

**Apply the product law of logarithms****1**

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

$$\log_8 42$$

A $\log_7 6 + \log_7 8$

B $\log_6 8 + \log_6 7$

C $\log_8 6 + \log_8 7$

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

$$\log_{10}(4 \cdot 9)$$

A $\log_4 9 + \log_4 10$

B $\log_4 10 + \log_4 9$

C $\log_{10} 4 + \log_{10} 9$

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

$$\log_7 8 + \log_7 9$$

A $\log_7 72$

B $\log_{72} 7$

C $\log_7 71$

D $\log_7 73$

4

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

$$\log_9 8 + \log_9 3$$

A $\log_9 \frac{8}{3}$

B $\log_3(9 \cdot 8)$

C $\log_9(8 \cdot 3)$

5

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

$$\log_w p + \log_w t$$

A $\log_t(w \cdot p)$

B $\log_w \frac{p}{t}$

C $\log_w(p \cdot t)$

6

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

$$\log_w(m \cdot t)$$

A $m \cdot \log_w t$

B $\log_t w + \log_w m$

C $\log_w m + \log_w t$

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

$$\log_r x + \log_r z$$

A $\log_r(x \cdot z)$

B $\log_r \frac{x}{z}$

C $\log_z(r \cdot x)$

8

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

$$\log_q(n \cdot m)$$

A $\log_q n + \log_q m$

B $\log_m q + \log_q n$

C $n \cdot \log_q m$

**Apply the product law of logarithms****9**

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

$$\log_p t + \log_p y$$

A $\log_p(t \cdot y)$

B $\log_y(p \cdot t)$

C $\log_p \frac{t}{y}$

10

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

$$\log_t(y \cdot x)$$

A $\log_x t + \log_t y$

B $\log_t y + \log_t x$

C $y \cdot \log_t x$

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

$$\log_t y + \log_t z$$

A $\log_t(y \cdot z)$

B $\log_z(t \cdot y)$

C $\log_t \frac{y}{z}$

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

$$\log_w(x \cdot q)$$

A $\log_w x + \log_w q$

B $x \cdot \log_w q$

C $\log_q w + \log_w x$