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|---|---|
| 1. $3^{x+1} = 9^{x-1}$ | 2. $27^{2x+1} - 81^{3x-7,5} = 0$ |
| 3. $25^x \cdot 5^x = 25^{8x-13}$ | 4. $8^{x+4} \cdot 2^x \cdot 4^{x-2} = 16^{x+1}$ |
| 5. $4^x \cdot 16^x = 16^{3x}$ | 6. $3^{x-1} \cdot 9^{x-2} = 3^{3x+5}$ |
| 7. $4^{x+1} \cdot 2^{3x+3} = 32^{x+1}$ | 8. $2^{x+1} = 3^{x+1}$ |
| 9. $\sqrt[x]{2} = \sqrt[x+2]{4}$ | 10. $\sqrt[x+1]{16} = 2^{x-2}$ |
| 11. $8^{2+\frac{x}{3}} = 16$ | 12. $\log_x 2401 = 4$ |
| 13. $\log_6 3072x = 12$ | 14. $\log_{(x-2)} 512 = 9$ |
| 15. $(3^x)^{x+1} = 27^{x+1}$ | 16. $(5^{x-1})^x = 5^{x-1}$ |
| 17. $\frac{\sqrt[3]{3^x}}{27^{x+2}} = \frac{\sqrt[3]{81^{x+3}}}{9^{x+5}}$ | 18. $\sqrt[x]{15} = \sqrt[6]{225}$ |
| 19. $\ln(x+1) = \lg(x+1)$ | 20. $10^{x-5} = 12^{x-5}$ |
| 21. $4^{x+4} \cdot 8^{x+3} - 16^{x+4} = 0$ | 22. $\sqrt[x]{49} = \sqrt[2x]{7}$ |
| 23. $5^x + 25^{x-1} = 0$ | 24. $\sqrt[x+2]{49} = \sqrt[x-3]{7}$ |
| 25. $\log_2(x^2 - 1) = 3$ | 26. $\log_\pi(x+1) = 0$ |
| 27. $(3^x)^{x-1} = 1$ | 28. $2^{(2^x)} = 256$ |

Lösungen:

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|---------------------|-----------------------------|-----------------------------|-----------|
| 1. $x=3$ | 2. $x=5,5$ | 3. $x=2$ | 4. $x=-2$ |
| 5. $x=0$ | 6. $\{\}$ oder \emptyset | 7. \mathbb{R} | 8. $x=-1$ |
| 9. $x=2$ | 10. $x_1=3; x_2=-2$ | 11. $x=-2$ | 12. $x=7$ |
| 13. $x=708588$ | 14. $x=4$ | 15. $x_1=3; x_2=-1$ | 16. $x=1$ |
| 17. $x=0$ | 18. $x=3$ | 19. $x=0$ | 20. $x=5$ |
| 21. $x=-1$ | 22. $\{\}$ oder \emptyset | 23. $\{\}$ oder \emptyset | 24. $x=8$ |
| 25. $x_1=-3; x_2=3$ | 26. $x=0$ | 27. $x_1=0; x_2=1$ | 28. $x=3$ |