

$$a) 2^{-4} + \left(\frac{4}{3}\right)^{-2} + \left(\frac{2}{5}\right)^{-3} =$$

$$\frac{1}{16} + \left(\frac{3}{4}\right)^2 + \left(\frac{5}{2}\right)^3 =$$

$$\frac{1}{16} + \frac{9}{16} + \frac{125}{8} = \frac{10}{16} + \frac{250}{16} = \frac{260}{16}$$

$$b) \left[5 - 3 \cdot \left(\frac{2}{5}\right)^0\right]^{-2} = [5 - 3 \cdot 1]^{-2} = [5 - 3]^{-2} =$$

$$= 2^{-2} = \left(\frac{1}{2}\right)^2 = \frac{1}{4}$$

$$c) 27^{-\frac{5}{3}} + \left(\frac{1}{16}\right)^{\frac{3}{4}} = (3^3)^{-\frac{5}{3}} + \left[\left(\frac{1}{2}\right)^4\right]^{\frac{3}{4}} =$$

$$= 3^{-3 \cdot \frac{5}{3}} + \left(\frac{1}{2}\right)^{4 \cdot \frac{3}{4}} = 3^{-5} + \left(\frac{1}{2}\right)^3 =$$

$$\left(\frac{1}{3}\right)^5 + \left(\frac{1}{2}\right)^3 = \frac{1}{243} + \frac{1}{8} = \frac{8}{1944} + \frac{243}{1944} =$$

$$= \frac{251}{1944}$$

$$c) 27^{-\frac{5}{3}} + \left(\frac{1}{16}\right)^{\frac{1}{4}} = (3^3)^{-\frac{5}{3}} + \left[\left(\frac{1}{2}\right)^4\right]^{\frac{1}{4}} =$$

$$= 3^{-3 \cdot \frac{5}{3}} + \left(\frac{1}{2}\right)^{4 \cdot \frac{1}{4}} = 3^{-5} + \left(\frac{1}{2}\right)^1 = \left(\frac{1}{3}\right)^5 + \frac{1}{2} =$$

$$= \frac{1}{243} + \frac{1}{2} = \frac{2}{486} + \frac{243}{486} = \frac{245}{486}$$

Przykład c ma czerwoną jest
 kilka słów, bo ten na niebiesko obórne obliczają
 ale drugi napis pomyliam → zamiast $\frac{1}{4}$
 wpisałam do $\frac{3}{4}$

$$d) \sqrt{2} \cdot 4^{\frac{2}{3}} \cdot 8^{-\frac{1}{3}} = 2^{\frac{1}{2}} \cdot 2^{\frac{2}{3}} \cdot (2^3)^{-\frac{1}{3}} = 2^{\frac{1}{2}} \cdot 2^{\frac{2}{3}} \cdot 2^{-1} =$$

$$2^{\frac{1}{2} + \frac{2}{3} + (-1)} = 2^{\frac{3}{6} + \frac{4}{6} - 1} = 2^{\frac{7}{6} - 1} = 2^{\frac{1}{6}} = \sqrt[6]{2}$$

o:)k