

Lösen Sie die Klammern auf und vereinfachen Sie die Terme so weit wie möglich:

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|---|---|---|---|
| 1. $3 \cdot (x+1) =$ | 2. $5 \cdot (2x+3y) =$ | 3. $-3 \cdot (4-2x) =$ | 4. $-x \cdot (3-x) =$ |
| 5. $2x+3 \cdot (x-3) =$ | 6. $(2x+3) \cdot (x-3) =$ | 7. $2x-3 \cdot (x-3) =$ | 8. $(2x-3) \cdot (x-3) =$ |
| 9. $(2x-3) \cdot x-3 =$ | 10. $2x-3 \cdot x-3 =$ | 11. $(2x-3) \cdot (3-x) =$ | 12. $(3x-5) \cdot (3x+5) =$ |
| 13. $(x-4) \cdot 4-x =$ | 14. $(x-4) \cdot (4-x) =$ | 15. $(6x-5y) \cdot (-2) =$ | 16. $(2-x)+(x-1) =$ |
| 17. $(x-4)+(x+3)-(x-2) =$ | 18. $(x-4) \cdot (x+3)-(x-2) =$ | 19. $(x-4)+(x+3) \cdot (x-2) =$ | |
| 20. $(2x-9)-((3x-2)-(x+3)) =$ | 21. $5x-((2x-3)-(3-x)) =$ | 22. $5-(3-(x-(2x+1))) =$ | |
| 23. $x^2-(x+2) \cdot (x-2)-(3-x) =$ | 24. $(2-x)-(x-2) \cdot (x+2) =$ | 25. $-(5a-3c) \cdot (2c-a)-ac =$ | |
| 26. $(-2)(1-2x)(1+2x) =$ | 27. $3-(-x-2(2x-1)+3) =$ | 28. $(-x)(-2+2x)(2x+2) =$ | |
| 29. $-1-(1-(1-(1-x))) =$ | 30. $10a^2-(2a-3b)(6b+4a) =$ | 31. $-2(a-b)(2a-b)-ab =$ | |
| 32. $((x-y)-x)-y-(y-x) =$ | 33. $x-(2x-(3x-(x-1))) =$ | 34. $(x+1)(x+2)(2x-1) =$ | |
| 35. $\frac{2}{5} + \frac{3}{5} - \frac{1}{5} =$ | 36. $\frac{2}{3} + \frac{3}{2} - \frac{1}{6} =$ | 37. $\frac{3}{4} - \frac{1}{3} - \frac{1}{6} =$ | 38. $\frac{1}{3} + \frac{1}{4} + \frac{1}{5} =$ |
| 39. $\frac{2}{7} + \frac{5}{21} - \frac{1}{49} =$ | 40. $\frac{1}{60} + \frac{5}{24} - \frac{1}{36} =$ | 41. $\frac{15}{20} - \frac{7}{21} - \frac{4}{24} =$ | 42. $\frac{10}{30} + \frac{100}{400} + \frac{7}{35} =$ |
| 43. $\frac{2}{5} - (\frac{3}{5} - \frac{1}{5}) =$ | 44. $(\frac{2}{3} + \frac{x}{2}) - \frac{1}{6} =$ | 45. $\frac{3}{4} - (\frac{x}{3} + \frac{y}{6}) =$ | 46. $\frac{1}{x-3} + \frac{1}{2x-6} + \frac{1}{3x-9} =$ |
| 47. $\frac{2x+1}{x-1} \cdot \frac{x}{2x+1} =$ | 48. $\frac{x-2}{x+3} \cdot \frac{2x^2+6x}{x^2-2x} =$ | 49. $\frac{2a+2b}{a+2b} \cdot \frac{3a^2-12b^2}{a-2b} =$ | 50. $\frac{4}{x-3} \cdot \frac{9-x^2}{6+2x} =$ |
| 51. $\frac{2x+1}{4x-2} - \frac{x+2}{6x-3} =$ | 52. $\frac{3x+5}{x-2} - \frac{2x^2+7x}{x^2-2x} =$ | 53. $\frac{a-2b}{a+2b} - \frac{a+2b}{a-2b} =$ | 54. $\frac{x+2y}{x-y} - \frac{x-2y}{y-x} =$ |
| 55. $\frac{6a+3b}{4a-2b} + \frac{8a-4b}{2a+b} - \frac{16a^2+8ab+4b^2}{8a^2-2b^2} =$ | 56. $\frac{5ax}{3ax-2ay} - \frac{8x-3y}{6x-4y} + \frac{x+5y}{2y-3x} =$ | 57. $\frac{2a-3b}{2a-b} - \frac{5a-4b}{2a+b} - \frac{12a^2-3ab-3b^2}{4a^2-b^2} =$ | 58. $\frac{3x+5}{x+2} - \frac{x^2-2}{x^2-4} - \frac{3x-4}{x-2} =$ |
| 59. $\frac{5a-3b}{12a-4b} - \frac{5a+2b}{18a-6b} - \frac{4b-9a}{9a-3b} =$ | 60. $\frac{3x-2}{3x+2} - \frac{6x^2-4}{9x^2+12x+4} - \frac{2x-4}{6x+4} =$ | | |

Lösungen:

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|---|-----------------------------|-------------------------------|-----------------------------|
| 1. $3x+3$ | 2. $10x+15y$ | 3. $-12+6x$ | 4. $-3x+x^2$ |
| 5. $5x-9$ | 6. $2x^2-3x-9$ | 7. $-x+9$ | 8. $2x^2-9x+9$ |
| 9. $2x^2-3x-3$ | 10. $-x-3$ | 11. $-2x^2+9x-9$ | 12. $9x^2-25$ |
| 13. $3x-16$ | 14. $-x^2+8x-16$ | 15. $-12x+10y$ | 16. 1 |
| 17. $x+1$ | 18. $x^2-2x-10$ | 19. $x^2+2x-10$ | 20. -4 |
| 21. $2x+6$ | 22. $-x+1$ | 23. $x+1$ | 24. $-x^2-x+6$ |
| 25. $5a^2-14ac+6c^2$ | 26. $8x^2-2$ | 27. $5x-2$ | 28. $-4x^3+4x$ |
| 29. $x-2$ | 30. $2a^2+18b^2$ | 31. $-4a^2+5ab-2b^2$ | 32. $x-3y$ |
| 33. $x+1$ | 34. $2x^3+5x^2+x-2$ | 35. $\frac{4}{5}$ | 36. 2 |
| 37. $\frac{1}{4}$ | 38. $\frac{47}{60}$ | 39. $\frac{74}{147}$ | 40. $\frac{71}{360}$ |
| 41. $\frac{1}{4}$ | 42. $\frac{47}{60}$ | 43. 0 | 44. $\frac{x+1}{2}$ |
| 45. $\frac{-4x-2y+9}{12}$ | 46. $\frac{11}{6x-18}$ | 47. $\frac{x}{x-1}$ | 48. 2 |
| 49. $6a+6b$ | 50. -2 | 51. $\frac{4x-1}{12x-6}$ | 52. 1 |
| 53. $\frac{-8ab}{a^2-4b^2}$ | 54. $\frac{2x}{x-y}$ | 55. $\frac{14a-7b}{4a+2b}$ | 56. $\frac{-7y}{6x-4y}$ |
| 57. $\frac{-18a^2+12ab-4b^2}{4a^2-b^2}$ | 58. $\frac{-x^2-3x}{x^2-4}$ | 59. $\frac{41a-29b}{36a-12b}$ | 60. $\frac{4x+4}{(3x+2)^2}$ |