

Solving Homework
Precalculus Preview

Solve. Show all work.

1) $-10 - 3x^2 = -310$

2) $5 + e^{x+1} = 20$

3) $3 \log x = 6$

4) $\frac{6}{x} = \frac{1}{x-5} - \frac{x+4}{x^2-5x}$

5) $\sqrt{30-x} = x$

6) $x^2 + 6x - 11 = 0$

$$7) 5^{x+2} = 4$$

$$8) 9x^2 - 11 = 6x$$

$$9) x - 5 = \sqrt{x+1}$$

$$10) 4^{x+2} = 64$$

$$11) \frac{6}{x} - \frac{9}{x-1} = \frac{1}{4}$$

$$12) \log 1 = \log(2x-7)$$

$$13) 216^{x-2} = 36^{2x}$$

$$14) x-7 = \sqrt{3x-21}$$

$$15) \frac{3}{x^2+5x+6} - \frac{x-6}{x^2+5x+6} = \frac{1}{x+3}$$

$$16) \left(\frac{1}{9}\right)^{2x} = 27^x$$

$$17) \log x - \log 6 = 2\log 4$$

$$18) 4x^2 + 5x = -1$$

Answers

1. $\{-10, 10\}$

2. $\{-1 + \ln 15\}$

3. $\{100\}$

4. $\left\{\frac{13}{3}\right\}$

5. $\{5\}$

6. $\{-3 \pm 2\sqrt{5}\}$

7. $\left\{\frac{\ln 4 - 2\ln 5}{\ln 5}\right\}$

8. $\left\{\frac{1 \pm 2\sqrt{3}}{3}\right\}$

9. $\{8\}$

10. $\{1\}$

11. $\{-3, -8\}$

12. $\{4\}$

13. $\{-6\}$

14. $\{7, 10\}$

15. $\left\{\frac{7}{2}\right\}$

16. $\{0\}$

17. $\{96\}$

18. $\left\{-1, -\frac{1}{4}\right\}$