

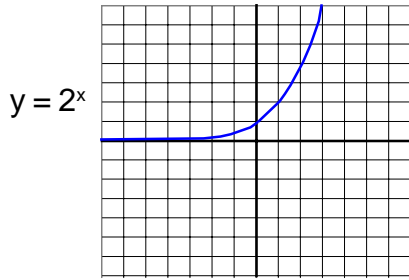


Math Study Strategies

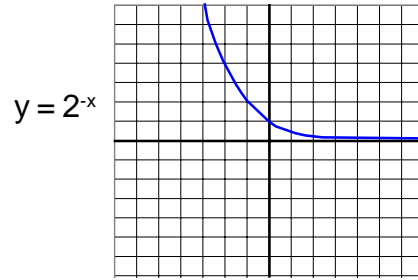
Graphing Exponential and Log Functions

Exponential Functions

$y = 2^x$ and $y = 2^{-x}$ are exponential functions



Increasing function



Decreasing function

Domain $(-\infty, \infty)$

Range $(0, \infty)$

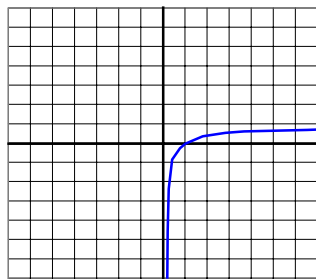
y- intercept $(0, 1)$

The x-axis is the asymptote for the graph.

$f(x) = e^x$ is the natural exponential function, where $e = 2.718281828459\dots$

Logarithmic Functions

$y = \log x$ is a logarithmic function



domain $(0, \infty)$

range $(-\infty, \infty)$

x- intercept $(1, 0)$

The y-axis is the asymptote for the graph.

The logarithmic function is the inverse of the exponential function.

- ▶ For the common logarithm (base 10)
 $y = \log x$ is the same as $10^y = x$
- ▶ For the natural logarithm (base e)
 $y = \ln x$ is the same as $e^y = x$