$\frac{\sqrt[3]{8⋅\sqrt{\frac{1}{\sqrt{2}}⋅4^{-3}}}}{\sqrt{4^{\frac{1}{3}}⋅\sqrt[3]{\frac{1}{2}}}⋅\sqrt[4]{2^{3}⋅\sqrt{2}}}$

$$\sqrt[3]{2^{3}}=2^{\frac{3}{3}}=2^{1}=2$$

$\sqrt[3]{\sqrt[2]{\frac{1}{\sqrt[2]{2}}}}=\sqrt[6]{\frac{1}{\sqrt[2]{2}}}=\sqrt[6]{2^{-\frac{1}{2}}}=2^{-\frac{1}{2}⋅\frac{1}{6}}=2^{-\frac{1}{12}}$

$\sqrt[3]{\sqrt[2]{4^{-3}}}=\sqrt[6]{4^{-3}}=4^{-\frac{3}{6}}=\left(2^{2}\right)^{-\frac{3}{6}}=2^{-\frac{6}{6}}=2^{-1}$

$\sqrt[2]{4^{\frac{1}{3}}}=4^{\frac{\frac{1}{3}}{\frac{2}{1}}}=4^{\frac{1}{3}⋅\frac{1}{2}}=4^{\frac{1}{6}}=\left(2^{2}\right)^{\frac{1}{6}}=2^{\frac{2}{6}}=2^{\frac{1}{3}}$

$\sqrt[2]{\sqrt[3]{\frac{1}{2}}}=\sqrt[6]{2^{-1}}=2^{-\frac{1}{6}}$

$\sqrt[4]{2^{3}}⋅\sqrt[4]{\sqrt{2}}=2^{\frac{3}{4}}⋅\sqrt[8]{2}=2^{\frac{3}{4}}⋅2^{\frac{1}{8}}$

$\frac{2⋅2^{\frac{-1}{12}}⋅2^{-1}}{2^{\frac{1}{3}}⋅2^{\frac{-1}{6}}⋅2^{\frac{3}{4}}⋅2^{\frac{1}{8}}}=$

$2^{\left(\frac{1}{1}+\left(-\frac{1}{12}\right)+\left(-\frac{1}{1}\right)\right)-\left(\frac{1}{3}+\left(-\frac{1}{6}\right)+\frac{3}{4}+\frac{1 }{8}\right)}=2^{\left(\frac{1}{1}-\frac{1}{12}-\frac{1}{1}\right)-\left(\frac{1}{3}-\frac{1}{6}+\frac{3}{4}+\frac{1}{8}\right)}=$

$2^{\frac{1}{1}-\frac{1}{12}-\frac{1}{1}-\frac{1}{3}+\frac{1}{6}-\frac{3}{4}-\frac{1 (čas videa 16:04)}{8}}=2^{\frac{24-2-24-8+4-18-3}{24}}=2^{\frac{-27}{24}}=$

$=\sqrt[24]{\frac{1}{2^{27}}}$

[**https://youtu.be/jHzQ7x6rnbE**](https://youtu.be/jHzQ7x6rnbE)

**Mocniny a odmocniny - Jak na to? ze 2. 4. 2013 na YT**