

Násobení, dělení lomených výrazů, 1. část

$$1) \frac{x+2}{6x} \cdot \frac{2x^2}{3x+6}$$

$$2) \frac{x+2}{6x} \cdot \frac{2x^2-4x}{x^2-4}$$

$$3) \frac{3-3x}{1+x} \cdot \frac{5+5x}{6x-6}$$

$$4) \frac{12x^2}{x^2-6x+9} : \frac{3x}{x-3}$$

$$5) \frac{\frac{2x}{3}}{\frac{4x^2}{9y}} =$$

$$6) \frac{\frac{6x}{15x^2}}{\frac{4y}{x-1}} =$$

$$7) \frac{\frac{5x}{x^2-1}}{\frac{x-1}{x^2-1}} =$$

Řešení

$$1) \frac{x+2}{6x} \cdot \frac{2x^2}{3x+6} = \frac{x+2}{3} \cdot \frac{x}{3(x+2)} = \frac{x}{9}$$

$$2) \frac{x+2}{6x} \cdot \frac{2x^2-4x}{x^2-4} = \frac{x+2}{6x} \cdot \frac{2x(x-2)}{(x+2)(x-2)} = \frac{1}{3}$$

$$3) \frac{3-3x}{1+x} \cdot \frac{5+5x}{6x-6} = \frac{3(1-x)}{1+x} \cdot \frac{5(1+x)}{6(x-1)} = \frac{1-x}{1} \cdot \frac{5}{2(x-1)} = \frac{-(x-1)}{1} \cdot \frac{5}{2(x-1)} = -\frac{5}{2}$$

$$4) \frac{12x^2}{x^2-6x+9} : \frac{3x}{x-3} = \frac{12x^2}{(x-3)^2} \cdot \frac{x-3}{3x} = \frac{4x}{x-3} \cdot \frac{1}{1} = \frac{4x}{x-3}$$

$$5) \frac{\frac{2x}{3}}{\frac{4x^2}{9y}} = \frac{2x}{3} : \frac{4x^2}{9y} = \frac{2x}{3} \cdot \frac{9y}{4x^2} = \frac{1}{1} \cdot \frac{3y}{2x} = \frac{3y}{2x}$$

$$6) \frac{\frac{6x}{15x^2}}{\frac{4y}{x-1}} = \frac{6x}{1} : \frac{4y}{15x^2} = \frac{6x}{1} \cdot \frac{15x^2}{4y} = \frac{2}{1} \cdot \frac{4y}{5x} = \frac{8y}{5x}$$

$$7) \frac{\frac{5x}{x^2-1}}{\frac{x-1}{x^2-1}} = \frac{x-1}{5x} : \frac{x-1}{1} = \frac{x-1}{5x} \cdot \frac{1}{(x+1)(x-1)} = \frac{1}{5x(x+1)}$$