

## POTENCIJE-zadaci za vježbu

1. Izračunajte:

a.  $\left[6 - 4 \cdot \left(\frac{2}{3}\right)^0\right]^{-2}$

b.  $\left[\left(\frac{2}{3}\right)^{-1} - \frac{3}{4}\right]^{-1}$

c.  $\frac{3^{-2} - \left(\frac{3}{4}\right)^{-2}}{2 - \left(\frac{1}{5}\right)^{-1}}$

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

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

2. Izračunajte:

a.  $\left(\frac{4}{5}x^5y^3\right) \cdot \left(\frac{2}{3}x^2y\right)$

b.  $\left(\frac{1}{5}a^3b^5\right) \cdot \left(\frac{5}{2}ab^4\right)$

c.  $\left(\frac{2}{3}x^6y^4\right) : \left(\frac{3}{5}x^{-7}y^2\right)$

d.  $(12x^3y^7) : (3x^5y^9)$

3. Izračunajte:

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

b.  $(a^2)^{2n-3} : (a^2)^{3n+3} \cdot (a^3)^{n+6}$

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

d.  $\frac{(a^3)^2 \cdot (a^5)^{-1}}{a^3 \cdot \frac{1}{a^5}}$

e.  $(x^3y^2)^3$

f.  $(a^2b^3)^4 \cdot (a^{-3}b)^2$

g.  $(a^{-2}b^4)^2 \cdot (a^3b^{-2})^3$

h.  $\left(\frac{a^4}{3b^2}\right)^4 \cdot (9a^2b^2)^3$

i.  $\left(\frac{2a^3b^2}{3c^4}\right)^3 \cdot \left(\frac{9a^4c^3}{8b^4}\right)^2$

j.  $\left(\frac{81x^3y^2}{16z^5}\right)^{-3} \cdot \left(\frac{z^{-2}}{3xy^{-3}}\right)^4$

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

4. Napišite u obliku potencije s istom bazom:

a.  $\frac{9^9}{27^3 \cdot 3^6}$

b.  $\frac{64^5}{8^3 \cdot 16^4}$

c.  $125^{2n+3} \cdot 25^{3n-5}$

d.  $8^{n+1} \cdot 4^{n+1}$

e.  $16^{3n+3} : 64^{2n+1}$

f.  $27^{2n+4} : 9^{n+3}$

g.  $\frac{5^2 \cdot (0.2)^2 \cdot 5^{-3}}{0.008 \cdot 5^{-1} \cdot 5^3}$

h.  $\frac{2^{12} \cdot (0.25)^5}{4}$

i.  $\frac{0.04^{-2} \cdot 125^4 \cdot 0.2^{-1}}{25^8}$