

Evaluating Expressions

L2ES3

Example :

Evaluate the expression : $5 \log_9 81 \cdot \log_5 25$

$$\begin{aligned} 5 \log_9 81 \cdot \log_5 25 &= 5 \log_9 9^2 \cdot \log_5 5^2 \\ &= 10 \log_9 9 \cdot 2 \log_5 5 \\ &= 10 (1) \cdot 2 (1) \\ &= \mathbf{20} \end{aligned}$$

$$\log_a b^c = c \log_a b$$

$$\log_a a = 1$$

Evaluate each expression.

1) $4 \log_2 16 + \log_5 125$

Answer

2) $\frac{6 \log_8 2}{\log_3 9}$

PREVIEW

Gain complete access to the largest
collection of worksheets in all subjects!

Members, please
log in to
download this
worksheet.

Not a member?
Please sign up to
gain complete
access.

www.mathworksheets4kids.com

3) $\left(\frac{1}{9}\right) \log_6 36 - 2 \log_3 9$

Answer

5) $\log_5 125 + 2 \log_2 8$

Answer

7) $\log_{12} 144 - 6 \log_3 27$

Answer

9) $7 \log_2 4 + 4 \log_4 2$

Answer

10) $\log_9 \left(\frac{1}{3}\right) \cdot \log_2 16$

Answer

Evaluating Expressions

L2ES3

Example :

Evaluate the expression : $5 \log_9 81 \cdot \log_5 25$

$$5 \log_9 81 \cdot \log_5 25 = 5 \log_9 9^2 \cdot \log_5 5^2$$

$$= 10 \log_9 9 \cdot 2 \log_5 5$$

$$= 10 (1) \cdot 2 (1)$$

$$= \mathbf{20}$$

$$\log_a b^c = c \log_a b$$

$$\log_a a = 1$$

Evaluate each expression.

1) $4 \log_2 16 + \log_5 125$

Answer

1

2) $\frac{6 \log_8 2}{\log_3 9}$

3

 $\frac{2}{3}$

3) $\left(\frac{1}{9}\right) \log_6 36 - 2 \log_3 9$

Answer

 $\frac{3}{4}$

5) $\log_5 125 + 2 \log_3 9$

Answer

6

7) $\log_{12} 144 - 6 \log_3 9$

Answer

Members, please
log in to
download this
worksheet.

Not a member?
Please sign up to
gain complete
access.

www.mathworksheets4kids.com

9) $7 \log_2 4 + 4 \log_4 2$

Answer

16

10) $\log_9 \left(\frac{1}{3}\right) \cdot \log_2 16$

Answer

-2