



Expand logarithmic expressions

1

Convert the given logarithm to its equivalent based on the product property

$$\log_5 12$$

A $\log_6 2 + \log_6 5$

B $\log_5 6 + \log_5 2$

C $\log_6 5 + \log_6 2$

2

Convert the given logarithm to its equivalent based on the product property

$$\log_2(8 \cdot 3)$$

A $\log_2 8 + \log_2 3$

B $\log_8 2 + \log_8 3$

C $\log_8 3 + \log_8 2$

3

Convert the given logarithm to its equivalent based on the quotient property

$$\log_2 \frac{6}{4}$$

A $\log_2 6 - \log_2 4$

B $\log_1 6 - \log_1 4$

C $\log_2 4 - \log_2 6$

D $\log_3 6 - \log_3 4$

4

Convert the given logarithm to its equivalent based on the power property

$$\log_7 64$$

A $7 \log_3 4$

B $4 \log_7 3$

C $3 \log_7 4$

D $7 \log_4 3$

5

Convert the given logarithm to its equivalent based on the power property

$$\log_6 4^2$$

A $6 \log_4 2$

B $6 \log_2 4$

C $2 \log_4 6$

D $2 \log_6 4$

6

Convert the given logarithm to its equivalent based on the product property

$$\log_q(r \cdot x)$$

A $\log_x q + \log_q r$

B $r \cdot \log_q x$

C $\log_q r + \log_q x$

7

Convert the given logarithm to its equivalent based on the power property

$$\log_z y^x$$

A $z \log_x y$

B $y \log_z x$

C $x \log_z y$

**Expand logarithmic expressions****8**

Convert the given logarithm to its equivalent based on the quotient property

$$\log_t \frac{m}{z}$$

A

$$\log_t z - \log_t m$$

B

$$\log_t m - \log_t z$$

9

Convert the given logarithm to its equivalent based on the product property

$$\log_p (n \cdot m)$$

A

$$\log_p n + \log_p m$$

B

$$n \cdot \log_p m$$

C

$$\log_m p + \log_p n$$

10

Convert the given logarithm to its equivalent based on the power property

$$\log_r p^n$$

A

$$r \log_n p$$

B

$$n \log_r p$$

C

$$p \log_r n$$

11

Convert the given logarithm to its equivalent based on the quotient property

$$\log_w \frac{y}{t}$$

A

$$\log_w t - \log_w y$$

B

$$\log_w y - \log_w t$$

12

Convert the given logarithm to its equivalent based on the product property

$$\log_y (t \cdot z)$$

A

$$\log_z y + \log_y t$$

B

$$t \cdot \log_y z$$

C

$$\log_y t + \log_y z$$