



KRÁCENÍ LOMENÝCH VÝRAZŮ

(M-V-09-05)

Kratěte lomené výrazy:

$$1) \frac{2x}{4xy} = \frac{1}{2y}$$

$$2) \frac{36xy}{81x^2} = \frac{4y}{9x}$$

$$3) \frac{32x^2 - 56x}{4x} = \frac{8x(4x - 7)}{4x} = \frac{2 \cdot (4x - 7)}{1} = \mathbf{2(4x - 7)}$$

$$4) \frac{144 - b^2}{12 + b} = \frac{(12 - b) \cdot (12 + b)}{12 + b} = \frac{12 - b}{1} = \mathbf{12 - b}$$

$$5) \frac{121a^2 - 64b^2}{44a - 32b} = \frac{(11a - 8b) \cdot (11a + 8b)}{4(11a - 8b)} = \frac{11a + 8b}{4}$$

$$6) \frac{42x^3 - 63xy^2}{10x^2 - 15y^2} = \frac{21x(2x^2 - 3y^2)}{5(2x^2 - 3y^2)} = \frac{21x}{5}$$

$$7) \frac{4x^2 - 28x + 49}{4x^2 - 49} = \frac{(2x - 7)^2}{(2x - 7) \cdot (2x + 7)} = \frac{2x - 7}{2x + 7}$$

$$8) \frac{75x^2 + 120xy + 48y^2}{15x^2y + 12xy^2} = \frac{3(25x^2 + 40xy + 16y^2)}{3xy(5x + 4y)} = \frac{3(5x + 4y)^2}{3xy(5x + 4y)} = \frac{5x + 4y}{xy}$$

$$9) \frac{169m^2 - 196n^2}{169m^2 - 364mn + 196n^2} = \frac{(13m - 14n) \cdot (13m + 14n)}{(13m - 14n) \cdot (13m - 14n)} = \frac{13m + 14n}{13m - 14n}$$

$$10) \frac{32x^2y - 36xy^2}{72xy^2 - 64x^2y} = \frac{4xy(8x - 9y)}{8x(9y - 8x)} = \frac{4xy(8x - 9y)}{8x(9y - 8x)} = \frac{-y(8x - 9y)}{2(-9y + 8x)} = \frac{-y}{2}$$

$$11) \frac{64x^3y - 100xy^3}{16x^2 - 40xy + 25y^2} = \frac{4xy(16x^2 - 25y^2)}{(4x - 5y)^2} = \frac{4xy(4x - 5y) \cdot (4x + 5y)}{(4x - 5y) \cdot (4x - 5y)} = \frac{4xy(4x + 5y)}{4x - 5y}$$