Name : _____ Score : _____

L2DS1

Evaluating Expressions

Example :

Evaluate the expression : $\log_{\frac{1}{81}}\left(\frac{1}{3}\right) \cdot 2\log_{64} 4$

$$\log_{\frac{1}{81}}\left(\frac{1}{3}\right) \cdot 2\log_{64} 4 = \frac{1}{4}\log_{\frac{1}{81}}\left(\frac{1}{81}\right) \cdot \frac{2}{3}\log_{64} 64$$

$$= \frac{1}{6}$$

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

$\log_a a = 1$

Evaluate each expression.

1) $\log_{\frac{1}{36}} 6 \cdot \log_{81} 3$

Answer

2) $\log_{\frac{1}{25}} 5 + 4\log_{32} 2$

Answer

3) $\log_{\frac{1}{27}} 3 - \log_{16}$ (

Answer

5) $\log_{125} 5 \cdot 3\log_{\frac{1}{36}}$

$^6\left(\frac{1}{36}\right)$

Answer

7) $\frac{1}{6}\log_{16} 4 - \log_8$

Answer

Answer

9) $\log_{36} 6^{-4} \cdot \log_{81} 3^5$

Answer

10) $\log_{\frac{1}{64}}\left(\frac{1}{4}\right) + 5\log_{32} 2$

Answer

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

L2DS1

Evaluating Expressions

Example :

Evaluate the expression : $\log_{\frac{1}{81}}\left(\frac{1}{3}\right) \cdot 2\log_{64} 4$

$\log_{\frac{1}{81}}\left(\frac{1}{3}\right) \cdot 2\log_{64} 4 = \frac{1}{4}\log_{\frac{1}{81}}\left(\frac{1}{81}\right) \cdot \frac{2}{3}\log_{64} 64$

$= \frac{1}{6}$

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

$\log_a a = 1$

Evaluate each expression.

1) $\log_{\frac{1}{36}} 6 \cdot \log_{81} 3$

Answer

2) $\log_{\frac{1}{25}} 5 + 4\log_{32} 2$

Answer $\frac{3}{10}$

3) $\log_{\frac{1}{27}} 3 - \log_{16}$ (-

Answer $\frac{1}{2}$

5) $\log_{125} 5 \cdot 3\log_{\frac{1}{36}}$

$6\left(\frac{1}{36}\right)$

Answer $-\frac{31}{5}$

7) $\frac{1}{6}\log_{16} 4 - \log_8$

Answer $\frac{13}{12}$

Answer $-\frac{3}{2}$

9) $\log_{36} 6^{-4} \cdot \log_{81} 3^5$

Answer $-\frac{5}{2}$

10) $\log_{\frac{1}{64}}\left(\frac{1}{4}\right) + 5\log_{32} 2$

Answer $\frac{4}{3}$