

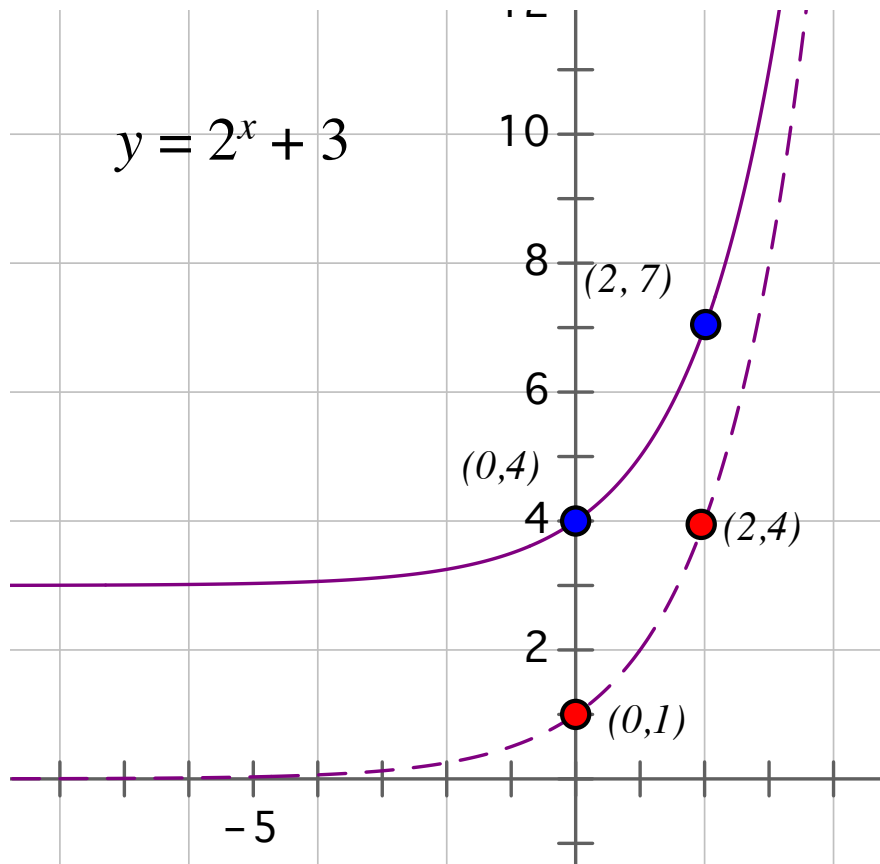
Translations

Graphing Exponentials in the form $y = b^{x+h} + k$

Procedure

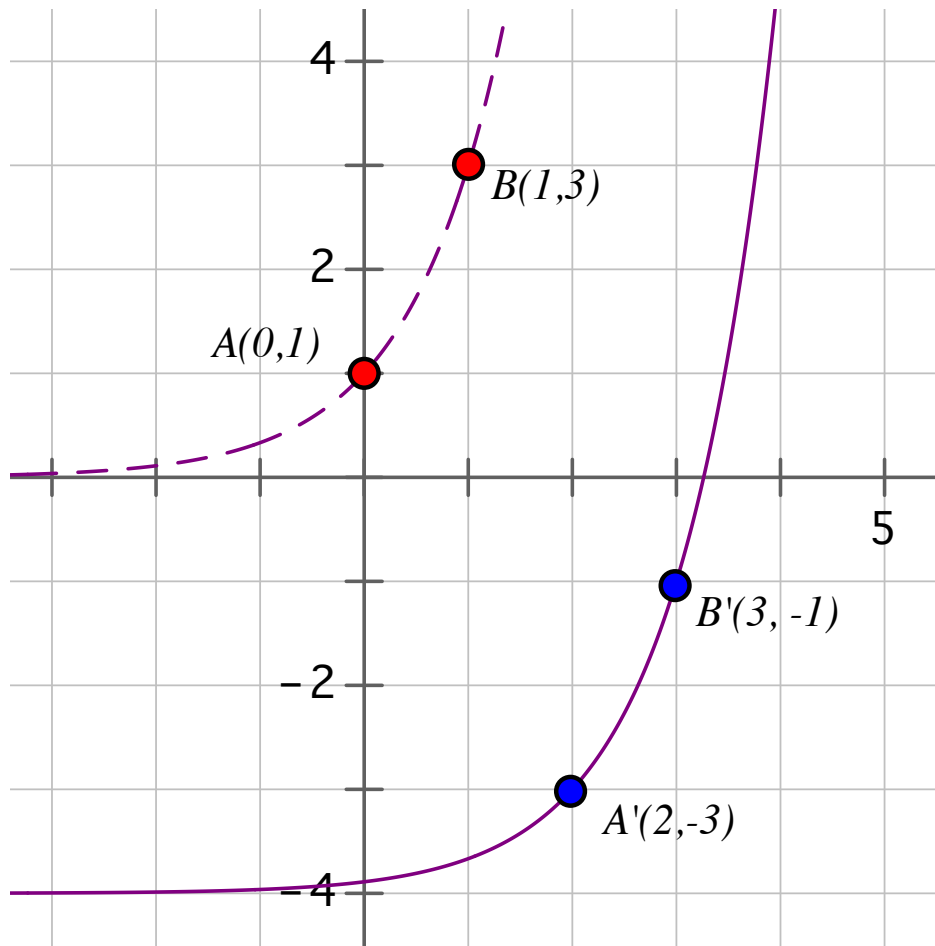
1. Graph the parent function with a dashed line thru (0,1)
2. From (0, 1) and another point, move the graph up/down k units
3. From there, move the graph horizontally h units
4. Connect the points.

Example 1 Graph $y = 2^x + 3$



Notice, From the parent function, the point (0,1) was moved UP 3, resulting in (0,4). (2,4) was also moved up 3 resulting in (2,7)

Example 3 **Graph $y = 3^{x-2} - 4$**



Notice, with respect to the ordered pairs. 2 was added to the x-coordinates, and 4 was subtracted from the y-coordinates to get from A to A' and B to B'.