

Příklady – upravte výrazy s racionálními exponenty (6. V)

$$1) \left(\frac{2ab}{3cd}\right)^{-3} \cdot \left(\frac{4cd}{5ab}\right)^{-2} : \left(\frac{2cb}{5ab}\right)^{-4}$$

$$2) \left(\frac{x^{-2}y^2(x-2)^{-2}}{x^0y^{-8}}\right)^{-2} : \frac{x^2(x-2)^3}{x^{-4}y^7}$$

$$3) \left(\frac{a^{-3}b^{-7}c^0}{a^{-5}b^{-11}c^{13}}\right)^{-4} \cdot \left(\frac{a^3b^{-3}c^{-4}}{a^4b^7c^0}\right)^{-2}$$

$$4) \left(y^{\frac{3}{4}} \cdot y^{\frac{5}{6}}\right) : y^{\frac{13}{24}}$$

$$5) \sqrt[6]{\left(\frac{x\sqrt{x}}{x^{\frac{2}{3}} \cdot x^{\frac{1}{2}}}\right)^{-1}}$$

$$6) \sqrt[4]{x \cdot \sqrt[3]{x^5}}$$

$$7) \left(\frac{x^{\frac{2}{5}}}{y^{\frac{3}{2}}}\right)^{-2} \cdot \frac{(y^{-1}x^{-2})^{-\frac{1}{2}}}{(xy^2)^{\frac{1}{10}}}$$

$$8) \left(\left(\frac{a^{\frac{1}{2}} \cdot a^{-2}}{a^{\frac{1}{3}}}\right)^{-2}\right)^{\frac{1}{5}}$$

$$9) \sqrt[6]{\frac{b^4}{\sqrt{b}}} \cdot \sqrt[3]{\frac{b^3}{\sqrt{b}}} \cdot \sqrt{b}$$

$$10) \frac{\left(x^{\frac{2}{3}}y^{-1}z\right)^{\frac{1}{3}}}{\left(x^{-1}y^{-\frac{3}{2}}z^{\frac{1}{2}}\right)^{\frac{2}{3}}}$$

$$11) \sqrt[6]{\left(\frac{x\sqrt{x}}{x^{\frac{2}{3}}x^{\frac{1}{2}}}\right)^{-1}}$$

$$12) \left(\sqrt[3]{\frac{a}{b}} \cdot \sqrt{\frac{\sqrt{a}}{\sqrt[3]{b}}}\right) : \sqrt[6]{\frac{a^3}{b^2}} \left[a^{\frac{1}{12}} b^{-\frac{1}{6}} \right]$$

$$13) \sqrt{\frac{a\sqrt[3]{b}}{\sqrt[3]{a\sqrt{b}}}} \left[a^{\frac{1}{3}} b^{\frac{1}{12}} \right]$$

$$14) \left(\frac{x^{\frac{2}{5}}}{y^{\frac{3}{2}}}\right)^{-2} \cdot \frac{(y^{-1}x^{-2})^{-\frac{1}{2}}}{(xy^2)^{\frac{1}{10}}} \left[x^{\frac{1}{10}} y^{\frac{33}{10}} \right]$$

$$15) \frac{a\sqrt{a}}{\sqrt[5]{a^4} \sqrt[3]{a^2}} : \frac{a^{\frac{1}{2}} a^{-1}}{\sqrt[3]{a}} \left[a^{\frac{5}{6}} \sqrt{a^2} \right]$$

$$16) \sqrt{(a^2 - b^2)^3} \left[(a^2 - b^2)^{\frac{3}{2}} \right]$$

$$17) \sqrt[6]{\frac{b^4}{\sqrt{b}} \cdot \sqrt[3]{\frac{b^3}{\sqrt{b}}}} \cdot \sqrt{b} \left[b^{\frac{23}{12}} \right]$$

$$18) \left(\frac{p^{\frac{7}{3}} \cdot \sqrt[8]{q^2}}{\frac{(pq)^{\frac{5}{2}}}{p^3}} \right)^{-\frac{2}{3}}$$

$$19) \frac{(x-2)^2 \cdot (4x^2 - 16x + 16)^{\frac{3}{12}}}{(5x-10)^{\frac{9}{11}}} : (2-x)$$

$$20) \frac{(m^2 - n^2)^{-\frac{5}{12}}}{(m+n)^{\frac{3}{8}}} \cdot (m-n)^{\frac{11}{3}}$$