

6. Algebarski izrazi i algebarski razlomci

- zbrajati, oduzimati, množiti i dijeliti jednostavnije algebarske razlomke

Zadaci:

1. Izračunaj i skрати do kraja:

a) $\left(\frac{a+b}{a-b}\right)^8 \cdot \left(\frac{a+b}{a-b}\right)^{11} =$

b) $5^{x+2y} : 5^{2x-y} =$

c) $3ab^3 \cdot (-4a^3b^3) =$

d) $\frac{2x^2y^8}{16z^5} \cdot \frac{2z^4x^3}{y^{16}} =$

e) $\left(\frac{2}{3}x^3y^5\right)^3 =$

f) $\frac{x^2-1}{2a-2a^3} : \frac{x-1}{(a-1)^2} =$

g) $\frac{a^2+a}{a^2+2a+1} : \frac{a}{a^2-1} =$

h) $\frac{2x}{x^2-25} - \frac{1}{x-5} =$

i) $\left(\frac{x-2}{x+2} - \frac{x+2}{x-2}\right) : \frac{x}{x^2-4} =$

2. Kvadriraj zadane binome:

a) $(ab^2 + a^3)^2 =$

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

3. Rastavi na faktore:

a) $50b^2 - 2a^2 =$

b) $16a^2 - 72ab + 81b^2 =$

c) $6c^2d^3 - 3acd^2 =$

d) $ax - ay + bx - by =$

4. Izračunaj i sredi izraze:

a) $5x(5 - 5x) - 9 + 25x^2 =$

b) $(-1 + x^2)(2x^3 - x) =$

c) $(x - 3)^2 - (x + 2)(x - 2) - 2x^2 =$

d) $b^{37} : b^{11} - 13b^{26} + 7b \cdot b^{25} =$

5. Skrati razlomake:

a) $\frac{ac}{abc} =$

b) $\frac{2b-2a}{7a-7b} =$

c) $\frac{25x^2-20x+4}{10x-4} =$

d) $\frac{16x^2-4}{16x^2-16x+4} =$

e) $\frac{2x-4a}{14a-7x} =$

f) $\frac{18x^2-24x+8y^2}{12x-8y} =$

g) $\frac{a^2+6a+9}{a^2+3a} =$

h) $\frac{a^2-36}{a^2-12a+36} =$

i) $\frac{3a^2-3}{a^2-2a+1} =$

6. Nadopuni:

a) $(___ + ___)^2 = ___ + 110k + 1$

b) $(5 - ___)^2 = ___ - 70m + ___$

c) $(___ + ___)(___ - ___) = a^2 - 64b^2$

7. Proveri i pokaži je li zapisani izraz kvadrat binoma: $49b^2 - 24ab + 4a^2$.