

Logarithmic Equations

Solve each equation.

1) $\log(3x - 9) = \log(2x + 6)$

2) $\log(-4n + 7) = \log 3n$

3) $\log n = \log 12$

4) $\log(5x - 7) = \log(3x - 1)$

5) $1 + \log_5 -9b = 4$

6) $-7\log_4 -10r = -14$

7) $4\log_{11}(r + 8) = 8$

8) $\log_3(x + 1) - 5 = -5$

9) $\log_{18}(3k^2 - 5k) = \log_{18}(-6 + 2k^2)$

10) $\log_{14}(6v - 1) = \log_{14}(v^2 - 17)$

11) $\log_{19}(7 - 3r^2) = \log_{19}(-2r^2 - 6r)$

12) $\log_{14}(-32 - 3n) = \log_{14}(n^2 + 9n)$

Logarithmic Equations

Solve each equation.

1) $\log(3x - 9) = \log(2x + 6)$

 $\{15\}$

2) $\log(-4n + 7) = \log 3n$

 $\{1\}$

3) $\log n = \log 12$

 $\{12\}$

4) $\log(5x - 7) = \log(3x - 1)$

 $\{3\}$

5) $1 + \log_5 -9b = 4$

 $\left\{-\frac{125}{9}\right\}$

6) $-7\log_4 -10r = -14$

 $\left\{-\frac{8}{5}\right\}$

7) $4\log_{11}(r + 8) = 8$

 $\{113\}$

8) $\log_3(x + 1) - 5 = -5$

 $\{0\}$

9) $\log_{18}(3k^2 - 5k) = \log_{18}(-6 + 2k^2)$

 $\{2, 3\}$

10) $\log_{14}(6v - 1) = \log_{14}(v^2 - 17)$

 $\{8\}$

11) $\log_{19}(7 - 3r^2) = \log_{19}(-2r^2 - 6r)$

 $\{-1\}$

12) $\log_{14}(-32 - 3n) = \log_{14}(n^2 + 9n)$

No solution.