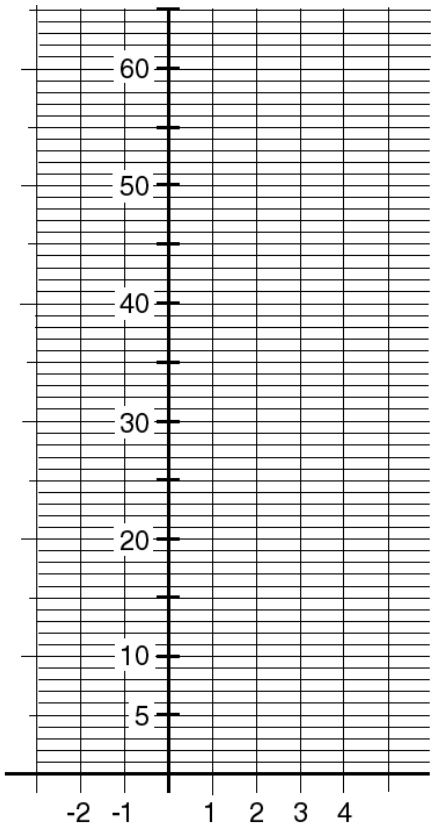
Visiting with exponential and logarithmic functions NAME:

We will explore the relationship between $y = a^x$ and $y = \log_a x$.

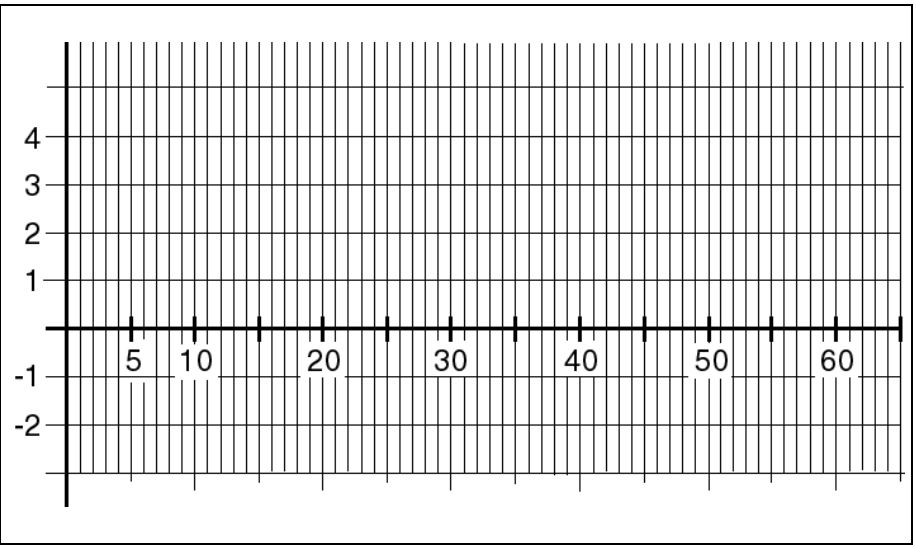
1. Complete the table and graph $y = 4^x$.

x	$y = 4^x$
-2	
-1	
0	
1	
2	
3	



2. The inverse of $y = 4^x$ is $y = \log_4 x$. Switch the *x* and *y* values in your table and plot those points to graph $y = \log_4 x$.

x	$y = \log_4 x$
	-2
	-1
	0
	1
	2
	3



3a.) In words, what is $\log_4 64$?

3b). What is the numerical value of $\log_4 64$?

3c.) How is this information (from questions 3a and 3b) shown on the graph of $y = \log_4 x$? On your graph, highlight the relevant point.
Complete the sentence: When *x* is _____, *y* is _____.

3d.) How is this information (from questions 3a and 3b) shown on the graph of $y = 4^x$?
On your graph, highlight the relevant point.
Complete the sentence: When *x* is _____, *y* is _____.