Evaluating Expressions

L1DS1

Example :

Evaluate the expression : $\log_{\frac{1}{2}} 8^{-1}$

$$\log_{\frac{1}{2}} 8^{-1} = \log_{\frac{1}{2}} \left(\frac{1}{2}\right)^3$$
$$= 3 \log_{\frac{1}{2}} \left(\frac{1}{2}\right)$$
$$= \mathbf{3}$$

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

$$\log_a a = 1$$

Evaluate each expression.

1) $\log_8 \left(\frac{1}{4}\right)$

Answer

2) $-2 \log_{\frac{1}{9}} 3$

3) $\frac{1}{2} \log_2 \left(\frac{1}{64}\right)$

Answer

5) $\log_{125} 5^{-1}$

Answer

7) $\log_{\frac{1}{3}} 27^{-2}$

Answer

Answer

9) $4 \log_9 3$

Answer

10) $4 \log_{\frac{1}{3}} \left(\frac{1}{81}\right)$

Answer

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