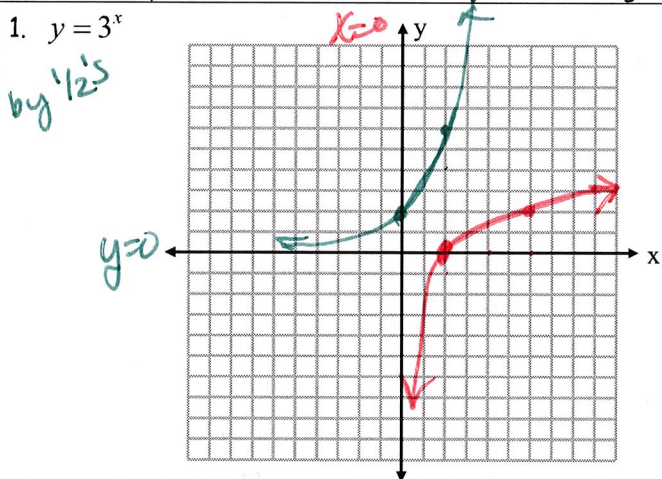
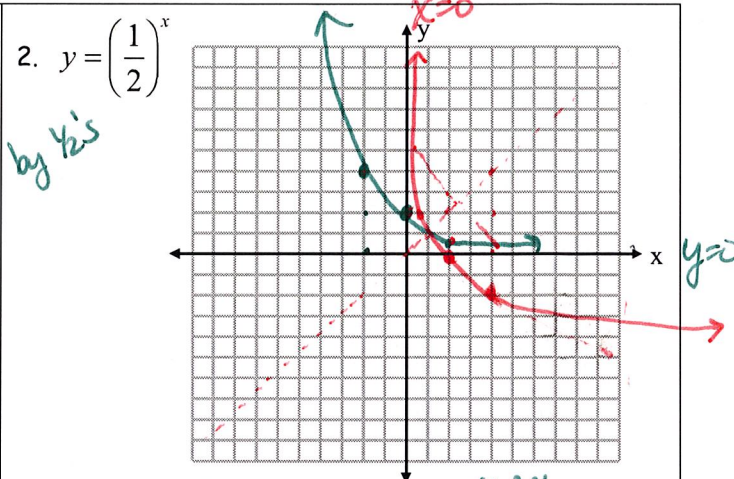


I. Graph the function in ONE COLOR. Then graph its INVERSE in a SECOND COLOR.



ORIGINAL FUNCTION: $y = 3^x$
 Domain: $(-\infty, +\infty)$ Range: $(0, +\infty)$
 X-Intercepts: none
 Y-Intercepts: (0, 1)
 Increasing or Decreasing? inc
 Equation of Asymptote: $y = 0$

INVERSE FUNCTION: $y = \log_3 x$
 Domain: $(0, +\infty)$ Range: $(-\infty, +\infty)$
 X-Intercepts: (1, 0)
 Y-Intercepts: none
 Increasing or Decreasing? inc
 Equation of Asymptote: $x = 0$



ORIGINAL FUNCTION: $y = \left(\frac{1}{2}\right)^x$
 Domain: $(-\infty, +\infty)$ Range: $(0, +\infty)$
 X-Intercepts: none
 Y-Intercepts: (0, 1)
 Increasing or Decreasing? dec
 Equation of Asymptote: $y = 0$

INVERSE FUNCTION: $y = \log_{\frac{1}{2}} x$ or $x = \left(\frac{1}{2}\right)^y$
 Domain: $(0, +\infty)$ Range: $(-\infty, +\infty)$
 X-Intercepts: (1, 0)
 Y-Intercepts: none
 Increasing or Decreasing? dec
 Equation of Asymptote: $x = 0$

II. Rewrite each expression in logarithmic form.

3. $3^2 = 9$ $\log_3 9 = 2$	4. $10^{-3} = 0.001$ $\log_{10} 0.001 = -3$	5. $e^3 \approx 20$ $\ln 20 = 3$	6. $\left(\frac{1}{2}\right)^{-3} = 8$ $\log_{1/2} 8 = -3$
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III. Rewrite each expression in exponential form.

7. $\ln 6 \approx 1.8$ $e^{1.8} \approx 6$	8. $\log_3 81 = 4$ $3^4 = 81$	9. $\log 100 = 2$ $10^2 = 100$	10. $\log_{16} 4 = \frac{1}{2}$ $16^{1/2} = 4$
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