

VÝRAZY

Zadání	Řešení
<p>Zjednodušte výrazy:</p> <p>1. $[-(-3p + q) - (p + 2)] - 5q$</p>	$2p - 6q - 2$
<p>2. $\left[\frac{2}{3}x - (x + xy) - \frac{5}{6}xy + \frac{x}{3} - (y + 2) \right] - \left(\frac{y}{6} + \frac{5}{6} \right) + \frac{1}{3}x$</p>	$\frac{1}{3}x - \frac{11}{6}xy - \frac{7}{6}y - \frac{17}{6}$
<p>3. $2xy^2 - [6y + (y - 3x^2y) - (5xy^2 + 1)] - (2 + 6y)$</p>	$7xy^2 + 3x^2y - 13y - 1$
<p>4. $xyz - \frac{11}{12}xz^2 + \left[\frac{11}{12}x^2z - \left(xz + \frac{1}{12} \right) - \frac{x^2z}{12} + \frac{1}{3}xz^2 \right] + \frac{5}{12} - \frac{xyz}{4}$</p>	$\frac{3}{4}xyz - \frac{7}{12}xz^2 + \frac{5}{6}x^2z - xz + \frac{1}{3}$
<p>5. $[3p \cdot 4q^4 - (5p^4 \cdot 3q - 1) + 5p^2 \cdot q \cdot p^2 - (1 - q^3 p \cdot q)] - 4$</p>	$13pq^4 - 10p^4q - 4$
<p>6. $9x^3 - [-4x \cdot (5x^4 : x^3) + 5x \cdot (2x + 4x^2 : x)] - x^2$</p>	$9x^3 - 11x^2; x \neq 0$
<p>7. $3xy \cdot x^3y^2 - 2x \cdot (3x^4y^4 : xy) - 2xy + y \cdot [4x^3y^2 : (x \cdot 2xy^2)]$</p>	$-3x^4y^3; x, y \neq 0$
<p>8. $[(3a + 2ab) - (5a^2 - 3a^2b) : a] \cdot [(4a + 3ab) - (6 + 2b) \cdot a]$</p>	$5a^2b^2 - 12a^2b + 4a^2$
<p>9. $\left[\left(\frac{2}{5}u - \frac{1}{5}v \right) \cdot \left(\frac{3}{5}u + \frac{1}{5}v \right) \right] \cdot (25u - 25v) - u^2 \cdot (6u - 7v)$</p>	v^3
<p style="text-align: center;">Stanovte podmínky, kdy má výraz smysl:</p>	
<p>1. $6a + \left(\frac{a}{a-2} - \frac{a}{a+2} \right) : \frac{4a}{a^4 - 2a^3 + 8a - 16} =$</p>	$a \neq 0, a \neq \pm 2$
<p>2. $\frac{\frac{a+b}{a-b} - \frac{a-b}{a+b}}{2 - \frac{1+b^2}{b}} =$</p>	$a \neq \pm b, b \neq 0$
<p>3. $\left[\left(\frac{3}{x-y} + \frac{3x}{x^3-y^3} \cdot \frac{x^2+xy+y^2}{x+y} \right) : \frac{2x+y}{x^2+2xy+y^2} \right] \cdot \frac{3}{x+y} =$</p>	$x \neq \pm y, x \neq -\frac{1}{2}y$
<p>4. $\frac{\left(1 + \frac{y^2}{x^2} \right) \left(1 - \frac{2x}{y} + \frac{x^2}{y^2} \right)}{x^4 - y^4} =$</p>	$x \neq 0, y \neq 0, x \neq \pm y$
<p>5. $\left(1 - \frac{x-3}{x+3} \right) : \left(\frac{1}{3+x} + \frac{x}{9-x^2} \right) =$</p>	$x \neq \pm 3$
<p>6. $\frac{\frac{x^3}{y^2} + \frac{x^2}{y} + x + y}{\frac{x^2}{y^2} - \frac{y^2}{x^2}} =$</p>	$x \neq 0, y \neq 0, x \neq \pm y$

7. $\left(\frac{2}{y-2} - \frac{4}{y^2-4} + \frac{2y}{y+2}\right) : \left(\frac{1}{y^2-4} + \frac{1}{y+2}\right) =$	$y \neq \pm 2$
8. $\frac{\frac{4}{k-6} - \frac{1-14k+k^2}{36-k^2}}{\frac{1}{6-k} - 1} =$	$k \neq 5, k \neq \pm 6$
9. $\left[\left(\frac{z-3}{z^2-3z+9} - \frac{6z-18}{z^3+27}\right) : \frac{5z-15}{4z^3+108}\right] \cdot \left(\frac{1}{z-3} - \frac{1}{z+2}\right) =$	$z \neq -2, z \neq \pm 3$
10. $\frac{(x-5)^2-1}{5x-30} : \frac{x^3-16x}{20x^2} =$	$x \neq 0; x \neq 6; x \neq \pm 4$