Advanced Math

3-2

Logarithm Functions and Their Graphs

Logarithm -

Given: $x^b = y \Rightarrow$

Definition of the Number e -

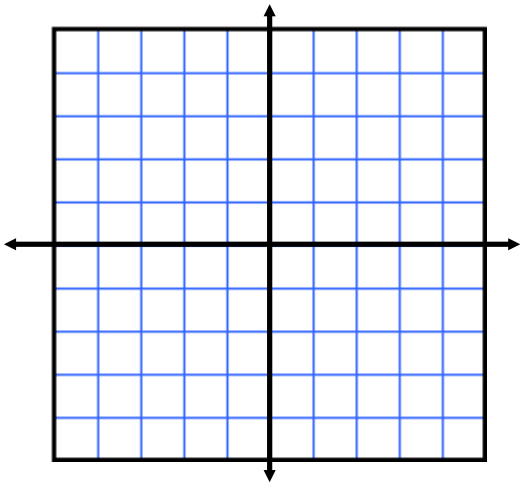
Natural Logarithm -

Important! Remember this! -

Why do we need Logarithms? -

Graph: $y = 2^x$

Then Graph its inverse, $f(x) = \log_2 x$.



Domain:

Range:

Asymptote:

Write each logarithm equation in exponential form.

1) $\log_4 64 = 3$

Write each exponential equation in logarithmic form.

13) $6^{-2} = \frac{1}{36}$

Evaluate without using a calculator.

19) $\log_2 16$ 25) $\log_{10} 0.01$ 29) $\ln e^3$

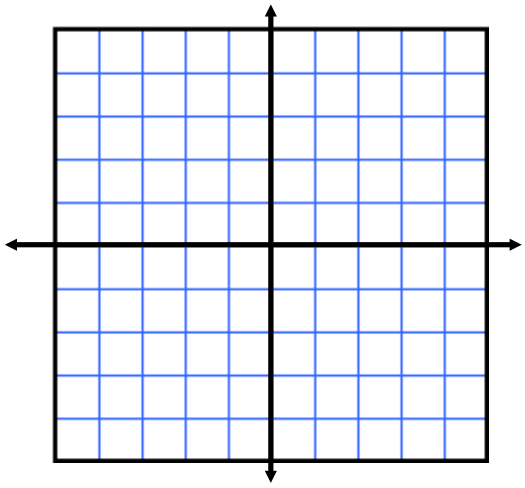
Find the domain, vertical asymptote, and x-intercept of the logarithmic function and sketch its graph.

55) $f(x) = -\log_6(x + 2)$

Domain:

vertical asymptote:

x-intercept:



Assignment:
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2-40 even,
45-50 all,
52-62 even,
75-82 all.