

Exponential Functions - Graphing

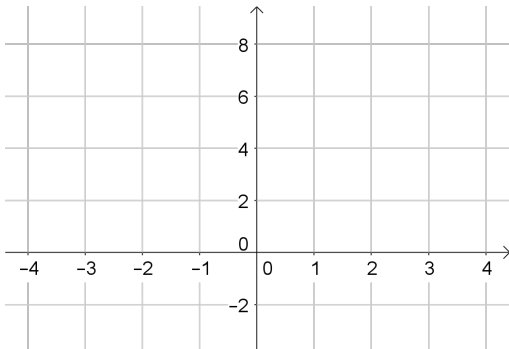
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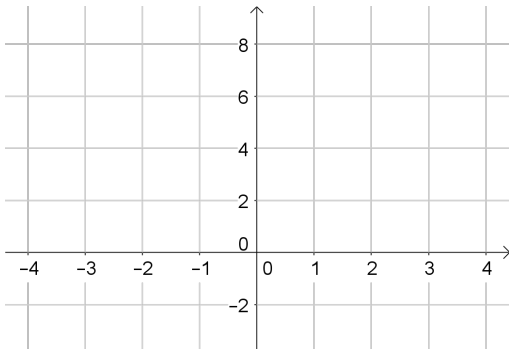


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We will start with $b = 2$, which is the exponential function ► We saw first



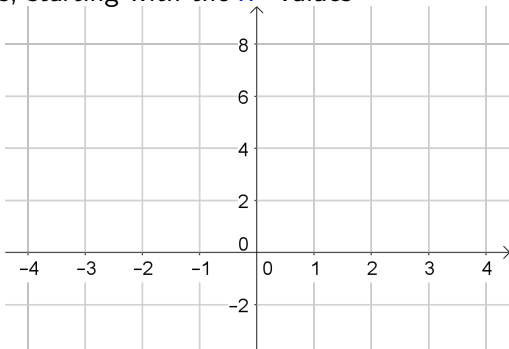
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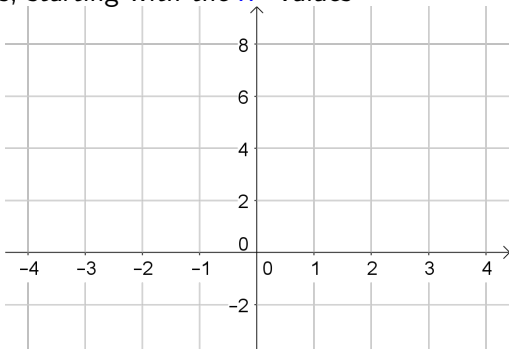
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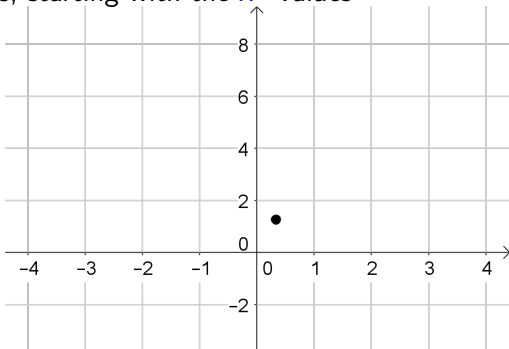
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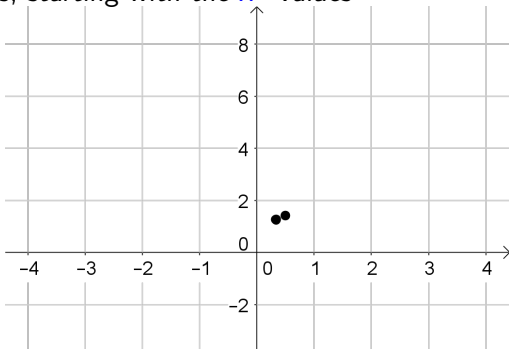
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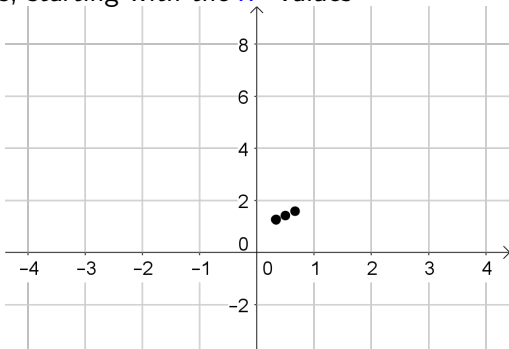
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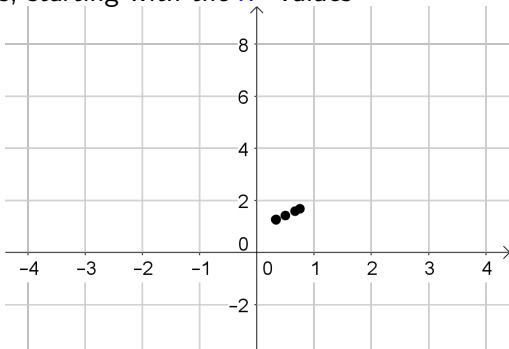
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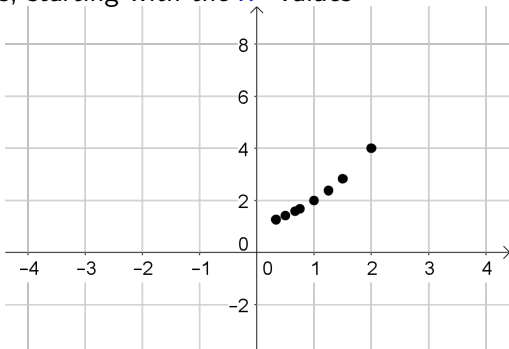
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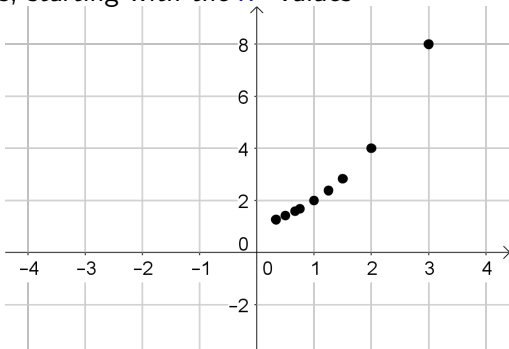
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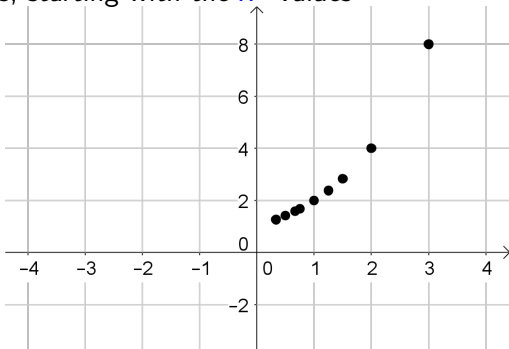
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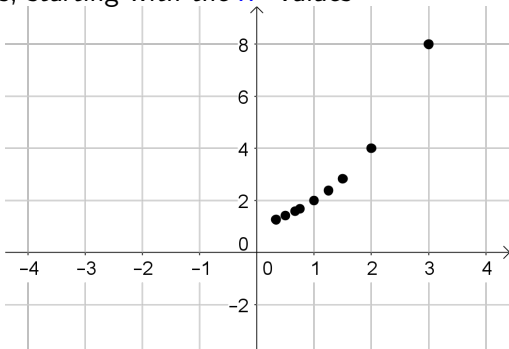
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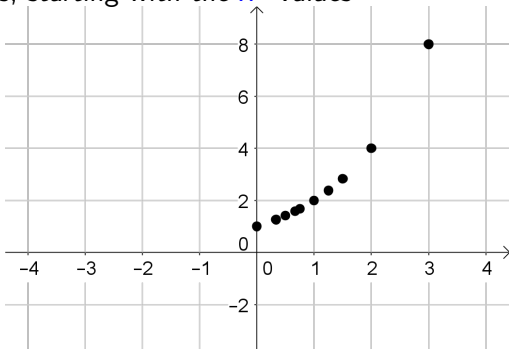
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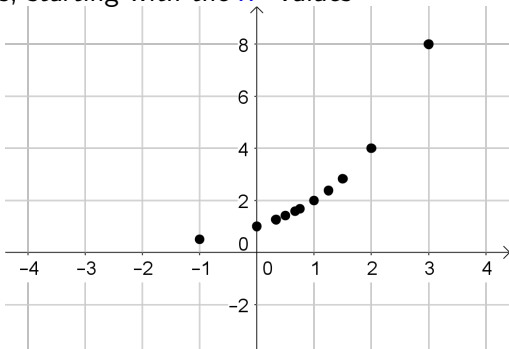
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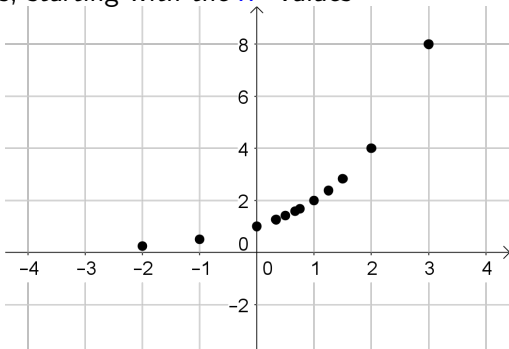
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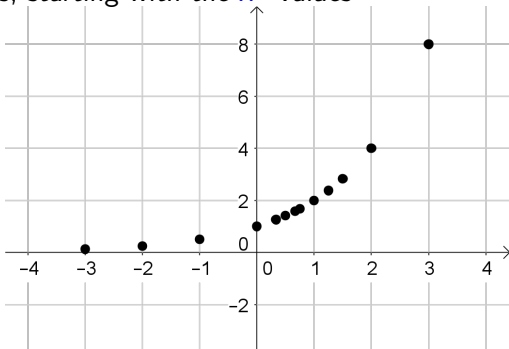
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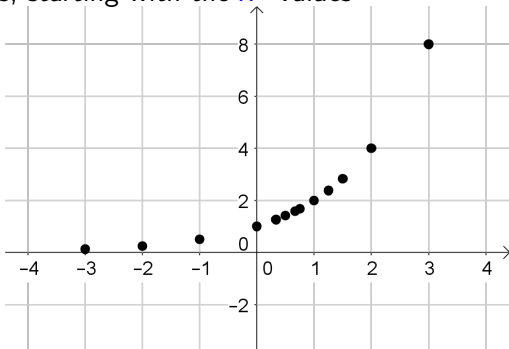
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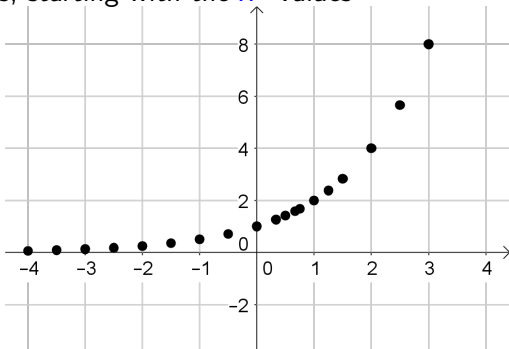
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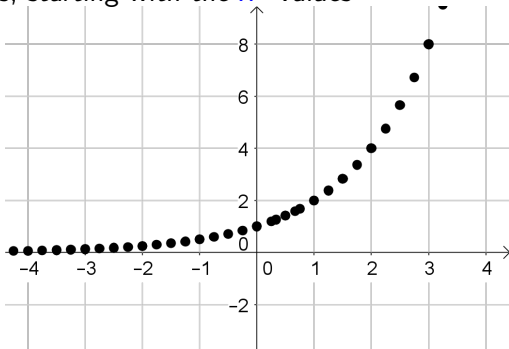
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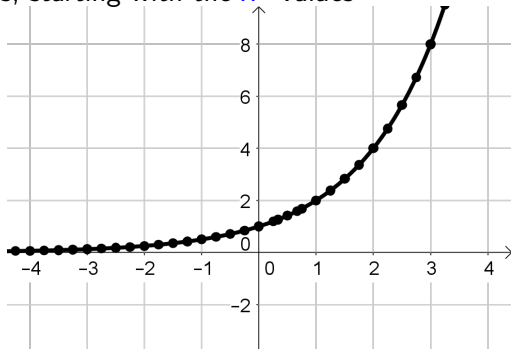
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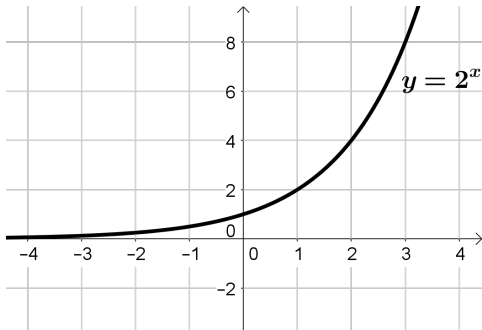
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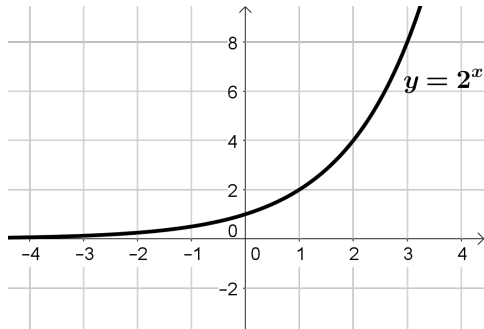
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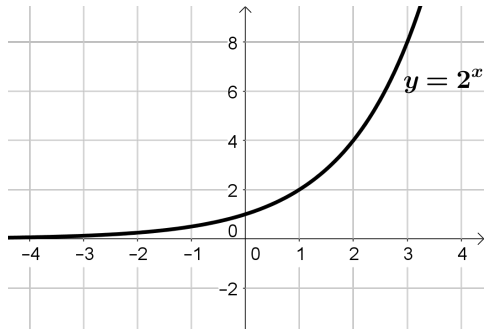


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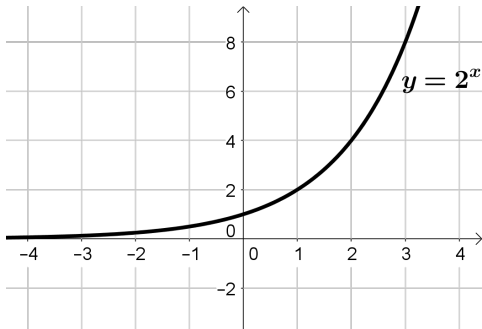
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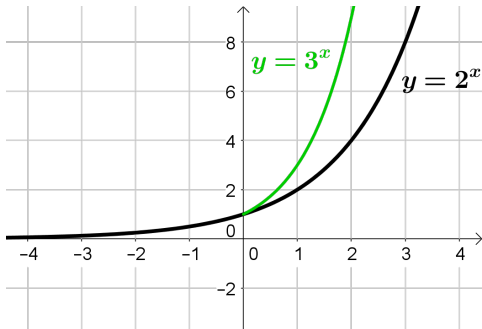
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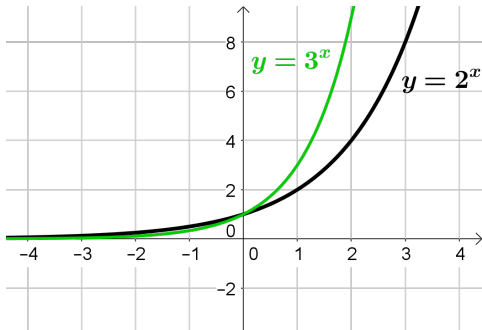
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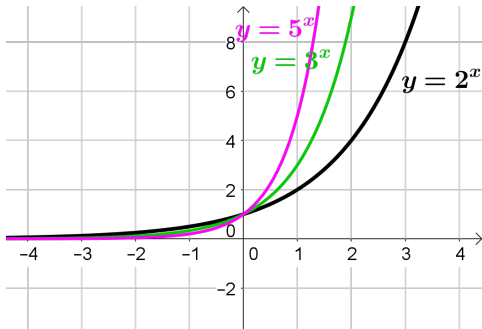
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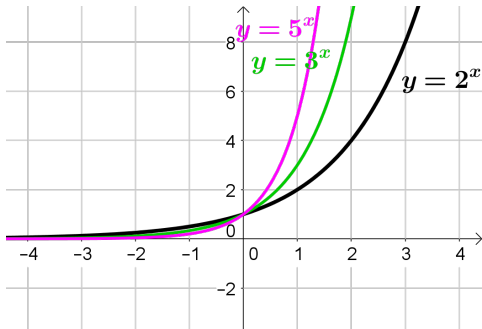
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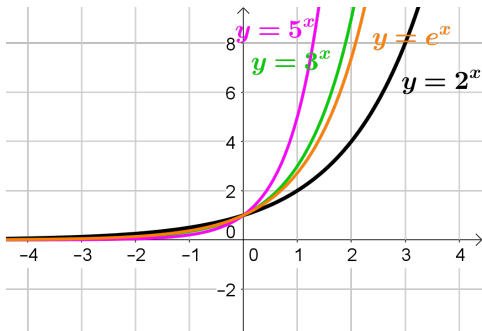
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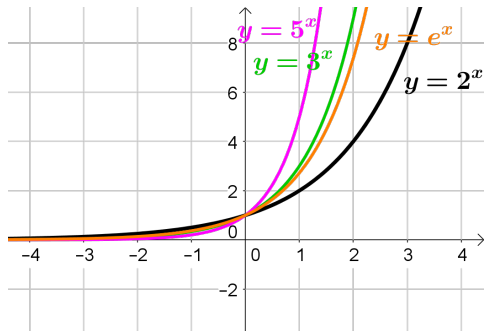
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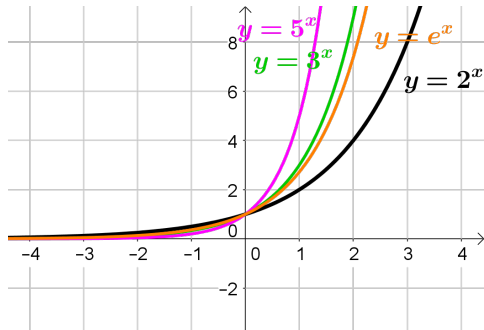
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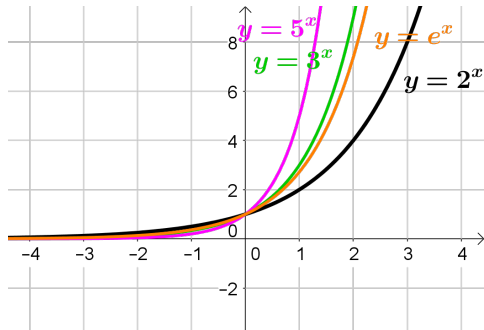
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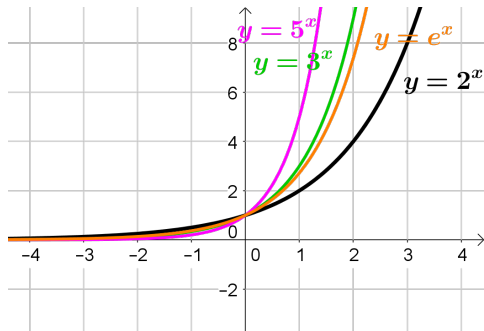
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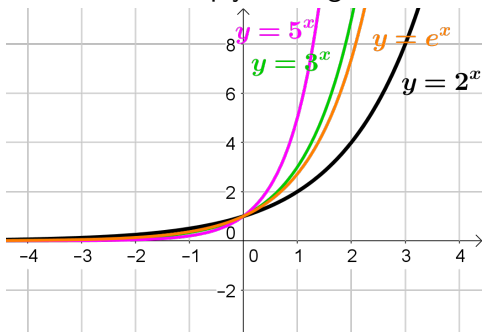
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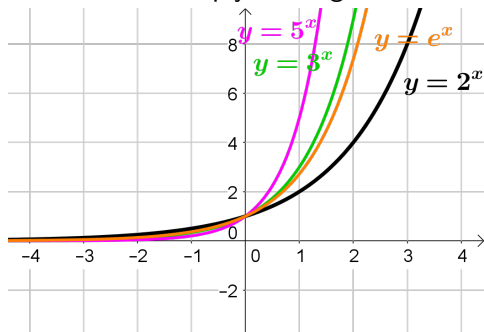
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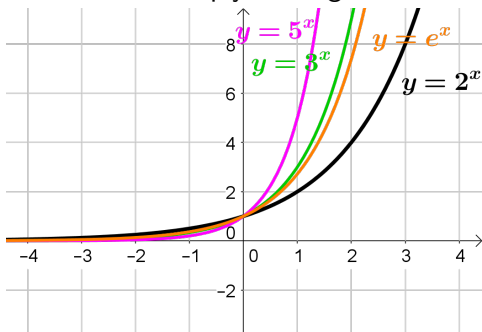
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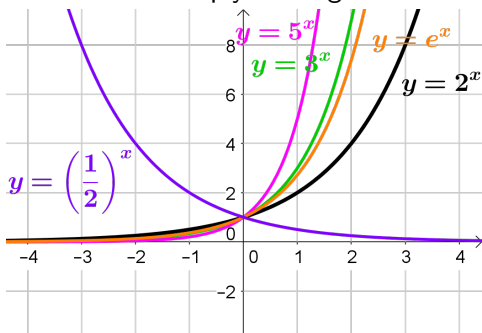
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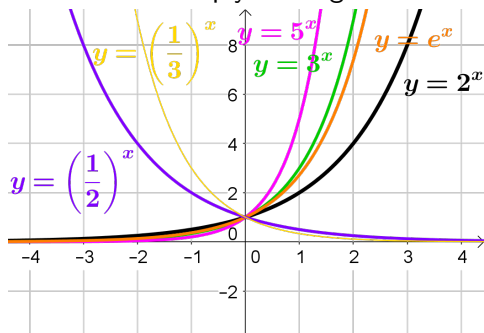
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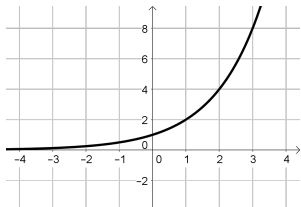
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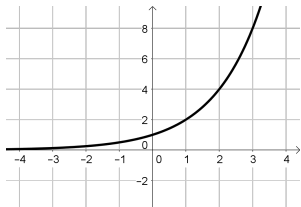
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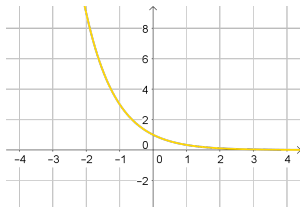
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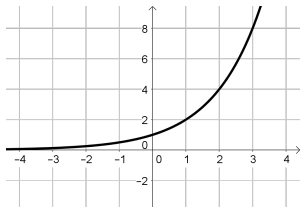
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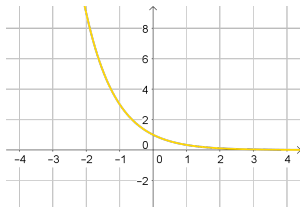
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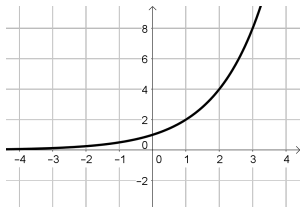
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we can graph $y = a \cdot b^x$ by vertically stretching by a

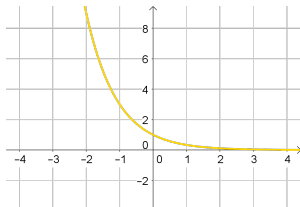
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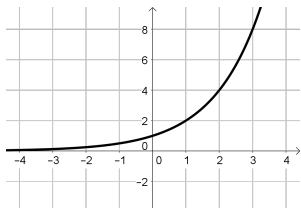
Furthermore, if $a < 0$ then the graph will

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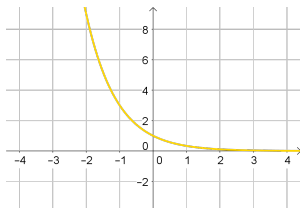
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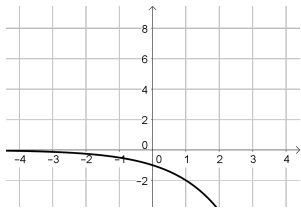
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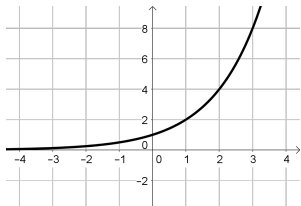
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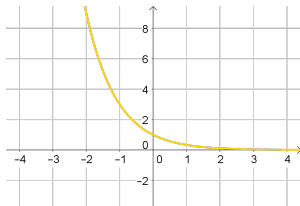
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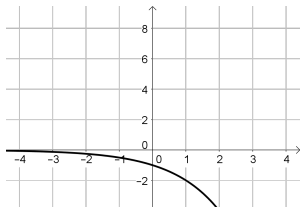
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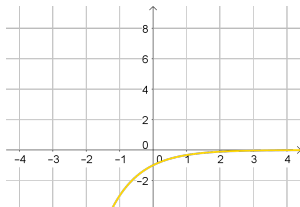
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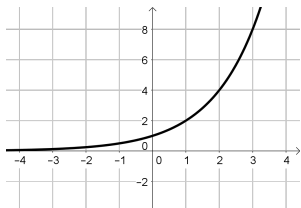
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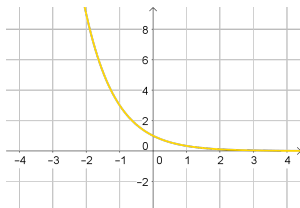
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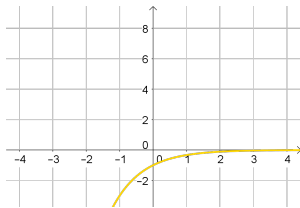
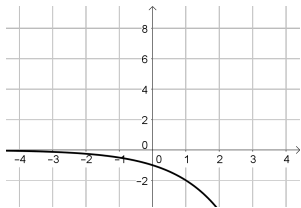
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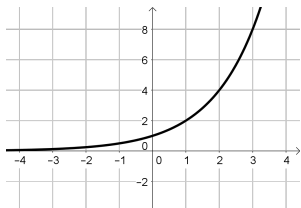


Note: The y-intercept is at $y = a \cdot b^0 = a \cdot 1 = a \rightarrow (0, a)$

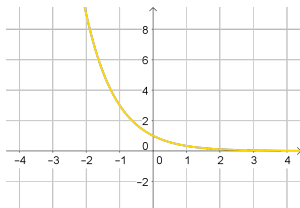
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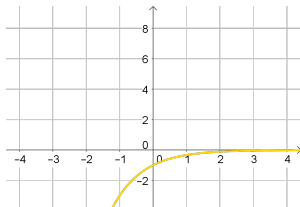
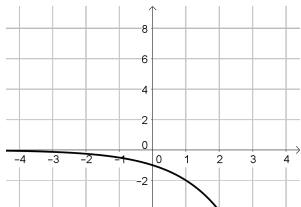
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Note 2: Exponential Functions are ▶ one-to-one