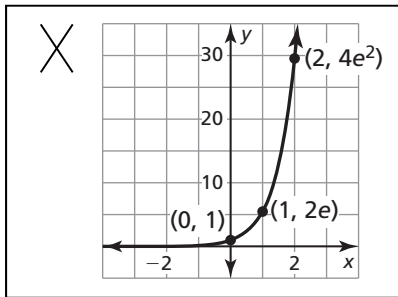


5.3 Practice A

In Exercises 1–8, describe the transformation of f represented by g . Then graph each function.

- $f(x) = 2^x, g(x) = 2^x + 3$
- $f(x) = e^x, g(x) = e^x - 2$
- $f(x) = 3^x, g(x) = 3^{x-1}$
- $f(x) = e^{-x}, g(x) = e^{-x} + 4$
- $f(x) = e^x, g(x) = e^{3x}$
- $f(x) = e^x, g(x) = \frac{3}{2}e^x$
- $f(x) = 3^x, g(x) = -3^{x+2}$
- $f(x) = e^{-x}, g(x) = 2e^{-5x}$
- Describe and correct the error in graphing the function $f(x) = 2e^x$.



In Exercises 10 and 11, describe the transformation of f represented by g . Then graph each function.

- $f(x) = \log_2 x, g(x) = 4 \log_2 x - 1$
- $f(x) = \log_{1/2} x, g(x) = -\log_{1/2} x + 3$

In Exercises 12–15, write a rule for g that represents the indicated transformation of the graph of f .

- $f(x) = 3^x$; reflection in the x -axis, followed by a translation 3 units left and 1 unit down
- $f(x) = e^x$; vertical shrink by a factor of $\frac{1}{4}$, followed by a translation 5 units up
- $f(x) = \log_8 x$; reflection in the y -axis, followed by a translation 4 units left
- $f(x) = \log_{1/6} x$; vertical stretch by a factor of 9, followed by translations 2 units right and 3 units down