

## mobius

## Logarithm Algebra (Quotient Property) -To Quadratic (Coefficient 1)



$$\log_7(p+4) - \log_7(p+1) = \log_7(1p)$$

$$\log_7(p+4) - \log_7(p+1) = \log_7(1p) \left\lceil \log_3(n+9) - \log_3(n+9) = \log_3(1n) 
ight
ceil$$

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

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

A B C A B C 
$$-1p^2 + 0p + 4 = 0$$
  $-1p^2 + 1p + 2 = 0$   $0p^2 + 2p + 2 = 0$   $-1n^2 - 9n + 13 = 0$   $-1n^2 - 7n + 8 = 0$   $-1n^2 - 8n + 9 = 0$ 

$$\log_2(y+10) - \log_2(y+4) = \log_2(1y)$$

$$\log_2(y+10) - \log_2(y+4) = \log_2(1y) | \log_2(t+3) - \log_2(t+3) = \log_2(-1t) | \log_2(y+10) - \log_2(y+4) = \log_2(1y) | \log_2(y+3) - \log_2(y+3) = \log_2(y+3) | \log_2(y+3) - \log_2(y+3) = \log_2(y+3) | \log_2(y+3) - \log_2(y+3) = \log_2(y+3) | \log_2(y+3) - \log_2(y+3) | \log_2(y+3) = \log_2(y+3) | \log_2(y+3) | \log_2(y+3) - \log_2(y+3) | \log_2(y+3)$$

Use the quotient rule to simplify this to a quadratic of variable 'y'

Use the quotient rule to simplify this to a quadratic of variable 't'

$$\begin{vmatrix} \mathsf{A} & \mathsf{B} & \mathsf{C} \\ -1y^2 - 3y + 7 = 0 \end{vmatrix} - 2y^2 - 5y + 14 = 0 \begin{vmatrix} \mathsf{C} \\ -1y^2 - 3y + 10 = 0 \end{vmatrix} t^2 + 5t + 6 = 0 \begin{vmatrix} \mathsf{B} \\ t^2 + 4t + 3 = 0 \end{vmatrix} 0 t^2 + 2t + 6 = 0$$

$$\log_3(t+10) - \log_3(t+10) = \log_3(1t)$$

$$\log_3(t+10) - \log_3(t+10) = \log_3(1t) \left| \log_7(y+6) - \log_7(y+4) = \log_7(-1y) \right|$$

Use the quotient rule to simplify this to a quadratic of variable 't'

Use the quotient rule to simplify this to a quadratic of variable 'v'

$$\begin{vmatrix} \mathsf{A} & \mathsf{B} & \mathsf{C} \\ -1t^2 - 8t + 10 = 0 \end{vmatrix} - 1t^2 - 10t + 13 = 0 \begin{vmatrix} \mathsf{C} & \mathsf{A} \\ -1t^2 - 9t + 10 = 0 \end{vmatrix} 2y^2 + 6y + 5 = 0 \begin{vmatrix} \mathsf{B} & \mathsf{C} \\ y^2 + 5y + 6 = 0 \end{vmatrix} 0y^2 + 3y + 9 = 0$$

$$\left|\log_4(z+8) - \log_4(z+8) = \log_4(-1z)
ight| \log_2(x+5) - \log_2(x+5) = \log_2(1x)$$

$$\log_2(x+5) - \log_2(x+5) = \log_2(1x)$$

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

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

$$\begin{vmatrix} \mathsf{A} & \mathsf{B} & \mathsf{C} \\ z^2 + 9z + 8 = 0 \end{vmatrix} 0 z^2 + 7z + 11 = 0 \begin{vmatrix} \mathsf{C} & \mathsf{A} \\ 0z^2 + 10z + 6 = 0 \end{vmatrix} - 1x^2 - 3x + 8 = 0 \begin{vmatrix} \mathsf{B} & \mathsf{C} \\ -1x^2 - 4x + 5 = 0 \end{vmatrix} - 1x^2 - 4x + 6 = 0 \end{vmatrix}$$