

"Solving Logarithmic Equations"  
Act. #40

\* Solve each equation for x: Condense first  
if NEEDED.

$$\textcircled{1} \log_3(4x+11) = 2$$

$$\textcircled{2} \log_2(x+5) - \log_2(3x-1) = \log_2 3$$

$$\textcircled{3} \log(3x-5) = 2$$

$$\textcircled{4} \log_4 7 + \log_4 x = 3$$

$$\textcircled{13} \log_{\frac{1}{2}} x = -5$$

$$\textcircled{5} 5 = \log_3(-4x)$$

$$\textcircled{14} \log \frac{1}{3} + \log x = \log \frac{4}{7}$$

$$\textcircled{6} \log_{10} x + \log_{10} 3 = \log_{10} 21$$

$$\textcircled{15} \log 4 + \log 3 - \log x = \log 11$$

$$\textcircled{7} \log_3 5 - \log_3 x = \log_3 8$$

$$\textcircled{8} 8 = \log_5 x - \log_5 2$$

$$\textcircled{9} \log_5 3 + \log_5(x-7) = \log_5 4 + \log_5(2x+6)$$

$$\textcircled{10} \log_2 x - \log_2 5 = \log_2 6 + \log_2 3$$

$$\textcircled{11} \log_3 6 + \log_3(x+3) = 2$$

$$\textcircled{12} \log_4 5 + \log_4 2 + \log_4 x = \log_4 20$$