

## Evaluating Expressions

L1ES4

Example :

Evaluate the expression :  $\log_3 243$ 

$$\begin{aligned}\log_3 243 &= \log_3 3^5 \\ &= 5 \log_3 3 \\ &= 5 (1) \\ &= \mathbf{5}\end{aligned}$$

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

$$\log_a a = 1$$

**Evaluate each expression.**

1)  $\log_4 \left(\frac{1}{16}\right)$

Answer

2)  $\log_2 32$

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3)  $-3 \log_5 25$

Answer

5)  $9 \log_8 2$

Answer

7)  $\log_{13} 169$

Answer

Answer

9)  $\log_6 \left(\frac{1}{6}\right)$

Answer

10)  $\log_2 256$

Answer