



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

$$1 \log_{10}(w - 5) + \log_{10}(w + 1) = \log_{10}(7) \quad 2 \log_5(p - 1) + \log_5(p - 6) = \log_5(6)$$

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 'p'

A

B

C

$$2w^2 - 6w - 12 = 0$$

$$w^2 - 5w - 14 = 0$$

$$w^2 - 4w - 12 = 0$$

A

B

C

$$2p^2 - 7p + 4 = 0$$

$$p^2 - 7p + 0 = 0$$

$$p^2 - 6p - 1 = 0$$

$$3 \log_5(m + 4) + \log_5(m + 9) = \log_5(6) \quad 4 \log_3(y - 7) + \log_3(y - 9) = \log_3(3)$$

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

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

A

B

C

$$m^2 + 13m + 30 = 0$$

$$m^2 + 12m + 33 = 0$$

$$m^2 + 12m + 29 = 0$$

A

B

C

$$y^2 - 16y + 60 = 0$$

$$y^2 - 17y + 59 = 0$$

$$y^2 - 16y + 59 = 0$$

$$5 \log_{10}(w + 8) + \log_{10}(w + 8) = \log_{10}(4) \quad 6 \log_8(q - 8) + \log_8(q - 9) = \log_8(6)$$

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 'q'

A

B

C

$$2w^2 + 18w + 64 = 0$$

$$w^2 + 16w + 60 = 0$$

$$2w^2 + 18w + 59 = 0$$

A

B

C

$$q^2 - 17q + 66 = 0$$

$$q^2 - 17q + 69 = 0$$

$$q^2 - 19q + 67 = 0$$

$$7 \log_2(m + 9) + \log_2(m + 3) = \log_2(7) \quad 8 \log_4(t - 4) + \log_4(t - 1) = \log_4(4)$$

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

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

A

B

C

$$m^2 + 12m + 20 = 0$$

$$2m^2 + 10m + 19 = 0$$

$$2m^2 + 10m + 23 = 0$$

A

B

C

$$2t^2 - 6t + 3 = 0$$

$$t^2 - 5t + 0 = 0$$

$$0t^2 - 4t - 1 = 0$$