4. Stepen čiji je izložilac ceo broj - vežbe

ZADATAK 3. Uprostiti izraze:

a) $\left(\frac{2}{3}x^{-2}-\frac{3}{4}x^{-3}\right)\left(\frac{1}{6}x^{2}-\frac{3}{2}x^{-3}\right)$

b) $3a^{-2}-4a^{-2}+7a^{-2}$

c) $c^{n+1}\cdot c^{n-2}\cdot c^{n+3}$

d) $28d^{2x+1}:7d^{3}$

e) $a^{m+p}:a^{2m-3p}$

f) $(a-x)^{3}\cdot(x-a)^{4}$

Rešenje:

a) $\left(\frac{2}{3}x^{-2}-\frac{3}{4}x^{-3}\right)\left(\frac{1}{6}x^{2}-\frac{3}{2}x^{-3}\right)=\left(\frac{2}{3x^{2}}-\frac{3}{4x^{3}}\right)\left(\frac{x^{2}}{6}-\frac{3}{2x^{3}}\right)=\frac{8x-9}{12x^{3}}\cdot\frac{x^{5}-9}{6x^{3}}$

$$\frac{8x^{6}-9x^{5}-72x+81}{72x^{6}}=\frac{1}{9}-\frac{1}{8x}-\frac{1}{x^{5}}+\frac{9}{8x^{6}}$$

b) $3a^{-2}-4a^{-2}+7a^{-2}=6a^{-2}$

c) $c^{n+1}\cdot c^{n-2}\cdot c^{n+3}=c^{n+1+n-2+n+3}=c^{3n+2}$

d) $28d^{2x+1}:7d^{3}=4d^{2x+1-3}=4d^{2x-2}=4d^{2(x-1)}=2^{2}(d^{x-1})^{2}=(2d^{x-1})^{2}$

e) $a^{m+p}:a^{2m-3p}=a^{m+p-(2m-3p)}=a^{-m+4p}$

f) $(a-x)^{3}\cdot(x-a)^{4}=(a-x)^{3}\cdot(-(a-x))^{4}=(a-x)^{3}\cdot(a-x)^{4}=(a-x)^{7}$

DOMAĆI ZADATAK. Uprosti izraze:

a) $\frac{25a^{7}b^{3}}{28c^{2}d^{5}}\cdot\frac{21c^{2}d^{4}}{15a^{6}b^{2}}$

b) $\left(\frac{2a^{x}b^{2}}{3c^{y}d^{5}}\right)^{2}:\left(\frac{4a^{x-1}b}{3c^{1-y}d^{2}}\right)^{3}$

c) $\frac{25x^{n}y^{n-4}}{27z^{n-1}u^{n-2}}\cdot\frac{6z^{n-2}u^{n-2}}{10x^{1-n}y^{n-1}}$