Change of Base Formula with Logarithms

Name _____

Date _____ Period _____

Approximating Logarithmic Expressions

$$\log_6 8$$

There is no way to calculate $\log_6 8$ on calculators

The LOG button on calculators is for calculating common logs with a base 10.

We can use the Change-of-Base Formula to convert $\log_6 8$
to an expression of common logs

Change-of-Base Formula

$$\log_b x = \frac{\log x}{\log b}$$

LOG | x | ÷ | LOG | b | ENTER

Change-of-Base Formula

$$\log_6 8 =$$

Evaluate the following logarithmic expressions using the Change of Base Formula.

$$\log_b x = \frac{\log x}{\log b}$$

$\log_5 2$

$\log_3 7$

Evaluate the following logarithmic expressions using the Change of Base Formula.

$$\log_b x = \frac{\log x}{\log b}$$

$\log_6 24$

$\log_9 36$

Change-of-Base Formula

$$\log_b x = \frac{\log x}{\log b}$$

LOG | x | ÷ | LOG | b | ENTER