

Answer

1. **Find** $12 - 7(2 - 5)(-2)$ _____
2. **Find** $(7 - 0,5)^2$ _____
3. **Find** $-\frac{2}{21} - \left(\frac{2}{7} - \frac{1}{3}\right)$ _____
4. **Find** $\frac{\frac{5}{8} - 1}{\frac{7}{4} - \frac{1}{3}}$ _____
5. **Find** $(\sqrt{16} + \sqrt{7})(\sqrt{7} - \sqrt{16})$ _____
6. **Find** $\frac{\sqrt{15}}{\sqrt{27} + \sqrt{12}}$ _____
7. **Find** $(8)^{\frac{2}{3}}$ _____
8. **Simplify** $\sqrt[7]{8\sqrt{2}}$ _____
9. **Simplify** $\sqrt{4 + 2\sqrt{3}}$ _____
10. **Simplify** $\frac{7^{11} - 7^{10} + 7^9}{86}$ _____
11. **Simplify** $(2a^2)^4 - (3a^4)^2$ _____
12. **Simplify** $12\sqrt{18^{-1}} + 8\sqrt{0,5} - 2\sqrt{8}$ _____
13. **Simplify** $(1,25 \cdot 10^8)^{-1/3}$ _____

Answer14. **Factorize**

$$(a + b)^2 - (c)^2$$

15. **Factorize**

$$x^2 - xk^2 - xk + k^3$$

16. **Simplify**

$$\frac{(2a + 2b)^{10}}{(4a + 4b)^5}$$

17. **Simplify**

$$\frac{3x^2 - 12}{x^2 + 4x + 4}$$

18. **Factorize**

$$x^2 + 13x + 36$$

19. **Simplify**

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

20. **Simplify**

$$\frac{\frac{p}{7} - 2 + \frac{7}{p}}{1 - \frac{7}{p}}$$

21. **Write an equation of the straight line that passes through $(-2, 5)$ and $(8, -1)$.**

22. **Write an equation of the straight line that passes through $(-4, 1)$ and is parallel to the line with equation $-x + 2y - 13 = 0$.**

23. **Find**

$$\log_{10} \sqrt{0,001}$$

24. **Find**

$$\log_7 \frac{\sqrt[6]{7}}{\sqrt[3]{49}}$$

25. **Find**

$$\log_{13} 39 + \log_{13} \sqrt{169} + \log_{13} \frac{1}{3}$$

26. **Simplify**

$$\log_a \frac{11}{23} - \log_a \frac{11}{46}$$

Answer

27. **Solve the equation** $\frac{\log_a(2x+2)}{\log_a(x^2-1)} = 1$

28. **Solve the equation** $\log_a(x+2) - \log_a(x-2) = \log_a(2)$

29. **Solve the equation** $\ln x^2 = \ln x^3$

30. **Solve the equation** $\log_2(x+2) - \log_2(x-2) = 1$

31. **Solve the equation** $\frac{8}{x} = \frac{x}{8}$

32. **Solve the equation** $(x+7)^2 = 7(x+7)$

33. **Solve the equation** $8 - 6x - 2x^2 = 0$

34. **Factorize** $8 - 6x - 2x^2$

35. **Solve the equation** $x^3 + 2x^2 - x - 2 = 0$

36. **Solve the equation** $x^4 - 6x^2 + 8 = 0$

37. **Solve the equation** $2^x \cdot 3^{x-2} = 4$

38. **Solve the equation** $2\sqrt{x-2} = 5-x$

39. **Solve the equation** $\sqrt{20 - \sqrt{2x+2}} = 4$

40. **Solve the equation** $4^x - 6 \cdot 2^x + 8 = 0$

Answer

41. **Solve the equation** $\sqrt{1+x} + \frac{1}{\sqrt{1+x}} = 2,5$

42. **Solve the equation** $x^{2x} = \sqrt{x}$

43. **Solve the inequality** $1 - 3x \geq 7$

44. **Solve the inequality** $\frac{8}{x} \geq 5$

45. **Solve the inequality** $x^2 \leq 20$

46. **Solve the inequality** $8 - 6x - 2x^2 \geq 0$

47. **Solve the inequality** $\frac{8 - 6x - 2x^2}{-x} \geq 0$

48. **Solve the inequality** $\frac{x}{x-1} \geq 2$

49. **Solve the inequality** $\sqrt{x+3} < x+1$

50. **Solve the inequality** $(0,7)^{3x} > (0,49)$

51. **Solve the system of equations**
$$\begin{cases} x - y = 6 \\ x + 2y = 12 \end{cases}$$

Answer

52. **Solve the system of equations** $\begin{cases} x + y = 9 \\ xy = 20 \end{cases}$

53. **Solve the system of equations** $\begin{cases} x^2 - y^2 = 15 \\ x + y = 15 \end{cases}$

54. **Solve the system of equations** $\begin{cases} x + y + z = 2 \\ 3x - 2y - 7z = 1 \\ 2x + y - z = -2 \end{cases}$

55. **Solve the system of equations** $\begin{cases} 3^x + 3^y = 10 \\ 3^{x+y} = 9 \end{cases}$

56. **Find** $\sin\left(\frac{7\pi}{6}\right) \cdot \cos\left(-\frac{\pi}{6}\right)$

57. **Solve the equation** $\begin{aligned} \sin^3(x) &= \sin(x) \\ 0 \leq x &< 2\pi \end{aligned}$

58. **Solve the equation** $\begin{aligned} 2\sin x &= \sin 2x \\ 0 \leq x &< 2\pi \end{aligned}$

59. **How many solutions are there to the equation?** $\begin{aligned} \sin x &= \frac{1}{6} \\ 0 \leq x &\leq 5\pi \end{aligned}$

60. **Solve the equation** $\begin{aligned} \cos(2x) \sin(x) &= 1 \\ 0 \leq x &< 2\pi \end{aligned}$
