



Precalculus: Logarithmic and Exponential Functions

Name _____ Date _____

Evaluate the following expressions

(1) $\log(1,000)$

(2) $\log(10)$

(3) $\ln(e^8)$

(4) $\log_9(\sqrt[3]{81})$

(5) $\log(100)$

(6) $\log(0.000000001)$

(7) $\log_6(\sqrt[3]{6})$

(8) $\log(0.00000000001)$

(9) $\log_7\left(\frac{1}{49}\right)$

(10) $\ln(\sqrt[4]{e^3})$

(11) $\log(100,000)$

(12) $\ln\left(\frac{1}{e^{13}}\right)$



Answers

Evaluate the following expressions

(1) $\log(1,000)$

3

(3) $\ln(e^8)$

8

(5) $\log(100)$

2

(7) $\log_6(\sqrt[3]{6})$

$\frac{1}{3}$

(9) $\log_7\left(\frac{1}{49}\right)$

-2

(11) $\log(100,000)$

5

(2) $\log(10)$

1

(4) $\log_9(\sqrt[3]{81})$

$\frac{2}{3}$

(6) $\log(0.000000001)$

-9

(8) $\log(0.00000000001)$

-11

(10) $\ln(\sqrt[4]{e^3})$

$\frac{3}{4}$

(12) $\ln\left(\frac{1}{e^{13}}\right)$

-13