Name : _____ Score : _____

Evaluating Expressions

L1DS2

Example :

Evaluate the expression : $\log_{\frac{1}{4}} 16^{-2}$

$\log_{\frac{1}{4}} 16^{-2} = \log_{\frac{1}{4}} \left(\frac{1}{4}\right)^{4}$

$= 4 \log_{\frac{1}{4}} \left(\frac{1}{4}\right)$

$= \mathbf{4}$

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

$\log_a a = 1$

Evaluate each expression.

1) $\log_5 25^{-8}$

Answer

2) $\log_{\frac{1}{16}} 4^{-6}$

Answer

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

Answer

5) $4 \log_{36} 6$

Answer

7) $\log_{\frac{1}{2}} 16^{-2}$

Answer

9) $\log_7 49^3$

Answer

10) $\log_{\frac{1}{32}} \left(\frac{1}{2}\right)$

Answer

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

L1DS2

Evaluating Expressions

Example :

Evaluate the expression : $\log_{\frac{1}{4}} 16^{-2}$

$\log_{\frac{1}{4}} 16^{-2} = \log_{\frac{1}{4}} \left(\frac{1}{4}\right)^{4}$

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Evaluate each expression.

1) $\log_5 25^{-8}$

Answer

2) $\log_{\frac{1}{16}} 4^{-6}$

Answer **3**

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

Answer **–3**

5) $4 \log_{36} 6$

Answer **–4**

7) $\log_{\frac{1}{2}} 16^{-2}$

Answer **8**

Answer **–10**

9) $\log_7 49^3$

Answer **6**

10) $\log_{\frac{1}{32}} \left(\frac{1}{2}\right)$

Answer $\frac{1}{5}$