

## 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

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

3

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

Answer

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

Answer

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

Answer

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

Answer

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

Answer

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