Alg 3 Intro to log Graphs Name: _____
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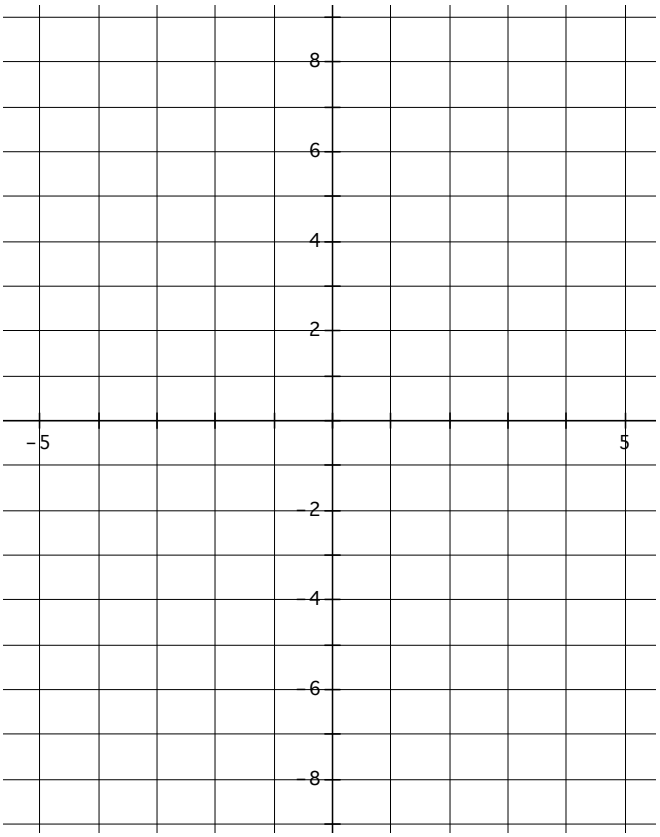
1. Solve for x.
   a. $\log_3 81 = x$
   b. $\log_5 \frac{1}{125} = x$
   c. $\log_6 x = 2$
   d. $\log_x 32 = 5$
   e. $\log\ 1 = x$
   f. $\log_{\frac{1}{4}} 16 = x$

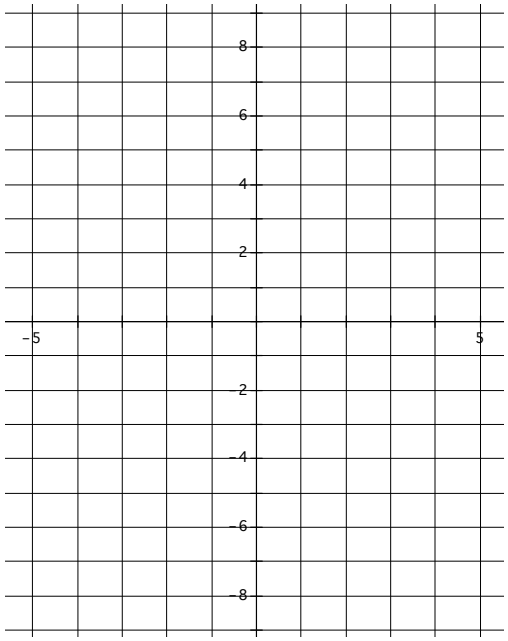
2. Place consecutive integers on both side of each inequality to complete.
   a. $\_\_ < \log_8 125 < \_\_$
   b. $\_\_ < \log 12325 < \_\_$
   c. $\_\_ < \log_3 \left(\frac{1}{100}\right) < \_\_$

3. Algebraically find the inverse of $f(x) = \log_3(x+5) - 2$ and sketch.

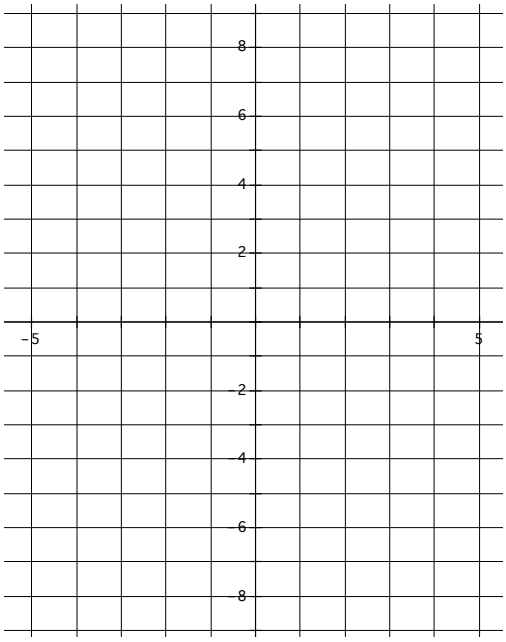


4. Sketch each graph.

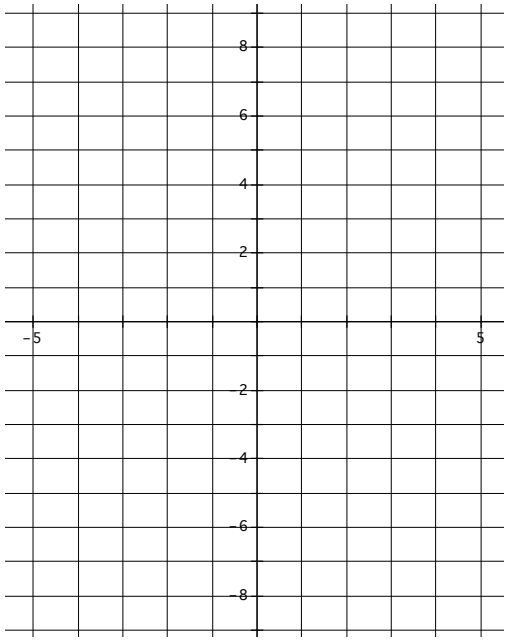
a. $y = \log_4 x$



b. $y = \log_3 x + 2$



c. $y = \log_2(x-3) - 4$



d. $y = \log_{\frac{1}{3}}(x+2) + 1$