

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Learning Goal 7.1**

Applying one or more transformations to exponential and logarithmic functions, including translations, stretches and reflections.

**More Questions**

1. Express each expression in logarithmic form.

a.  $x = 3^5$

b.  $9^n = c$

c.  $3^{-4} = \frac{1}{81}$

2. Express each expression in exponential form.

a.  $\log 10000 = 4$

b.  $\log_3 \left( \frac{1}{27} \right) = -2$

c.  $\ln 1 = 0$

3. Evaluate each logarithm without using a calculator.

a.  $\log_3 27$

b.  $\log_4 \left( \frac{1}{64} \right)$

c.  $\log 0.001$

d.  $\log_2 128$

e.  $\log_5 125$

f.  $\log 100$

4. Evaluate  $4^m$  if  $m = \log 0.01$ .

5. Evaluate  $n^3$  if  $5 = \log_n 243$