

November 8, 2017
 Chapter 4 - Exponential & Logarithmic Functions

Exponential Function

$$y = a^x; \text{ where } \begin{cases} ① x > 0 \\ ② a > 0 \\ ③ a \neq 1 \end{cases}$$

$2^x = 8$ $2^x = 2^3$ <p style="text-align: center; margin-left: 20px;">same base</p> $x = 3$	$2^x = 5$
---	-----------

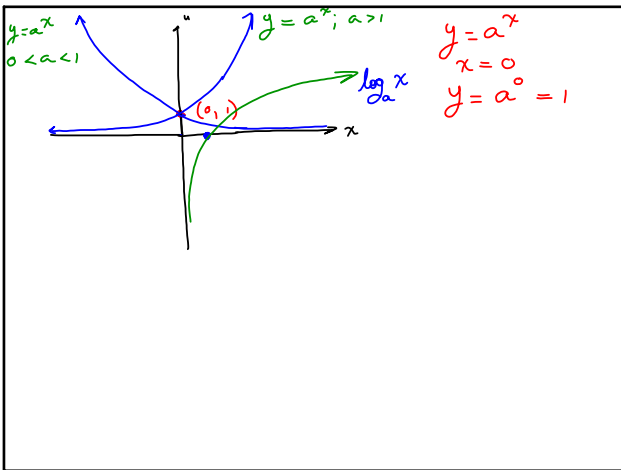
Nov 8-8:06 AM

Logarithmic Function

$$y = \log_a x$$

Exp. $2^x = 8$ $\log_2 8 = x$

Nov 8-8:18 AM



Nov 8-8:12 AM

Logarithm

base → answer = Exponent

$\log_2 8 = 3$

Exponential

base = answer

Exponent = answer

$$2^3 = 8$$

Nov 8-8:19 AM

Basic Properties - Logarithms

- ① $\log_b 1 = 0 \rightarrow b^0 = 1$
- ② $\log_b b = 1 \rightarrow b^1 = b$
- ③ $\log_b b^m = m \rightarrow b^m = b^m$
- ④ $b^{\log_b m} = m \rightarrow \log_b m = \log_b m$

#> $\log_{12} 144 = 144$

$$\log_{12} 144 = \log_{12} 144$$

Nov 8-8:34 AM