Rewrite the following in log form.

a. $2^3 = 8$

b. $5^p = q$

Rewrite the following in exponential form.

a. $\log_3(27) = 3$

b. $\log_4(n) = k$

Solve $\log_2(x) = 4$ by rewriting in exponential form.

Solve $2^x = 12$ by rewriting in log form.

Calculate

a. $\log(1000)$

b. $\log\left(\frac{1}{100}\right)$

c. $\ln\left(\sqrt{e}\right)$

Common and Natural Logarithms

The **common log** is the logarithm with base 10, and is typically written $\log(x)$.

The **natural log** is the logarithm with base e, and is typically written $\ln(x)$.

Approximate log(700) using your calculator.

Solve

$5(1.3)^x = 10$

Solve

$$6e^{3x + 1} = 9$$

Solve

$$2\left(\frac{1}{2}\right)^{t}+6=10$$

Tuition is currently $1050 and is growing 7% each year. When will tuition exceed $2000?

A population grows 10% each year. Find the continuous growth rate.