

mobius

Logarithm Algebra (Product Property) -To Quadratic (Coefficient 1)



$$\log_{10}(n-6) + \log_{10}(n-3) = \log_{10}(4)^{2} \log_{6}(p-9) + \log_{6}(p-8) = \log_{6}(2)$$

$$^{f 2} \log_6(p-9) + \log_6(p-8) = \log_6(2)$$

Use the product rule to simplify this to a quadratic of variable 'n'

Use the product rule to simplify this to a quadratic of variable 'p'

A
$$2n^2-11n+18=0$$
 $n^2-9n+14=0$ $n^2-11n+15=0$ $p^2-17p+72=0$ $0p^2-19p+68=0$ $p^2-17p+70=0$

$$\log_9(w-3) + \log_9(w-9) = \log_9(7)$$

$$\log_9(w-3) + \log_9(w-9) = \log_9(7) \left[\log_3(w+1) + \log_3(w-5) = \log_3(7)\right]$$

Use the product rule to simplify this to a quadratic of variable 'w'

Use the product rule to simplify this to a quadratic of variable 'w'

$$\begin{vmatrix} \mathsf{A} & \mathsf{B} & \mathsf{C} \\ w^2 - 12w + 20 = 0 \end{vmatrix} 2w^2 - 13w + 20 = 0 \begin{vmatrix} \mathsf{C} & \mathsf{A} \\ w^2 - 12w + 24 = 0 \end{vmatrix} 0w^2 - 3w - 14 = 0 \begin{vmatrix} \mathsf{C} & \mathsf{C} \\ w^2 - 4w - 12 = 0 \end{vmatrix} 2w^2 - 6w - 12 = 0 \end{vmatrix}$$

$$\log_6(x-7) + \log_6(x-7) = \log_6(4)$$
 $\log_5(p-8) + \log_5(p-7) = \log_5(6)$

$$^{f 6}\log_5(p-8) + \log_5(p-7) = \log_5(6)$$

Use the product rule to simplify this to a quadratic of variable 'x'

Use the product rule to simplify this to a quadratic of variable 'p'

A B C A B C
$$x^2 - 14x + 45 = 0$$
 $x^2 - 14x + 48 = 0$ $2x^2 - 14x + 47 = 0$ $p^2 - 15p + 50 = 0$ $2p^2 - 14p + 51 = 0$ $2p^2 - 15p + 51 = 0$

$$\log_{10}(z-5) + \log_{10}(z+3) = \log_{10}(9) \Big|^{8} \log_{5}(w-2) + \log_{5}(w-4) = \log_{5}(3) \Big|^{8}$$

$${}^{8}{\log_{5}(w-2)} + {\log_{5}(w-4)} = {\log_{5}(3)}$$

Use the product rule to simplify this to a quadratic of variable 'z'

Use the product rule to simplify this to a quadratic of variable 'w'

$$\begin{vmatrix} \mathsf{A} & & \mathsf{B} \\ z^2 - 1z - 21 = 0 \end{vmatrix} z^2 - 2z - 24 = 0 \begin{vmatrix} \mathsf{C} \\ 2z^2 - 4z - 27 = 0 \end{vmatrix} 2w^2 - 7w + 4 = 0 \begin{vmatrix} \mathsf{B} \\ w^2 - 6w + 5 = 0 \end{vmatrix} 0w^2 - 7w + 2 = 0$$