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Use the Laws of Logs to rewrite the expression in a form with no logarithm of a product, quotient or power.

2.  $\log_5\left(\frac{x}{2}\right)$

4.  $\ln(\pi x)$

6.  $\log_6\sqrt[4]{17}$

8.  $\log_2(xy)^{10}$

10.  $\log_a\left(\frac{x^2}{yz^3}\right)$

12.  $\ln\sqrt[3]{3r^2s}$

14.  $\log\left(\frac{a^2}{b^4\sqrt{c}}\right)$

Rewrite the expression as a single logarithm.

36.  $\log 12 + \frac{1}{2}\log 7 - \log 2$

38.  $\log_5(x^2 - 1) - \log_5(x - 1)$

40.  $\ln(a + b) + \ln(a - b) - 2 \ln c$

42.  $2(\log_5x + 2\log_5y - 3\log_5z)$

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Solve the logarithmic equation for x.

34.  $\ln(2+x) = 1$

36.  $\log(x - 4) = 3$

38.  $\log_3(2 - x) = 3$

40.  $\log_2(x^2 - x - 2) = 2$

42.  $2 \log x = \log 2 + \log(3x - 4)$

44.  $\log_5x + \log_5(x+1) = \log_520$

46.  $\log x + \log(x - 3) = 1$