

Apply the power law of logarithms

1

Use the power rule to simplify this equation

$$4^{(p+3)} = 10^{(p)}$$

A $(p+3) \ln 4 = (p) \ln 10$

B $(p-3) \ln 4 = (p-2) \ln 10$

C $(3p+1) \ln 4 = (2p+1) \ln 10$

2

Use the power rule to simplify this equation

$$4^{(-1z+3)} = 3^{(-7z)}$$

A $(-1z+3) \ln 4 = (-7z) \ln 3$

B $(3z-1) \ln 4 = (2z-7) \ln 3$

C $(-1z-3) \ln 4 = (-7z-2) \ln 3$

3

Use the power rule to simplify this equation

$$2^{(m+8)} = 6^{(m-5)}$$

A $(8m+1) \ln 2 = (-5m+1) \ln 6$

B $(m-8) \ln 2 = (m+5) \ln 6$

C $(m+8) \ln 2 = (m-5) \ln 6$

4

Use the power rule to simplify this equation

$$8^{(-3w+9)} = 4^{(-4w+7)}$$

A $(-3w-9) \ln 8 = (-4w-7) \ln 4$

B $(9w-3) \ln 8 = (7w-4) \ln 4$

C $(-3w+9) \ln 8 = (-4w+7) \ln 4$

5

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

$$\log_8 64$$

A $4 \log_8 3$

B $8 \log_4 3$

C $8 \log_3 4$

D $3 \log_8 4$

6

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

$$\log_n m^w$$

A $n \log_w m$

B $m \log_n w$

C $w \log_n m$

7

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

$$\log_7 9^2$$

A $7 \log_9 2$

B $9 \log_7 2$

C $2 \log_7 9$

D $2 \log_9 7$

E $7 \log_2 9$

8

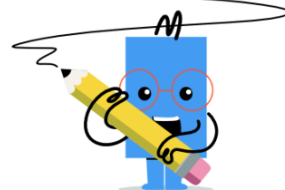
Convert the given logarithm to its equivalent based on the power property

$$3 \log_9 6$$

A $\log_9 3^6$

B $\log_6 9^3$

C $\log_9 6^3$



Apply the power law of logarithms

9

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

$$2\log_3 9$$

A $\log_{81} 3$

B $\log_3 80$

C $\log_3 79$

D $\log_3 82$

E $\log_3 81$

10

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

$$p\log_z m$$

A $\log_z p^m$

B $z\log_p m^p$

C $\log_z m^p$

11

Use the power rule to simplify this and solve for 'z'

$$4^{(z-3)} = 9^{(z)}$$

A $z = \frac{3\ln 9}{\ln 9 - \ln 4}$

B $z = \frac{\ln 9 - \ln 4}{-3\ln 4 - 2\ln 9}$

C $z = \frac{3\ln 4}{\ln 4 - \ln 9}$

12

Use the power rule to simplify this and solve for 'm'

$$4^{(-5m-4)} = 8^{(9m-8)}$$

A $m = \frac{9\ln 8 + 5\ln 4}{-4\ln 4 + 8\ln 8}$

B $m = \frac{-8\ln 8 + 4\ln 4}{-5\ln 4 - 9\ln 8}$

C $m = \frac{-8\ln 4 + 4\ln 8}{-5\ln 8 - 9\ln 4}$