

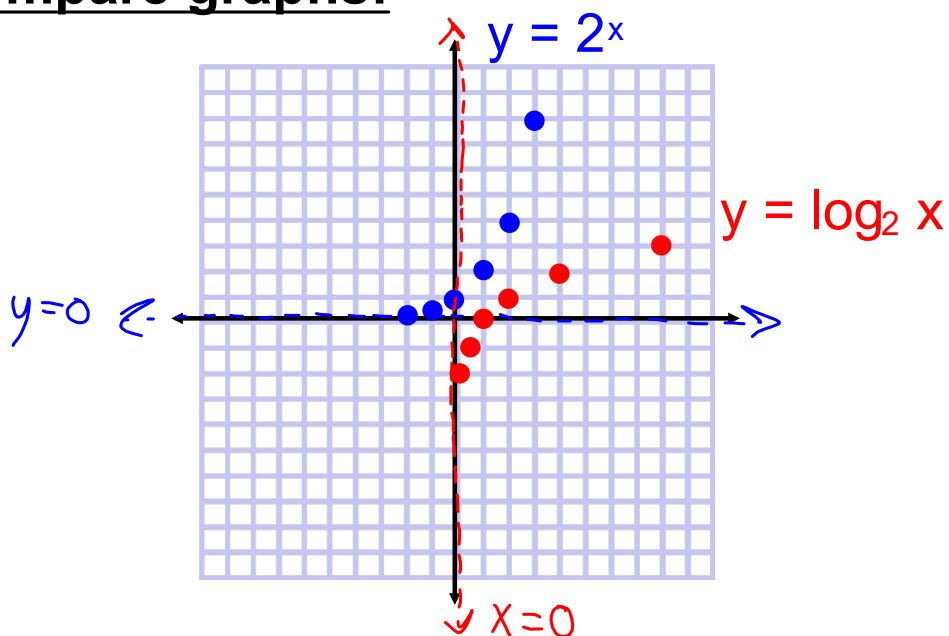
7.3 Day 1: Graphing Log Functions:

A logarithm is the inverse of exponential functions.
Remember that the inverse of a function is found by switching the domain and range. ($x \rightarrow y$ and $y \rightarrow x$)

$y = \log_2 x$ is the inverse of $y = 2^x$

Feb 17-3:13 PM

Compare graphs:



Feb 17-7:43 AM

Graphing Logs

Parent functions:

$$y = \log_b x, b > 0, b \neq 1$$

Stretch ($|a| > 1$)Compression (Shrink) ($0 < |a| < 1$)Reflection ($a < 0$) in x -axis

$$y = a \log_b x$$

SAME TRANSFORMATIONS AS ALWAYS!!!

Translations (horizontal by h ; vertical by k)

$$y = \log_b (x - h) + k$$

All transformations together

$$y = a \log_b (x - h) + k$$

Feb 21-9:42 AM

What are the **parent exponential functions** of the following logarithmic functions?

a. $y = \log_{\textcircled{3}}(x + 5)$

$$y = (3)^x$$

b. $y = \frac{1}{2} \log_{\textcircled{4}} x - 7$

$$y = (4)^x$$

Mar 14-8:33 AM

