

Name: _____

Date: _____

Learning Goal 7.1

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

Example Solve algebraically, if possible.

a. $2x - 7 = 9$

b. $\cos x = 1/2, 0 \leq x < \pi$

c. $8^x = 10$

- **Common Logarithm**

- **Natural Logarithm**

- **Important Identities**

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Example Express each expression in logarithmic form.

a. $n = 4^x$

b. $2^7 = 128$

c. $5^{-3} = \frac{1}{125}$

Example Express each expression in exponential form.

a. $\log 1000 = 3$

b. $\log_2 \left(\frac{1}{8} \right) = -3$

c. $\ln e = 1$

Example Evaluate each logarithm without using a calculator.

a. $\log_3 81$

b. $\log_4 \left(\frac{1}{16} \right)$

c. $\log 0.01$

Example Evaluate 3^m if $m = \log_2 8$.