

GRAPHING LOGARITHMIC FUNCTIONS

Sketch each pair of exponential & logarithmic functions on the same graph using different colors. Show the T-table for both graphs. Asymptotes must be shown.

$$1. \begin{aligned}y &= 3^{x-1} \\y &= \log_3(x - 1)\end{aligned}$$

$$2. \begin{aligned}y &= -4^{x+8} + 2 \\y &= -\log_4(x + 8) + 2\end{aligned}$$

$$3. \begin{aligned}y &= 2^{-x} + 1 \\y &= \log_2(-x) + 1\end{aligned}$$



$$\begin{array}{c|c} 0 & 1 \\ \hline 1 & 3 \\ 2 & 9 \end{array}$$

$$\begin{array}{c|c} 0 & -1 \\ \hline 1 & -4 \\ 2 & -16 \end{array}$$

$$\begin{array}{c|c} 0 & 1 \\ \hline -1 & 2 \\ -2 & 4 \\ -3 & 8 \end{array}$$

$$\begin{array}{c|c} 1 & 0 \\ \hline 3 & 1 \\ 9 & 2 \end{array}$$

$$\begin{array}{c|c} 1 & 0 \\ \hline 4 & -1 \\ 16 & -2 \end{array}$$

$$\begin{array}{c|c} -1 & 0 \\ \hline -2 & 1 \\ -4 & 2 \\ -8 & 3 \end{array}$$