# SČÍTÁNÍ A ODČÍTÁNÍ LOMENÝCH VÝRAZŮ
## (M-09-07)

Vypočítejte a určete, kdy mají výrazy smysl:

1) $\dfrac{8x}{5x-5} + \dfrac{2x}{2x-2} = \dfrac{8x}{5(x-1)} + \dfrac{2x}{2(x-1)} = \underline{\dfrac{8x+5x}{5(x-1)}}$ $\qquad$ x ≠ 1

2) $\dfrac{6a-3b}{2a-b} - \dfrac{a+b}{a^2-b^2} = \dfrac{3(2a-b)}{2a-b} - \dfrac{a+b}{(a+b)(a-b)} = \dfrac{3}{1} - \dfrac{1}{a-b} = \dfrac{3(a-b)-1}{a-b} = \underline{\dfrac{3a-3b-1}{a-b}}$

$\qquad$ a ≠ ±b

3) $\dfrac{x^2-2xy+y^2}{6x-6y} - \dfrac{x-y}{4y} = \dfrac{(x-y)^2}{6(x-y)} - \dfrac{x-y}{4y} = \dfrac{4y(x-y)-(x-y)}{6.4y} = \underline{\dfrac{(4y-1).(x-y)}{24y}}$

$\qquad$ x ≠ y , y ≠ 0

4) $1 + \dfrac{x+1}{x-2} = \dfrac{x-2}{x-2} + \dfrac{x+1}{x-2} = \dfrac{(x-2)+(x+1)}{x-2} = \dfrac{x-2+x+1}{x-2} = \underline{\dfrac{2x-1}{x-2}}$ $\qquad$ x ≠ 2

5) $\dfrac{a^2+2ab+b^2}{a^2-b^2} - \dfrac{1}{3a-3b} = \dfrac{(a+b)}{(a+b)(a-b)} - \dfrac{1}{3(a-b)} = \dfrac{1}{a-b} - \dfrac{1}{3(a-b)} = \underline{\dfrac{3-1}{3(a-b)}}$

$\qquad$ a ≠ ±b

6) $\dfrac{x^2+x-1}{x-1} + x - \dfrac{x-1}{x+1} = \dfrac{x(x+1)-1}{x-1} + \dfrac{x}{1} + \dfrac{x-1}{x+1} = \dfrac{(x+1)(x-1)}{x-1} + \dfrac{x}{1} + \dfrac{x-1}{x+1} =$

$= \dfrac{x+1}{1} + \dfrac{x}{1} + \dfrac{x-1}{x+1} = \dfrac{(x+1)(x+1)+x(x+1)+(x-1)}{x+1} = \dfrac{x^2+2x+1+x^2+x+x-1}{x+1} =$

$= \dfrac{2x^2+4x}{x+1} = \underline{\dfrac{2x(x+2)}{x+1}}$ $\qquad$ x ≠ ±1