Name : _____ Score : _____

L2MS3

Evaluating Expressions

Example :

Evaluate the expression : $\log_{\frac{1}{9}}\left(\frac{1}{81}\right) \cdot 2\log_4 64$

$\log_{\frac{1}{9}}\left(\frac{1}{81}\right) \cdot 2\log_4 64 = 2\log_{\frac{1}{9}}\left(\frac{1}{9}\right) \cdot 6\log_4 4$

$= 2(1) \cdot 6(1)$

$= \mathbf{12}$

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

$\log_a a = 1$

Evaluate each expression.

1) $\log_{\frac{1}{5}}\left(\frac{1}{25}\right) \cdot \log_{12} 144$

Answer

2) $\log_{\frac{1}{2}} 128 + 4\log_{11} 121$

Answer

3) $\log_{\frac{1}{2}} 16 - \log_{\frac{1}{6}}($

Answer

5) $\log_{\frac{1}{5}}\left(\frac{1}{25}\right) \cdot 3\log$

Answer

7) $\frac{1}{8}\log_2 16 - 5\log$

Answer

9) $2\log_{16} 4 \cdot \log_9 729$

Answer

10) $\log_4\left(\frac{1}{4}\right) + 9\log_7 49$

Answer

Name : _____ **Answer key** Score : _____

L2MS3

Evaluating Expressions

Example :

Evaluate the expression : $\log_{\frac{1}{9}}\left(\frac{1}{81}\right) \cdot 2\log_4 64$

$$\log_{\frac{1}{9}}\left(\frac{1}{81}\right) \cdot 2\log_4 64 = 2\log_{\frac{1}{9}}\left(\frac{1}{9}\right) \cdot 6\log_4 4$$
$$= 2(1) \cdot 6(1)$$
$$= \mathbf{12}$$

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

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Evaluate each expression.

1) $\log_{\frac{1}{5}}\left(\frac{1}{25}\right) \cdot \log_{12} 144$

Answer

2) $\log_{\frac{1}{2}} 128 + 4\log_{11} 121$

Answer 1

3) $\log_{\frac{1}{2}} 16 - \log_{\frac{1}{6}}($

Answer $\frac{4}{3}$

5) $\log_{\frac{1}{5}}\left(\frac{1}{25}\right) \cdot 3\log$

Answer –1

7) $\frac{1}{8}\log_2 16 - 5\log$

Answer –2

Answer $-\frac{1}{6}$

9) $2\log_{16} 4 \cdot \log_9 729$

Answer 3

10) $\log_4\left(\frac{1}{4}\right) + 9\log_7 49$

Answer 17