

## Számolás algebrai törtekkel

### Egyszerűsítés

- a)  $\frac{2x-6}{4x+12}$  b)  $\frac{5x+25}{10x-20}$
- a)  $\frac{x^2-4x-12}{x^2-4}$  b)  $\frac{3x^2-6x+3}{12x^2-6x-6}$  c)  $\frac{x^2-1}{x^2+4x+3}$  d)  $\frac{2x^2+2x-12}{x^2-x-12}$

### Szorzás

- a)  $\frac{14}{x^2-1} \cdot \frac{x-1}{21}$  b)  $\frac{x}{2x^2-x-6} \cdot \frac{x-2}{3x^2}$
- a)  $\frac{3x^2}{(2+x)(3+2x)} \cdot \frac{4(3+2x)}{9x^5}$  b)  $\frac{2-x}{x(x-4)} \cdot \frac{6x}{(2-x)(1+x)}$  c)  $\frac{1-x^2}{4x(7+x)} \cdot \frac{6x^2}{3+x-2x^2}$  d)  $\frac{x^2+6x+9}{3(x+2)(2x-1)} \cdot \frac{12x^2-42x+18}{4x^2-36}$   
e)  $\frac{x^4-25x^2}{2x-6} \cdot \frac{4x^2-20x-24}{2x^2+11x+5}$

### Osztás

- a)  $\frac{5x^2}{x^2-9} : \frac{3x^3}{2(x+3)}$  b)  $\frac{15(x-7)}{6x^2+10x-4} : \frac{10(2x+3)}{3x^2+2x-1}$  c)  $\frac{4(x+7)}{9(x^2-25)} : \frac{2(x+7)(3x-2)}{15x(x+5)}$
- a)  $\frac{7x^2(2-x)}{27(2x-1)(x+4)} : \frac{14x(2x-3)}{9(x+2)(2x-1)}$  b)  $\frac{15x^2+30x}{11x^2-11x-22} : \frac{21(3x^2+4x-4)}{44(x^2-2x)}$  c)  $\frac{2(x+3)^2}{x^2(x-1)} : \frac{10(x^2-9)}{2x^2+x-3}$

### Összeadás, kivonás

- a)  $\frac{3}{2x+5} + \frac{x-7}{4x^2+10x}$  b)  $\frac{2x+1}{2x^2+14x+20} + \frac{x-3}{3x^2-75}$  c)  $\frac{1}{4} + \frac{1}{x-2}$
- a)  $\frac{1}{2x+1} + \frac{2}{x+3}$  b)  $\frac{2}{(x+3)(x+1)} + \frac{3}{2x-1}$  c)  $\frac{2x-7}{5(x^2-4)} + \frac{x+4}{2(x^2+x-6)}$
- a)  $\frac{6x}{(5-2x)(6+x)} - \frac{7x+2}{(5-2x)(1-x)}$  b)  $\frac{5}{3-x} + \frac{2+x}{21-4x-x^2} - \frac{2x-3}{2x^2+13x-7}$

### Kivonás

- a)  $\frac{2x-6}{4x+12}$  b)  $\frac{5x+25}{10x-20}$
- a)  $\frac{x^2-4x-12}{x^2-4}$  b)  $\frac{3x^2-6x+3}{12x^2-6x-6}$  c)  $\frac{x^2-1}{x^2+4x+3}$  d)  $\frac{2x^2+2x-12}{x^2-x-12}$

### Egyenletek

- $\frac{x-2}{x-3} - \frac{x+2}{x+3} = \frac{4}{9}$
- $\frac{x-1}{x+3} = \frac{2x-1}{x+7}$
- $8x + 2 - \frac{3}{x} = 0$
- $\frac{3x-1}{3x} = \frac{1}{x+1}$
- $\frac{7}{(x-4)(x+3)} - \frac{4}{(x+3)(x-1)} = \frac{3}{2}$
- $\frac{x-1}{2x-3} = \frac{3x+2}{x+1}$
- $\frac{4x+3}{2x-1} + \frac{6x+1}{2x+1} = 3$