

- $$\frac{3x+5}{2x+1} + \frac{8x^2-12x-1}{1-4x^2} = \frac{x-8}{1-2x}$$

$$\frac{8x-2}{6x+2} - \frac{15x^2-40x-15}{9x^2-1} - \frac{3x-36}{3-9x} = 0$$
 3.
$$\frac{20x^2+49ax-3a^2}{25x+15a} = 2x+5a - \frac{12x^2+29ax-9a^2}{10x+6a}$$

$$\frac{20x^2+51a^2x-2a^4}{15x+20a^2} + \frac{10x^2-5a^4+25a^2x}{8a^2+6x} = 3x+7a^2$$
 4.
$$\frac{x+4}{7x+1} = \frac{x+6}{7x+6}$$
 6.
$$\frac{7x-13}{2x-1} - \frac{13x-28}{3-2x} = \frac{28x+43}{8x-4x^2-3} + 10$$

$$\frac{\frac{x}{2} + \frac{3}{4}}{\frac{x}{3} + 3} = \frac{\frac{x}{2} - \frac{3}{4}}{\frac{x}{3} - 2}$$

$$\frac{1}{x-7} + \frac{9}{x-3} - \frac{4}{x-1} = \frac{6}{x-5}$$

$$\frac{3x+7}{4x-20} + \frac{4x-3}{25-5x} - \frac{11-7x}{2x-10} = 10 + \frac{1}{2}$$
 10.
$$\frac{2,5 - \frac{1}{x}}{2,5 + \frac{1}{x}} - \frac{0,4 - \frac{1}{x}}{0,4 + \frac{1}{x}} = \frac{21}{10x+4}$$
 11.
$$\frac{2}{x-7} + \frac{x-12}{x^2-10x+21} - \frac{1}{x-3} = \frac{3}{2x-6}$$
 12.
$$\frac{4}{x^2-3x+2} - \frac{3}{x^2-4x+3} = \frac{2}{x^2-5x+6}$$
 13.
$$\frac{6}{x^2+3x-10} - \frac{6}{2x^2-3x-2} - \frac{4}{2x^2+11x+5} = 0$$
 14.
$$\frac{5x^2-4x-10}{2x^3-7x^2-19x+60} - \frac{4}{2x-5} = \frac{x-2}{2x^2+x-15}$$

Lösungen:

- $D = \mathbb{R} \setminus \{-0,5; 0,5\} \quad L = \{3\}$
 $D = \mathbb{R} \setminus \{-\frac{1}{3}; \frac{1}{3}\} \quad L = \{2\}$
 $D = \mathbb{R} \setminus \{-\frac{3}{5}a\} \quad L = \{-3a\}$
 $D = \mathbb{R} \setminus \{-\frac{4}{3}a^2\} \quad L = \{-3a^2\}$
 $D = \mathbb{R} \setminus \{-\frac{1}{7}; -\frac{6}{7}\} \quad L = \{2\}$
 $D = \mathbb{R} \setminus \{\frac{1}{2}; \frac{3}{2}\} \quad L = \{10\}$
 $D = \mathbb{R} \setminus \{-9; 6\} \quad L = \{\frac{3}{8}\}$
 $D = \mathbb{R} \setminus \{1; 3; 5; 7\} \quad L = \{9\}$
 $D = \mathbb{R} \setminus \{5\} \quad L = \{7\}$
 $D = \mathbb{R} \setminus \{0; -0,4; -2,5\} \quad L = \{2,5\}$
 $D = \mathbb{R} \setminus \{3; 7\} \quad L = \{1\}$
 $D = \mathbb{R} \setminus \{1; 2; 3\} \quad L = \{-4\}$
 $D = \mathbb{R} \setminus \{-5; -0,5; 2\} \quad L = \{8\}$
 $D = \mathbb{R} \setminus \{-3; 2,5; 4\} \quad L = \{-5\}$

Vereinfachen Sie:

5.
$$\frac{16a^4b^4 - 8a^6b^2 + a^8}{a^2 - 2ab} = \dots$$

 6.
$$\frac{9a^5b^2c - 18a^5bc^2 - ab^2c + 2abc^2 + 27a^6bc - 3a^2bc}{3a^2 - 1} = \dots$$

 7.
$$\frac{9x^4 - 25x^2 + 16}{3x - 4} = \dots$$

- $a^6 + 2a^5b - 4a^4b^2 - 8a^3b^3$
 $9a^4bc + 3a^3b^2c - 6a^3bc^2 + 3a^2bc + ab^2c - 2abc^2$
 $3x^3 + 4x^2 - 3x - 4$

8. Geben Sie den Hauptnenner der drei Brüche an; machen Sie die Brüche gleichnamig und addieren Sie!

$$\frac{1}{6x^2-7x-3} + \frac{1}{2x-3} + \frac{1}{2x^2-x-3} = \dots$$

$$\frac{3x^2+8x+3}{6x^3-x^2-10x-3}$$