Name:

Date:

Solving Logarithmic Equations

Solve each equation.

1) $2\log 7 - 2x = 0$

2) $\log_2 x + \log_2(x-2) = 3$

3) $\log_3(2x+1) = 2$

4) $\log(3x-2) = 2$

5) $\log x + \log(x-1) = \log(4x)$

6) $\log x + \log(x-3) = 1$

7) $\log_9(x-5) + \log_9(x+3) = 1$

8) $\log_6(9-7x) - 7 = -6$

9) $-4\log_6 -x = -4$

10) $\log_7 4x - \log_7 9 = 1$

11) $\log_2(x) + \log_2(x+4) = 5$

12) $\log_4(2x+6) - \log_4(x-1) = 1$

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Solving Logarithmic Equations

Answers

Solve each equation.

1) $2\log 7 - 2x = 0$

$x = \log 7$

2) $\log_2 x + \log_2(x-2) = 3$

$x = 4$

3) $\log_3(2x+1) = 2$

$x = 4$

4) $\log(3x-2) = 2$

$x = 34$

5) $\log x + \log(x-1) = \log(4x)$

$x = 5$

6) $\log x + \log(x-3) = 1$

$x = 5$

7) $\log_9(x-5) + \log_9(x+3) = 1$

$x = 6$

8) $\log_6(9-7x) - 7 = -6$

$x = \frac{3}{7}$

9) $-4\log_6 -x = -4$

$x = -6$

10) $\log_7 4x - \log_7 9 = 1$

$x = 15.75$

11) $\log_2(x) + \log_2(x+4) = 5$

$x = 4$

12) $\log_4(2x+6) - \log_4(x-1) = 1$

$x = 5$