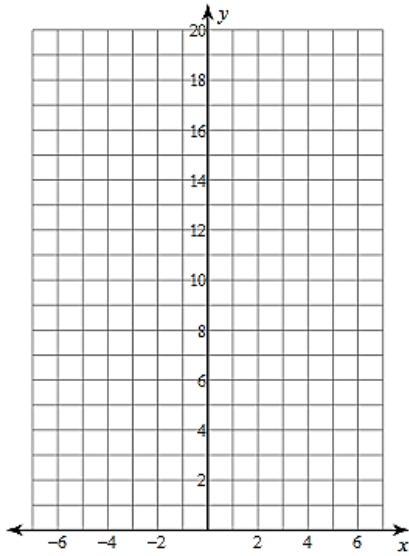


Complete the table. Graph each exponential function. Identify the y -intercept, asymptote, domain, and range. Type each expression into the calculator exactly as it is written, replacing x with its value.

4. $y = 2^x$

x	y
-2	
-1	
0	
1	
2	



y -intercept:

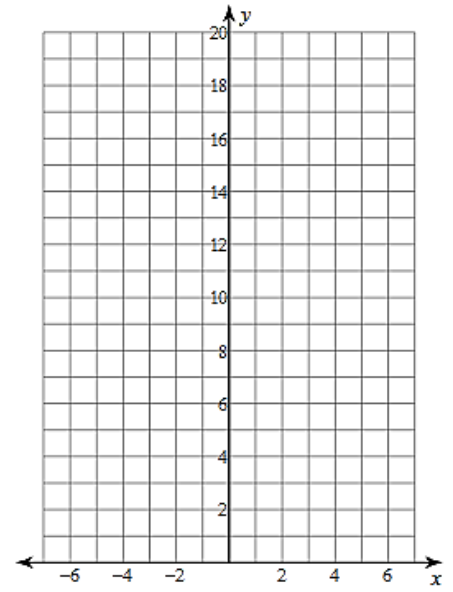
asymptote:

domain:

range:

5. $y = \left(\frac{1}{4}\right)^x$

x	y
-2	
-1	
0	
1	
2	



y -intercept:

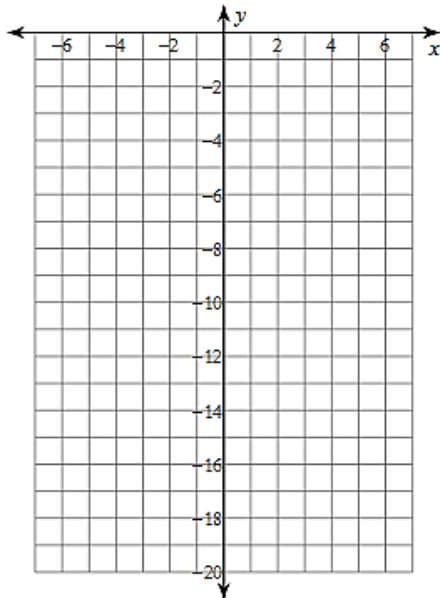
asymptote:

domain:

range:

6. $y = -2 \cdot 2^x$

x	y
-2	
-1	
0	
1	
2	



y -intercept:

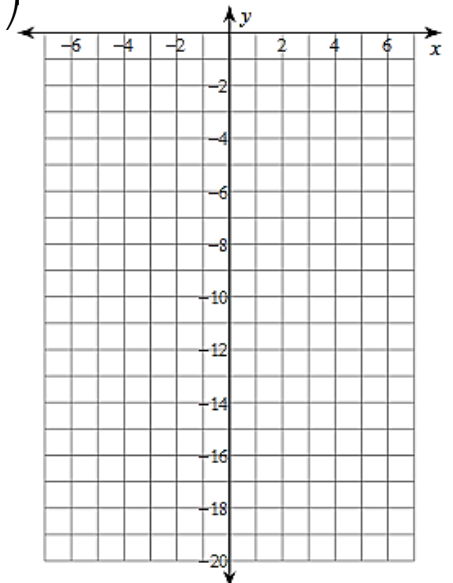
asymptote:

domain:

range:

7. $y = -3 \cdot \left(\frac{1}{2}\right)^x$

x	y
-2	
-1	
0	
1	
2	



y -intercept:

asymptote:

domain:

range:

8. Write the equation of each new function $g(x)$ after the translation.

a. $f(x) = -8x$ after a translation **6 units to the right**

b. $f(x) = 4^x$ after a translation **3 units up**

c. $f(x) = 2x^2$ after a translation **2 units left**

d. $f(x) = 4x$ after a translation **7 units down**

e. $f(x) = \left(\frac{1}{2}\right)^x$ after a translation **4 units to the right**

f. $f(x) = x^2$ after a translation **4 units down**

9. Describe each graph in relation to its basic function, i.e. vertical translation up 8 units.

a. Compare the basic function $f(x) = x^2$ to $g(x) = (x + 2)^2$

b. Compare the basic function $f(x) = b^x$ to $g(x) = b^x + 1$

c. Compare the basic function $f(x) = 2^x$ to $g(x) = 2^{(x-7)}$

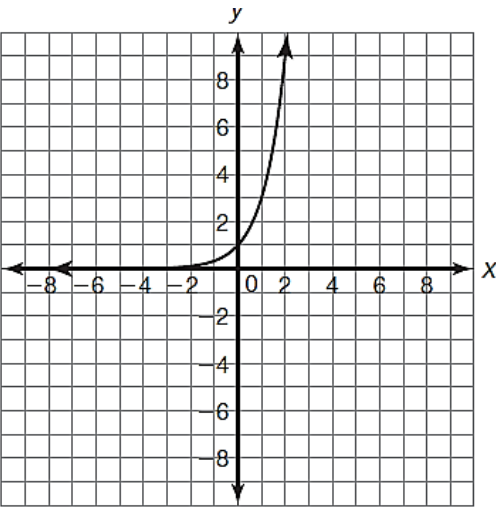
d. Compare the basic function $f(x) = 4x^2$ to $g(x) = 4(x - 9)^2$

e. Compare the basic function $f(x) = b^x$ to $g(x) = b^{(x-2)}$

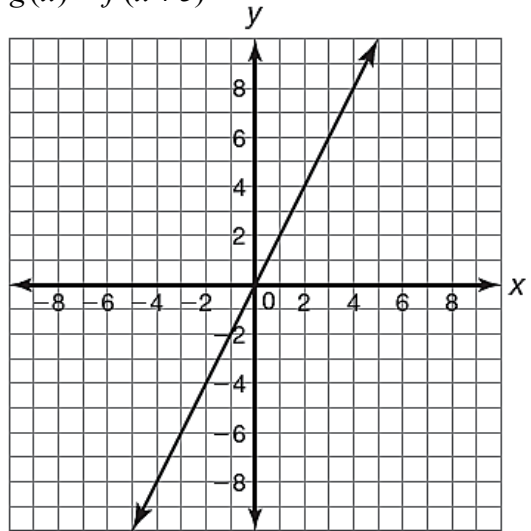
f. Compare the basic function $f(x) = \left(\frac{1}{2}\right)^x$ to $g(x) = \left(\frac{1}{2}\right)^{(x+4)}$

10. Each coordinate plane shows the graph of the basic function. Sketch the graph of $g(x)$.

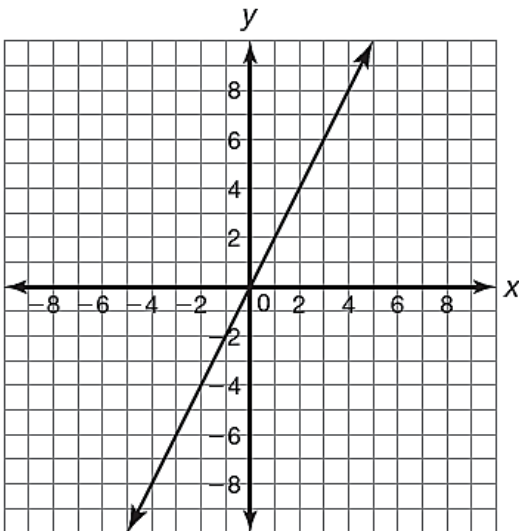
a. $g(x) = b^{(x-4)}$



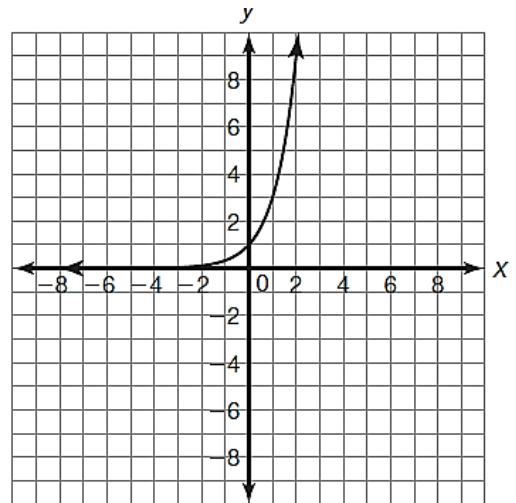
b. $g(x) = f(x+5)$



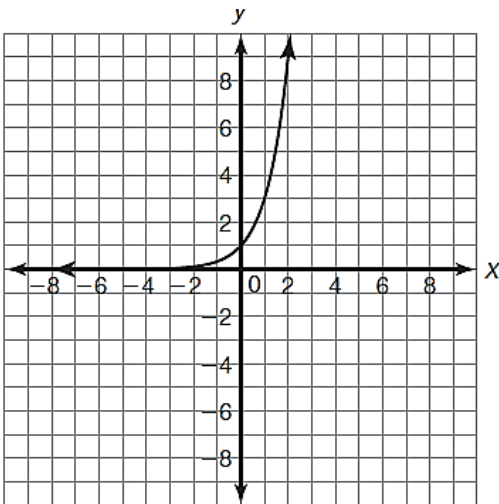
c. $g(x) = f(x) + 2$



d. $g(x) = b^x - 7$



e. $g(x) = b^x - 3$



f. $g(x) = b^{(x-3)}$

