 \cdot 0,00001}{10^{-4}}$	$\frac{100 \cdot 0,00001}{10^{-4}} = \frac{10^2 \cdot 10^{-5}}{10^{-4}} = 10$	10