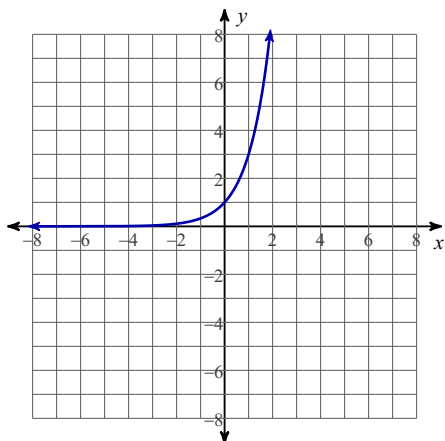
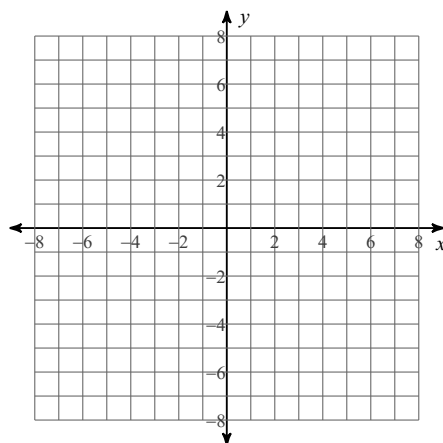


Graphs of Logarithms

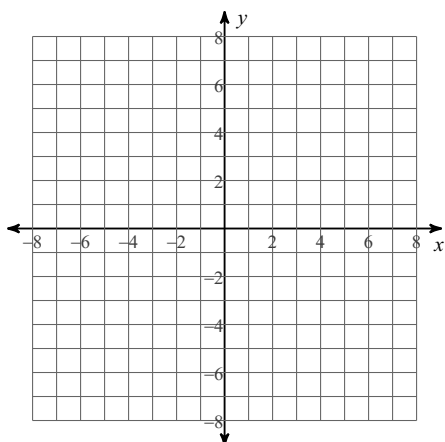
- 1) Use the graph of $y = 3^x$ to graph its inverse function $y = \log_3 x$.



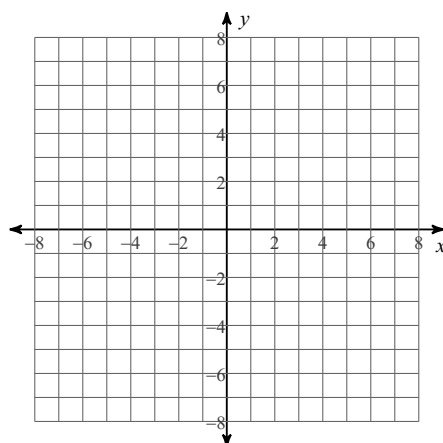
- 2) Now use the graphing transformations that you know to graph $y = \log_3(x - 2)$



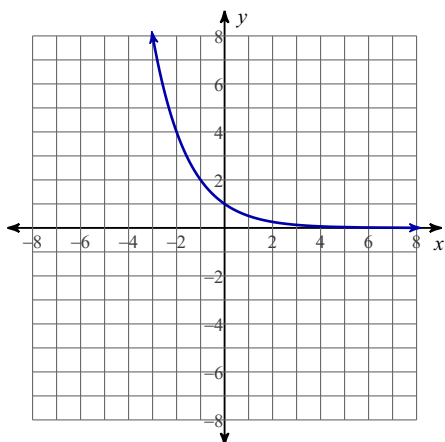
- 3) Use the graphing transformations that you know to graph $y = \log_3 x - 2$. How is this one different than the graph in #2?



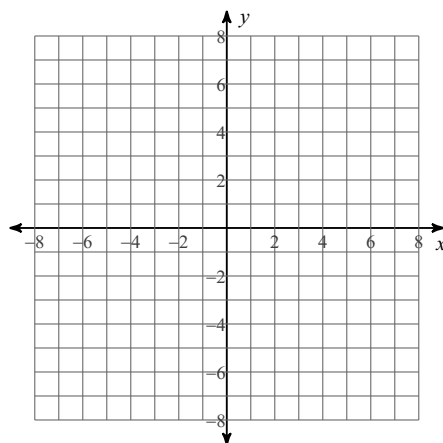
- 4) Graph the function $y = \log_3(x + 2) - 3$



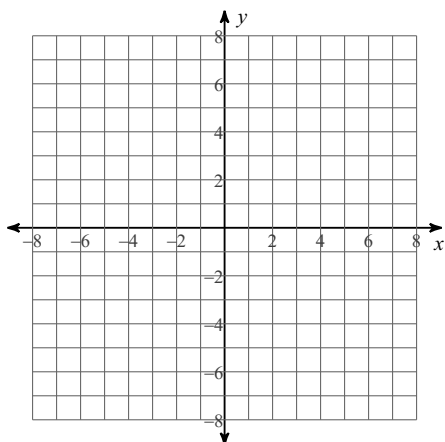
- 5) Use the graph of $y = \left(\frac{1}{2}\right)^x$ to graph its inverse function $y = \log_{\frac{1}{2}} x$.



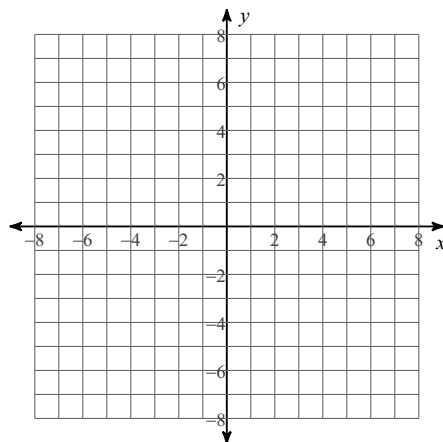
- 6) Use your answer to #5 to graph $y = \log_{\frac{1}{2}}(x + 3) - 2$



7) Graph $y = 2^x$ and then graph its inverse function $y = \log_2 x$.

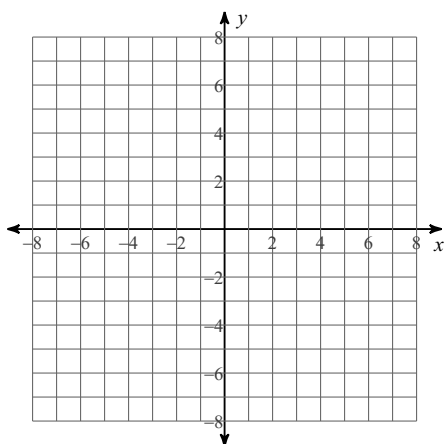


8) Use your answer to question 7 to graph $y = 3 \log_2 x$

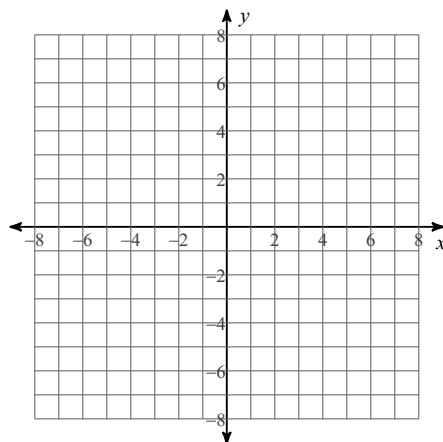


Sketch the graph of each function. (You may want to graph the inverse/parent graphs on a separate sheet of paper first.)

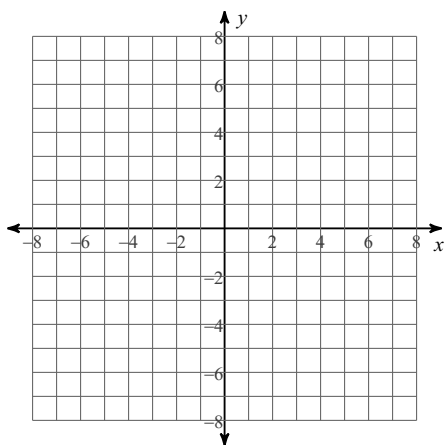
9) $y = \log_2 (x - 1)$



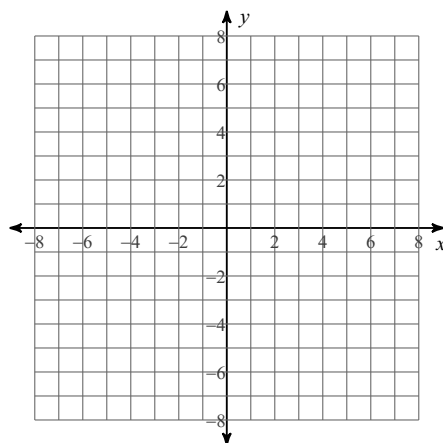
10) $y = \log_{\frac{1}{2}} (x + 5)$



11) $y = \log_5 (x + 1) - 3$

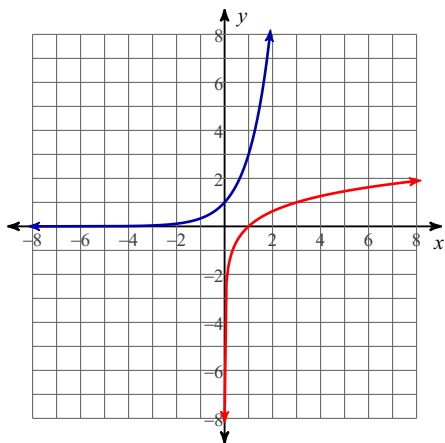


12) REVIEW: Graph $y = 3 \cdot 2^x$ and then $y = 3 \cdot 2^{x-2} - 3$

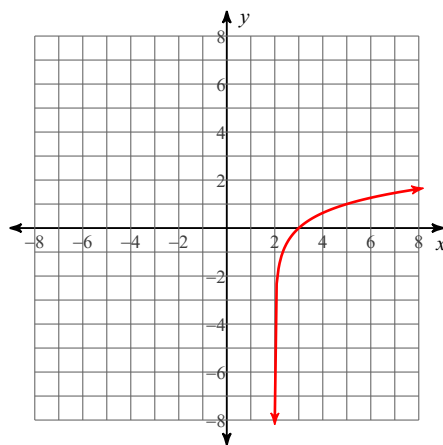


Graphs of Logarithms

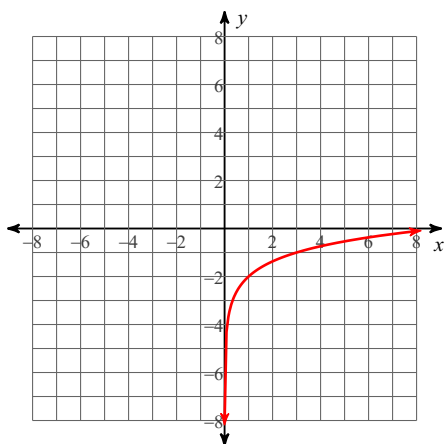
- 1) Use the graph of $y = 3^x$ to graph its inverse function $y = \log_3 x$.



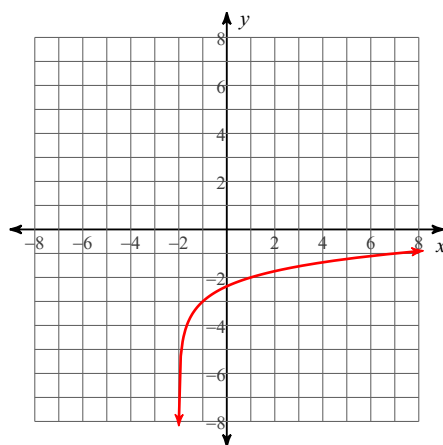
- 2) Now use the graphing transformations that you know to graph $y = \log_3 (x - 2)$



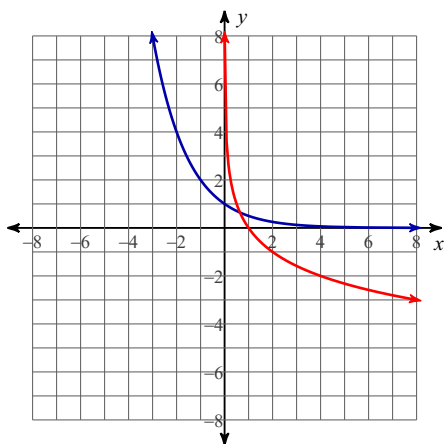
- 3) Use the graphing transformations that you know to graph $y = \log_3 x - 2$. How is this one different than the graph in #2?



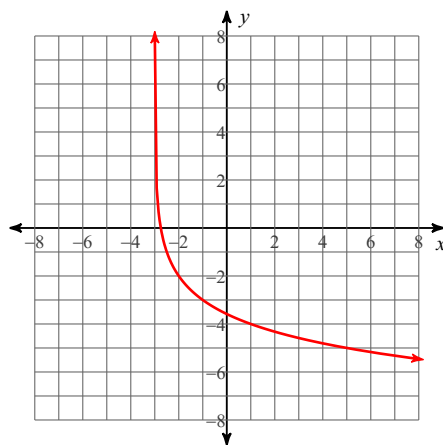
- 4) Graph the function $y = \log_3 (x + 2) - 3$



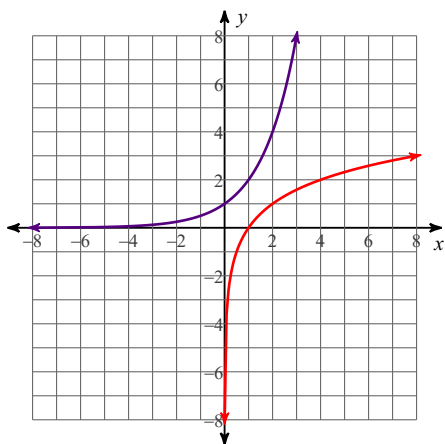
- 5) Use the graph of $y = \left(\frac{1}{2}\right)^x$ to graph its inverse function $y = \log_{\frac{1}{2}} x$.



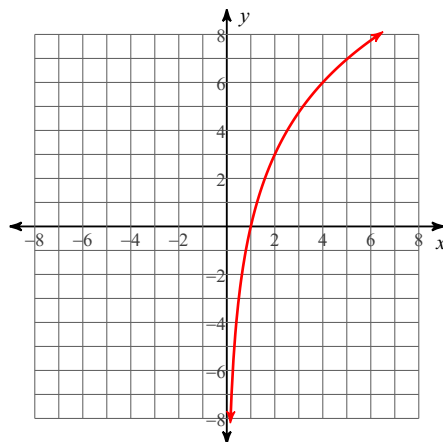
- 6) Use your answer to #5 to graph $y = \log_{\frac{1}{2}} (x + 3) - 2$



7) Graph $y = 2^x$ and then graph its inverse function $y = \log_2 x$.

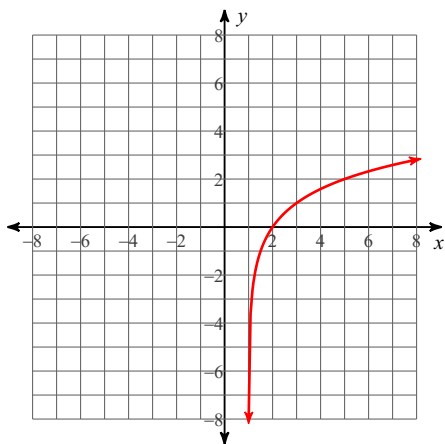


8) Use your answer to question 7 to graph $y = 3 \log_2 x$

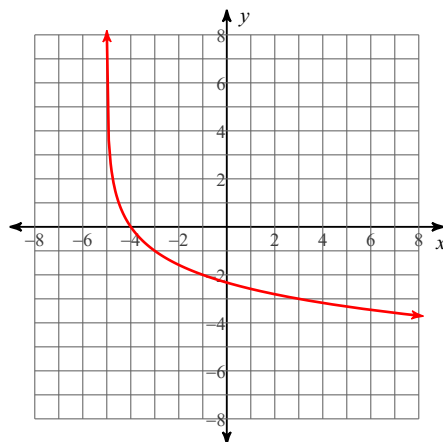


Sketch the graph of each function. (You may want to graph the inverse/parent graphs on a separate sheet of paper first.)

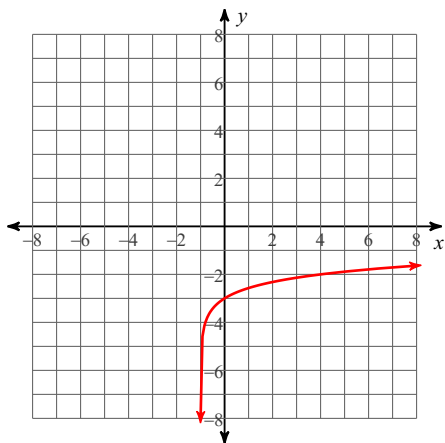
9) $y = \log_2 (x - 1)$



10) $y = \log_{\frac{1}{2}} (x + 5)$



11) $y = \log_5 (x + 1) - 3$



12) REVIEW: Graph $y = 3 \cdot 2^x$ and then $y = 3 \cdot 2^{x-2} - 3$

