MHF4U
6.1

Exponential & Logarithmic Functions

Exponential Functions

Graph

$$f(x) = 2^x$$

Exponential Functions

Graph

f(x) so that it now has a y - intercept of 3.

Exponential Functions

Graph

a function that is steepter than f(x) but has a y-intercept at 1

Exponential Functions

Graph

An exponential function that is always decreasing.

Exponential Functions

Graph

Any exponential function that has an asymptote at y = 3

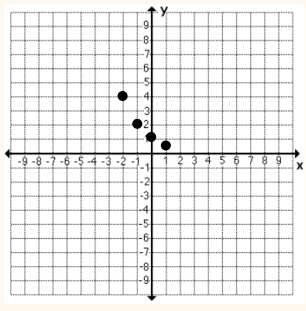
Exponential Functions

Graph

Any exponential function that has an asymptote at y = 3 and has an x-intercept.

Example

Determine the equation of a function that would fit the points.



$f(x) = a(b)^{bx} + c$

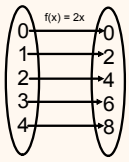
x	y	ratios
-2	4	
-1	2	$\frac{1}{2}$
0	1	$\frac{1}{2}$
1	$\frac{1}{2}$	$\frac{1}{2}$

$f(x) = \left(\frac{1}{2}\right)^x$

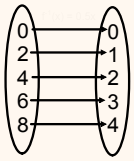
$= 2^{-x}$

The Inverse

Consider the function f(x) = 2x

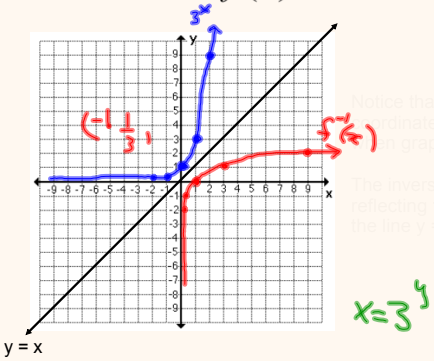


The inverse, would map the output values, back to their input values.



Graphing an Inverse

Graph the function $f(x) = 3^x$ and $f^{-1}(x)$



write an equation for the inverse

Homework

Pg. 318, #1,6,7,8,19,20

Attachments

Matching Equivalent Expressions.doc