$\log_5 25 = 2$

$5^2 = 25$

$\log_9 3 = \frac{1}{2}$

$9^{\frac{1}{2}} = 3$

$\log_4 0.25 = x$

$4^x = \frac{1}{4}$

$x = -1$

$\log_7 521 = \frac{\log(521)}{\log(7)}$

3.215

Simplify

$5\log_8 2 + \log_8 6 - \log_8 3$

$\log_8 2^5 + \log_8 6 - \log_8 3$

$\log_8 32 + \log_8 6 - \log_8 3$

$\log_8\left(\frac{32 \cdot 6}{3}\right) = \log_8 64$

2

$\log(x+1) + \log(x-2) = 1$

$\log_{10}(x+1)(x-2) = 1$

$10^1 = x^2 - x - 2$

$0 = x^2 - x - 12$ (A, M)

$(x-4)(x+3)$

$x = 4, \cancel{-3}$

$4^{x+1} = \left(\frac{1}{8}\right)^{3x}$

$\downarrow$

$(2^2)^{x+1} = (2^{-3})^{3x}$

$2^{2x+2} = 2^{-9x}$

$2x+2 = -9x$

$2 \cdot 5^{x-3} = 182$

$\ln 5^{x-3} = \ln 91$

$(x-3)(\ln 5) = \ln 91$

$x - 3 = \frac{\ln 91}{\ln 5}$