

Intro to Logarithmic Functions

Complete the table below for the function $f(x) = 2^x$. Then, reverse the coordinates and enter them in Table 2.

Table 1

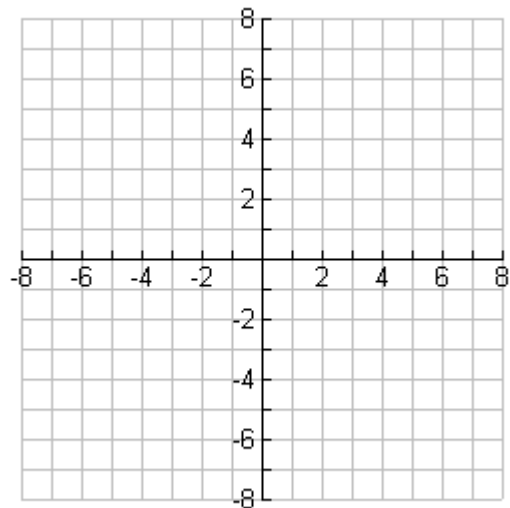
x	f(x)
-2	
-1	
0	
1	
2	
3	

Table 2

x	f(x)

Plot the points from each table on the graph below. Plot Table 1 in blue ink, and plot Table 2 in black. Finally, draw in the line $y = x$ in red ink.

What is the relationship between the blue graph and the black graph?



Remember that when you switch the x and y coordinates of a function, you create its inverse. The inverse of an exponential function is a logarithmic function. The inverse of the function $y = 2^x$ is the function $y = \log_2 x$ (read Log base 2 of x). If the function had been $y = 3^x$, its inverse would have been $y = \log_3 x$.

