



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

$$^1 \log_{10}(n-6) + \log_{10}(n-3) = \log_{10}(4)$$

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

A	B	C
$2n^2 - 11n + 18 = 0$	$n^2 - 9n + 14 = 0$	$n^2 - 11n + 15 = 0$

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

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

A	B	C
$p^2 - 17p + 72 = 0$	$0p^2 - 19p + 68 = 0$	$p^2 - 17p + 70 = 0$

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

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

A	B	C
$w^2 - 12w + 20 = 0$	$2w^2 - 13w + 20 = 0$	$w^2 - 12w + 24 = 0$

$$^4 \log_3(w+1) + \log_3(w-5) = \log_3(7)$$

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

A	B	C
$0w^2 - 3w - 14 = 0$	$w^2 - 4w - 12 = 0$	$2w^2 - 6w - 12 = 0$

$$^5 \log_6(x-7) + \log_6(x-7) = \log_6(4)$$

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

A	B	C
$x^2 - 14x + 45 = 0$	$x^2 - 14x + 48 = 0$	$2x^2 - 14x + 47 = 0$

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

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

A	B	C
$p^2 - 15p + 50 = 0$	$2p^2 - 14p + 51 = 0$	$0p^2 - 15p + 51 = 0$

$$^7 \log_{10}(z-5) + \log_{10}(z+3) = \log_{10}(9)$$

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

A	B	C
$z^2 - 1z - 21 = 0$	$z^2 - 2z - 24 = 0$	$2z^2 - 4z - 27 = 0$

$$^8 \log_5(w-2) + \log_5(w-4) = \log_5(3)$$

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

A	B	C
$0w^2 - 7w + 4 = 0$	$w^2 - 6w + 5 = 0$	$0w^2 - 7w + 2 = 0$