

1.) Solve these equations for x .

a $\log_2(x) = \log_2(6x - 1)$

b $\ln(x + 1) = \ln(3 - x)$

c $\log_5(2 - x) = \log_5(6x - 1)$

d $\log_2(2x + 3) + \log_2(x - 1) = \log_2(x + 1)$

e $\log_3 x - \log_3(x - 1) = \log_3(x + 1)$

2.) Given that $\log_2 x + \log_2(2x + 7) = \log_2 A$
find an expression for A in terms of x .

Hence or otherwise solve $\log_2 x + \log_2(2x + 7) = 2$

3.) Solve $\log_2 x^2 + \log_4 \sqrt{x} = 9$