

Graphing Logarithms

To graph a logarithmic function with a base of anything other than e or 10, first find the inverse function (exponential function). Second, create a table of values for the exponential function. Third, switch the x and y values to get coordinate points for the logarithmic function. Fourth, graph the logarithmic function. Lastly, fill in the table on the backside of this sheet.

Graph $y = \log_3(x)$.

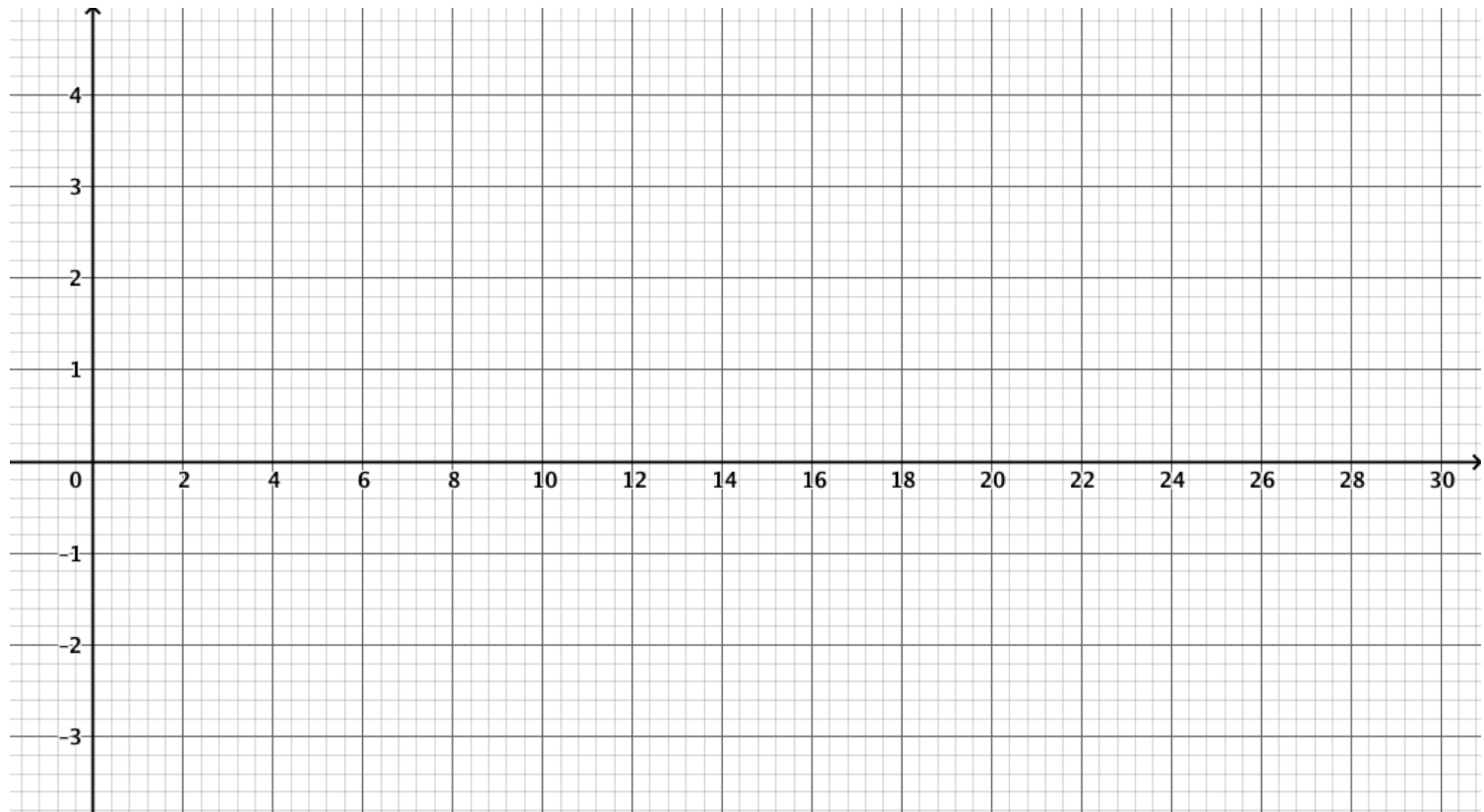
Inverse (exponential) function: _____

Exp. fxn

X	Y
-2	
-1	
0	
1	
2	
3	

Log fxn

X	Y



Fill out the table below regarding your logarithmic function. Then find two groups that had a different logarithmic function and record the information from their logarithmic function. Answer the questions below the table.

	$y = \log_3(x)$		
Domain of fxn			
Range of fxn			
x-intercept			
y-intercept			
Coordinate point when $y = 1$			
Behavior as $x \rightarrow 0$			
End behavior as $x \rightarrow \infty$			

What are similarities between various logarithmic functions?

What are differences between various logarithmic functions?

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Graph $y = \log_2(x)$.

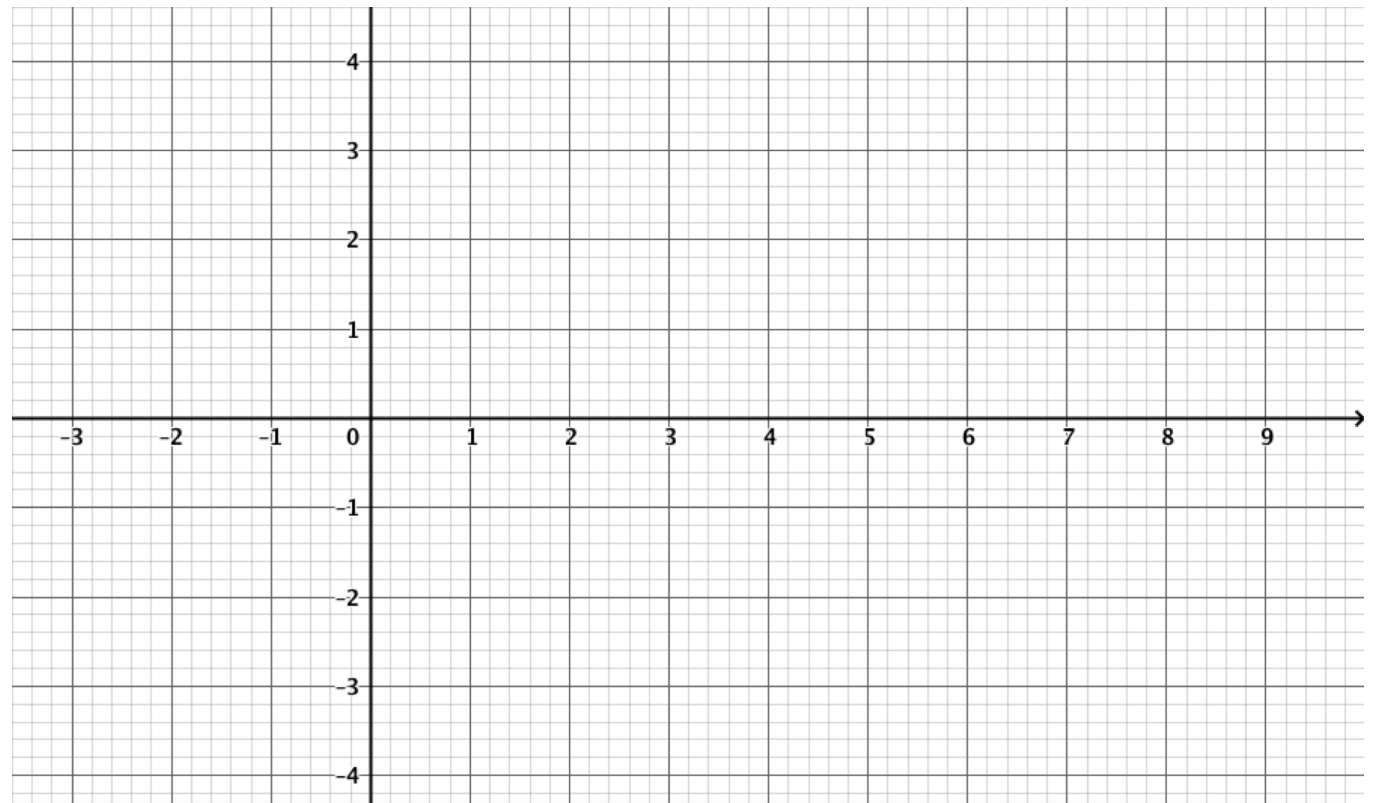
Inverse (exponential) function: _____

Exp. fxn

X	Y
-2	
-1	
0	
1	
2	
3	

Log fxn

X	Y



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	$y = \log_2(x)$		
Domain of fxn			
Range of fxn			
x-intercept			
y-intercept			
Coordinate point when $y = 1$			
Behavior as $x \rightarrow 0$			
End behavior as $x \rightarrow \infty$			

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Graph $y = \log_4(x)$.

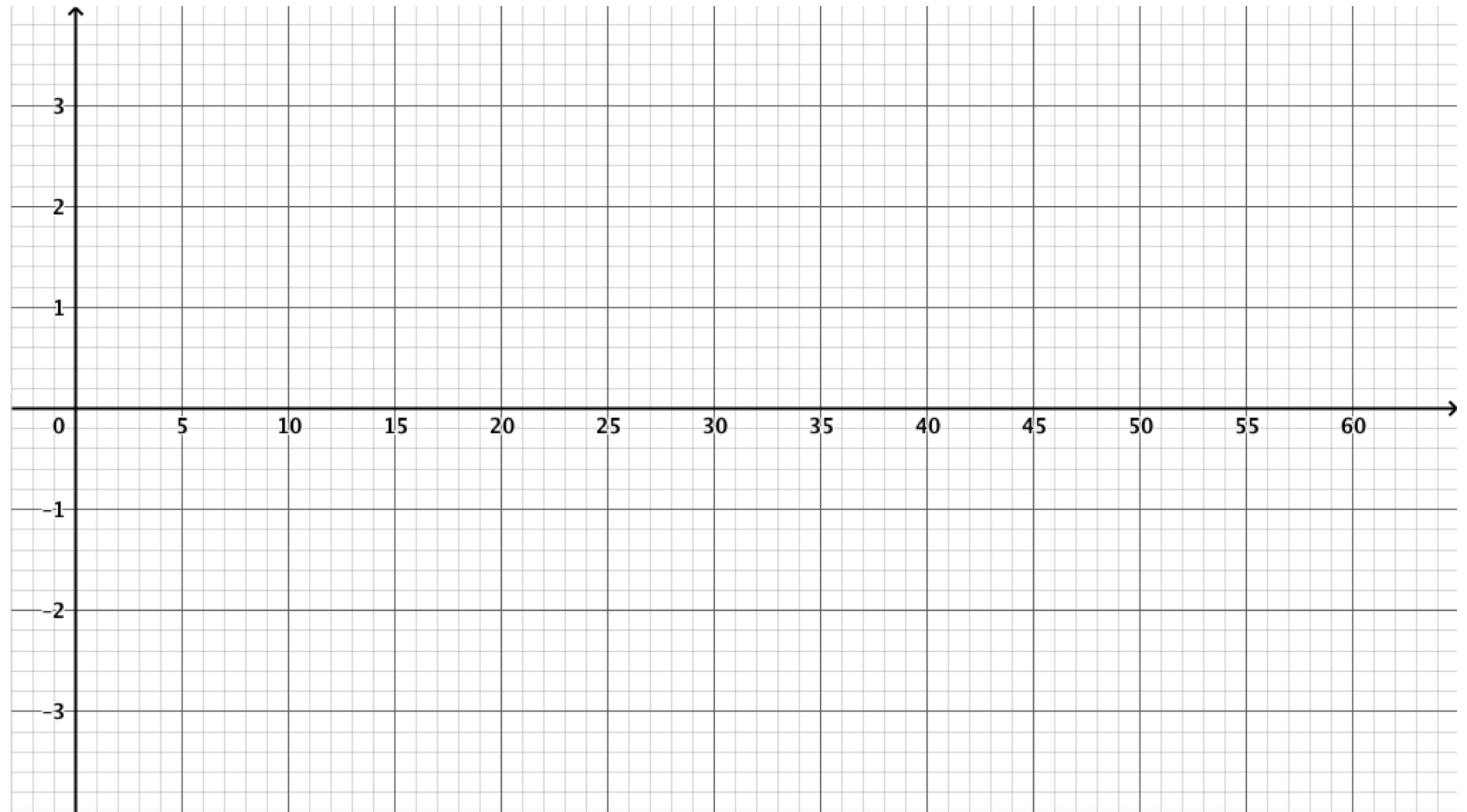
Inverse (exponential) function: _____

Exp. fxn

X	Y
-2	
-1	
0	
1	
2	
3	

Log fxn

X	Y



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	$y = \log_4(x)$		
Domain of fxn			
Range of fxn			
x-intercept			
y-intercept			
Coordinate point when $y = 1$			
Behavior as $x \rightarrow 0$			
End behavior as $x \rightarrow \infty$			

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Graph $y = \log_5(x)$.

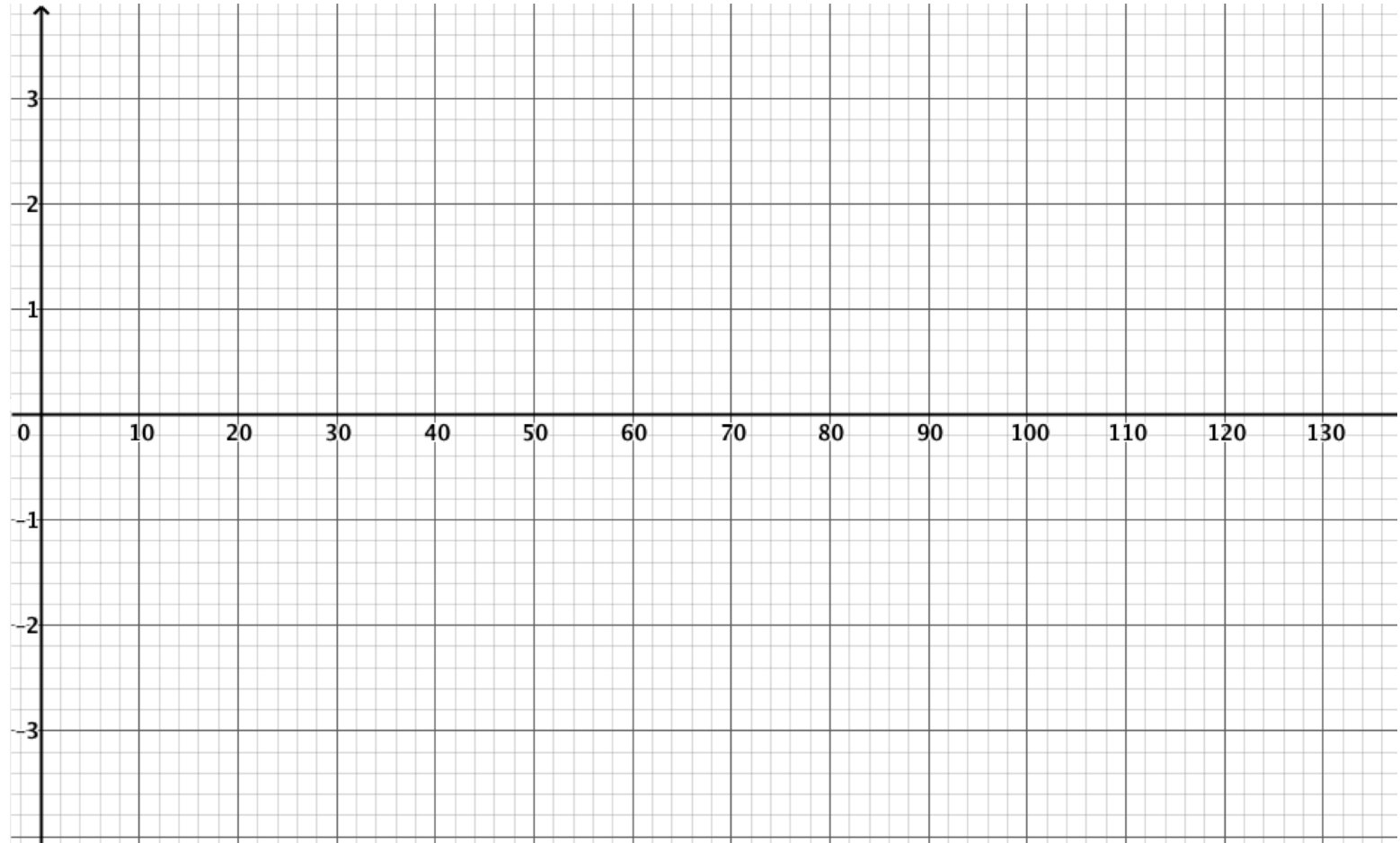
Inverse (exponential) function: _____

Exp. fxn

X	Y
-2	
-1	
0	
1	
2	
3	

Log fxn

X	Y



Fill out the table below regarding your logarithmic function. Then, find two groups that had a different logarithmic function and record the information from their logarithmic function. Answer the questions below the table.

	$y = \log_5(x)$		
Domain of fxn			
Range of fxn			
x-intercept			
y-intercept			
Coordinate point when $y = 1$			
Behavior as $x \rightarrow 0$			
End behavior as $x \rightarrow \infty$			

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