

MATH 1314

Chapter 4.3: Logarithmic Functions

$$3^x = 9$$

$$3^x = 27$$

$$3^x = 18$$

$$a^x = y$$

$$x = \log_a y$$

WRITE IN EXPONENTIAL FORM.

$$\log_7 x = 3$$

$$\log_x 25 = 2$$

$$\log_4 26 = x$$

EVALUATE.

$$x = \log_2 16$$

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

$$x = \log_{25} 5$$

PROPERTIES

$$\log_a a = 1$$

$$\log_a 1 = 0$$

$$\log_a a^x = x$$

$$a^{\log_a x} = x$$

EULER'S NUMBER:

NATURAL NUMBER e

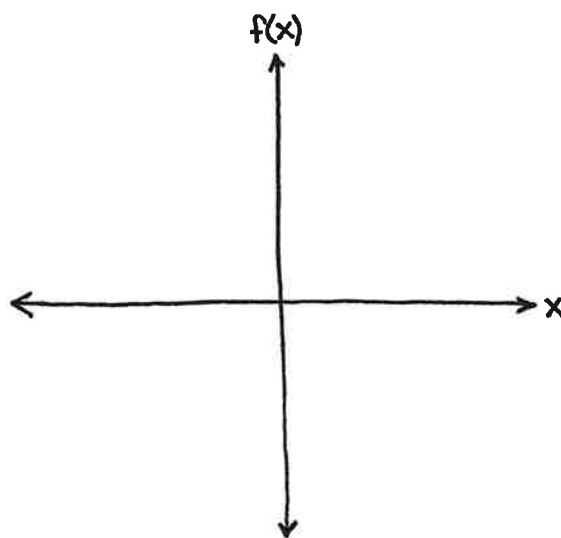
$$\log_e x = \ln x$$

INVERSE REVIEW

$$f(x)$$

$$f^{-1}(x)$$

GRAPH $f(x) = 2^x$ AND $f(x) = \log_2 x$.



$$f(x) = \log_a x \quad f(x) = \pm b \cdot \log_a [\pm c(x-h)] + k$$

GRAPH $f(x) = \log_2(x+3) - 2$.

