

## Section 6-4 : Solving Logarithm Equations

---

Solve each of the following equations.

1.  $\log_{11}(x^2 + 3x) = \log_{11}(3x + 16)$

2.  $\ln(4 - 3x) - \ln(7x) = \ln(11)$

3.  $\log(x) + \log(x + 12) = \log(x - 10)$

4.  $\ln(x) = \ln(15 - x) - \ln(x + 1)$

5.  $\log_8(4x + 1) = -1$

6.  $\log_6(3x) - \log_6(x + 5) = 1$

7.  $\log_3(x) + \log_3(x + 6) = 3$

8.  $\log_2(x^2) = 2 + \log_2(8 - x)$

9.  $\log_4(x) = 2 - \log_4(x + 6)$

10.  $\log(-x) + \log(15 - x) = 2$

11.  $\ln(x) + \ln(x - 2) = 3$

12.  $2\log(x) - \log(x^2 + 4x + 1) = 0$

