



Potence s celimi eksponenti

Naloga 1. Izračunaj:

a) $(2^{-3} + 2^{-2} + 2^{-1})^{-1}$;

b) $\left(\frac{2}{3}\right)^{-3} \cdot \left(\frac{3}{4}\right)^{-2} \cdot \left(\frac{16}{3}\right)^{-1}$;

c) $(6^{-1} - 3^{-1})^{-1} \cdot (6^{-1} + 3^{-1})^{-1}$.

Naloga 2. Izračunaj brez uporabe kalkulatorja:

a) $\frac{12^0 + \left(\frac{2}{3}\right)^{-3} \cdot \left(\frac{3}{4}\right)^{-3}}{(3^{-1} - (-3)^{-3})^{-1}}$;

b) $\frac{\left(\frac{4}{5}\right)^{-3} - (-3)^0 \cdot \left(\frac{3}{4}\right)^3}{2 - (-5)^{-2}}$.

Naloga 3. Poenostavi $(5^{2n-3})^{2n+1} : 5^{(2n-1)^2} \cdot 5^4 - 1$.

Naloga 4. Poenostavi in potence v rezultatu zapiši s pozitivnimi eksponenti.

a) $(x^{-2} \cdot x^{-5})^{-3} : (x^2 \cdot x^{-5})^{-1}$;

b) $(x^{-2}y^{-3})^2 \cdot (x^{-2}y)^{-3} \cdot (-x^{-3}y)^{-2} \cdot (-xy^{-2})^{-3}$;

c) $\left(\frac{x^{-5}}{y^{-1}}\right)^2 : \left(\left(\frac{y^{-1}}{x^2}\right)^{-3} \cdot \left(\frac{x^{-3}}{y^{-2}}\right)^{-1}\right)^{-2}$.



Naloga 1. a) $\frac{8}{7}$; b) $\frac{9}{8}$; c) -12 .

Naloga 2. a) $3\frac{1}{3}$; b) $\frac{25}{32}$.

Naloga 3. $= 5^{4n^2-4n-3} : 5^{4n^2-4n+1} \cdot 5^4 - 1 = 5^{-4} \cdot 5^4 - 1 = 5^0 - 1 = 0$.

Naloga 4. a) x^{18} ; b) $-\left(\frac{x}{y}\right)^5$;

c) $= \frac{x^{-10}}{y^{-2}} : \left(\frac{y^3}{x^{-6}} \cdot \frac{x^3}{y^2}\right)^{-2} = \frac{x^{-10}}{y^{-2}} : (x^9 y)^{-2} = \frac{x^{-10}}{y^{-2}} \cdot (x^{18} y^2) = x^8 y^4$.