

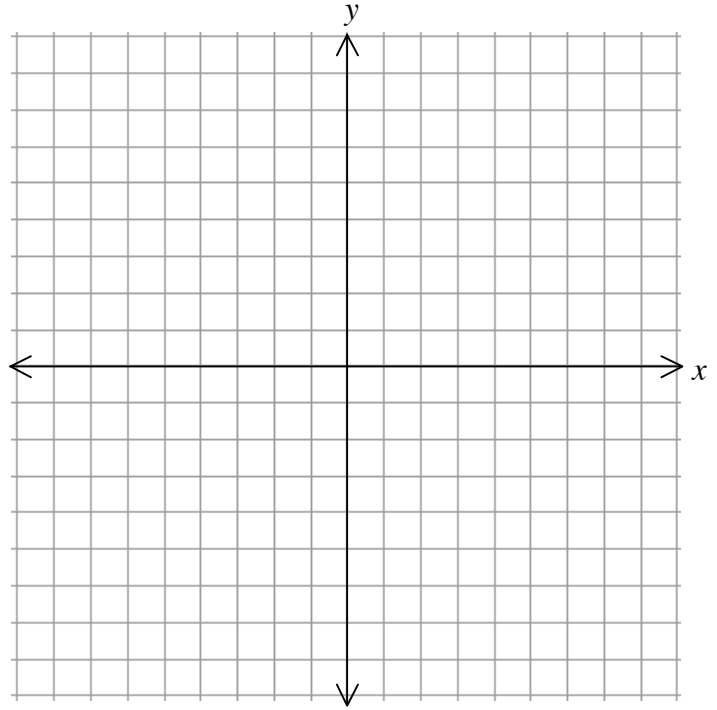
The Inverse of an Exponential Function

1. Complete the tables below and then graph

$y = 2^x$ and its inverse on the accompanying grid.

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

Inverse of $y = 2^x$	
x	y



2. Fill in the chart below.

	$y = 2^x$	Inverse of $y = 2^x$
Domain		
Range		
x-intercept		
y-intercept		
Equation of Asymptote		

3. Write an equation for the inverse of $y = 2^x$.

4. Complete the chart:

Exponential Form	Logarithmic Form
$7^{\square} = 49$	$\log_7 49 = \square$
$2^{\square} = \frac{1}{16}$	$\log_2 \frac{1}{16} = \square$
$3^4 = \square$	
$4^{\frac{3}{2}} = 8$	
$36^{-\frac{1}{2}} = \frac{1}{6}$	
	$\log_5 \frac{1}{5} = -1$
	$\log_2 32 = 5$

5. Find x .

a) $\log_{27} 3 = x$

b) $\log_5 \frac{1}{25} = x$

c) $\log_{\frac{1}{2}} 16 = x$

d) $\log_x 10 = \frac{1}{2}$

e) $\log_3 x = 0$

f) $\log_{\frac{1}{4}} x = -2$

g) $\log_x 81 = 4$