Other Graphs

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Exponential Functions

Exponential functions contain an expression of the form a^x, where a is constant.

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Fill in the following table of values for $f(x) = 2^x$.

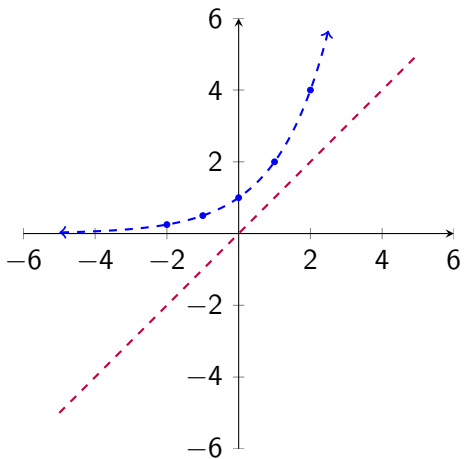| x	-2	-1	0	1	2
$f(x)$					

Exponential Functions

Logarithms

We use the fact that our logarithm is the inverse of an exponential:

$$y = \log_a(x) \iff a^y = x.$$
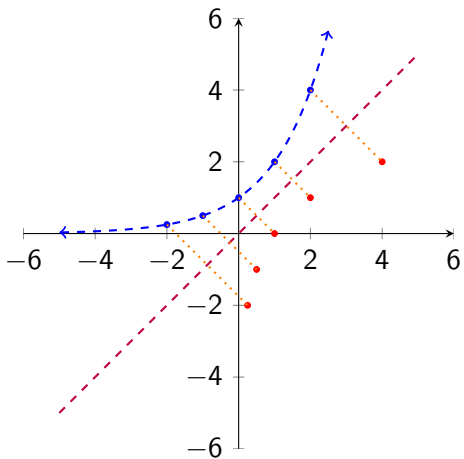
This means that the graph of $y = \log_a(x)$ can be obtained by swapping the roles of x and y, that is, reflecting the graph of $y = a^x$ about the line $y = x$.

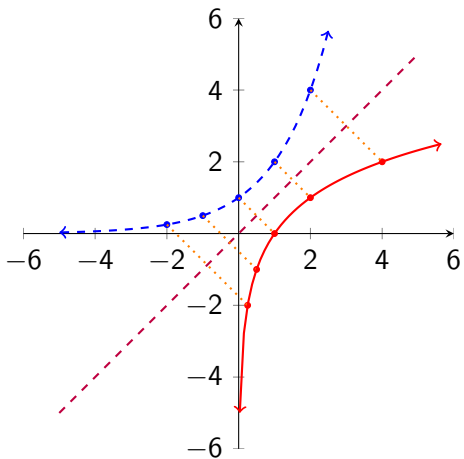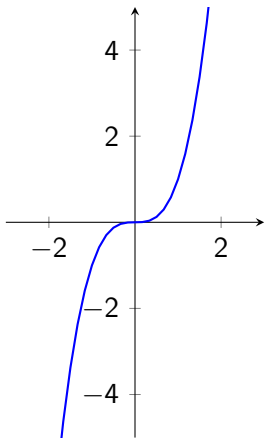(You can fill in a table of values if you're not convinced.)

Logarithms

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The Curve $y = x^3$

Scaling the Cubic

How does the graph of $y = kx^3$ change as the constant k varies?

Scaling the Cubic

Translating the Cubic

How does the graph of $y = x^3 + k$ change as the constant k varies?

Translating the Cubic

How does the graph of $y = (x + k)^3$ change as the constant k varies?

Translating the Cubic