

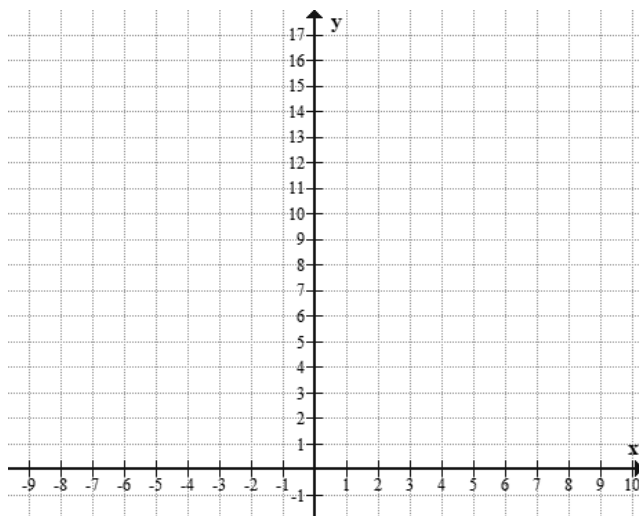
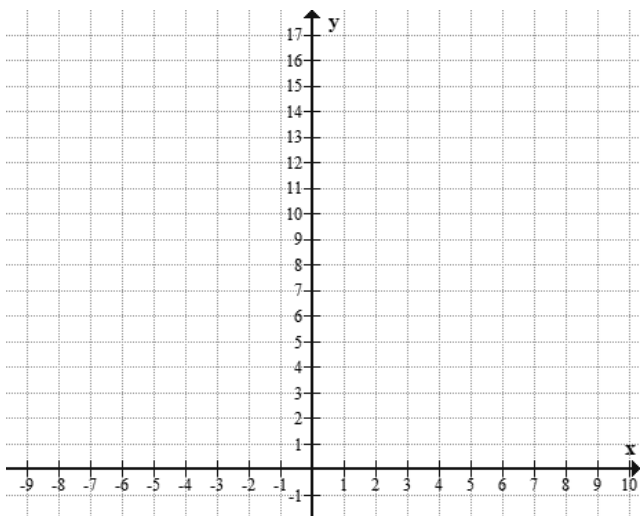
Graphing Exponential Functions

To graph exponential functions, begin by identifying the value of h . This will go in the middle of the x -values on your table (you want three spaces on each side of h). Fill in the other x -values of your table by adding/subtracting 1. Then, use your calculator to find the y -values. Then graph.

$$1) y = 2^{x-3} + 1$$

$$2) y = 2\left(\frac{1}{2}\right)^{x+5} - 2$$

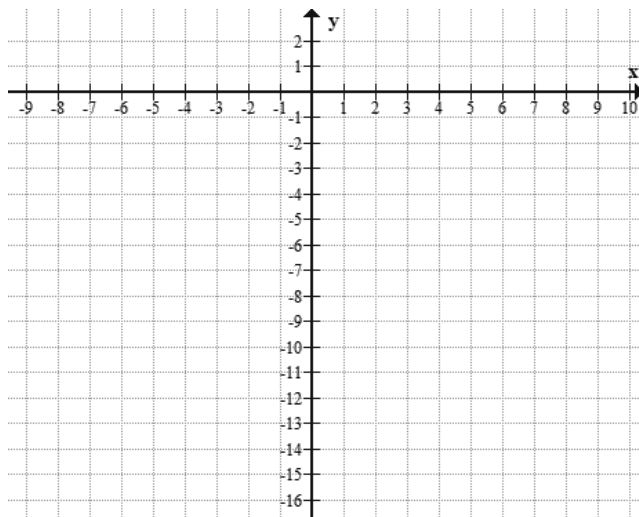
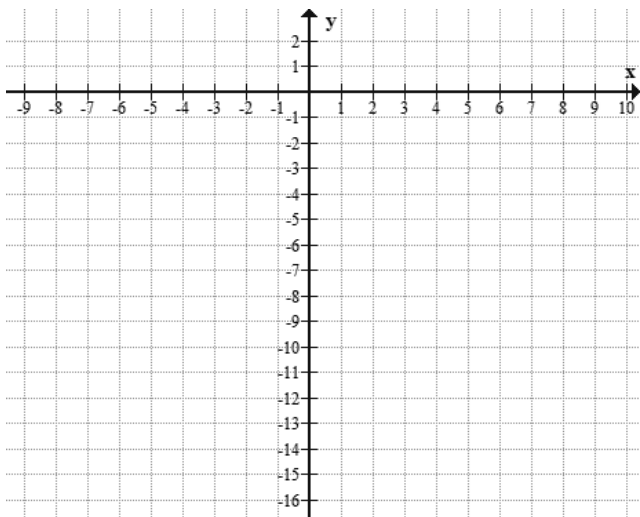
x								x						
y								y						



$$3) y = -3^x + 2$$

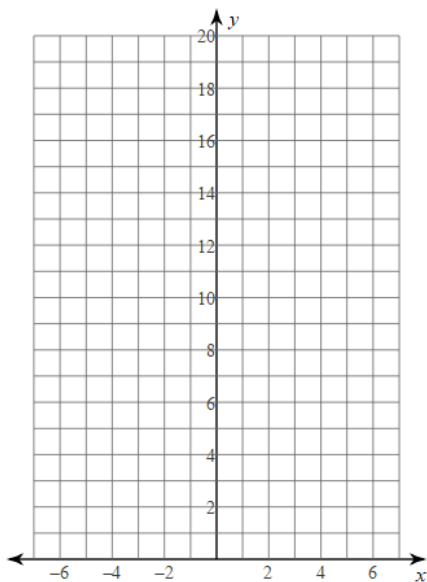
$$4) y = -\frac{3}{4}(6)^{x+1}$$

x								x						
y								y						

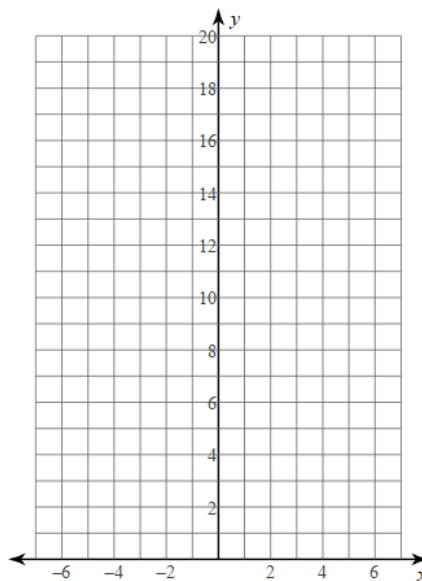


Graphing Exponentials Practice

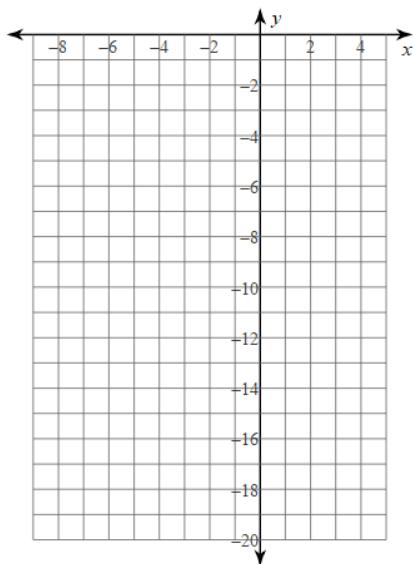
1) $y = 4\left(\frac{1}{2}\right)^x$



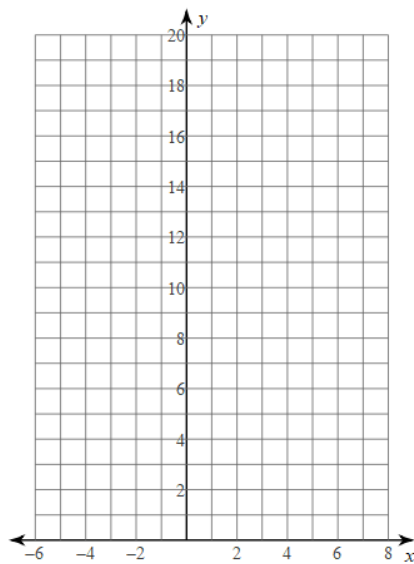
2) $y = \frac{1}{4} \cdot 3^x$



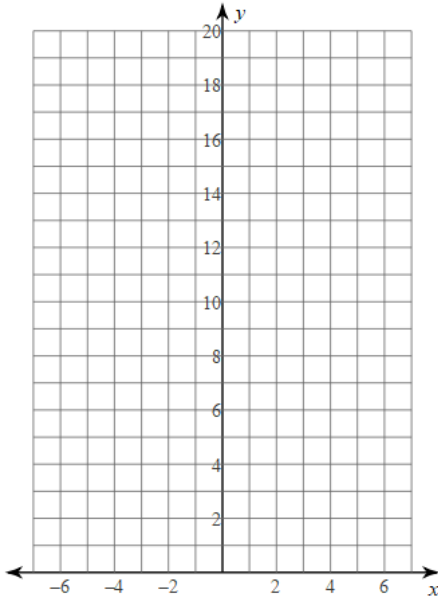
3) $y = -3(2)^{x+2}$



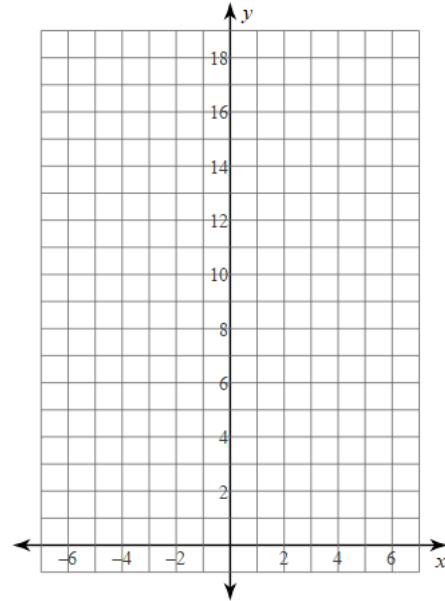
4) $y = 5 \cdot 2^{x-1}$



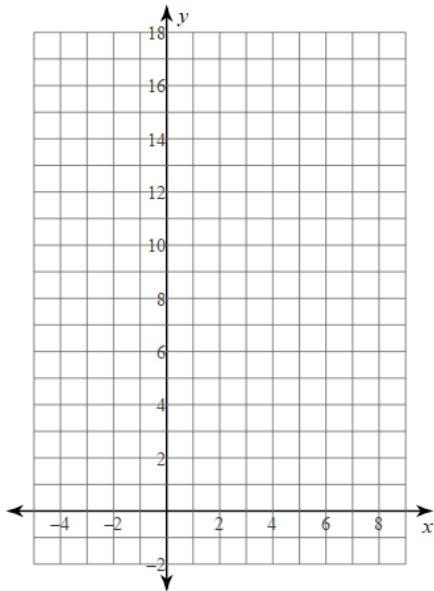
5) $y = 4 \cdot 2^x + 2$



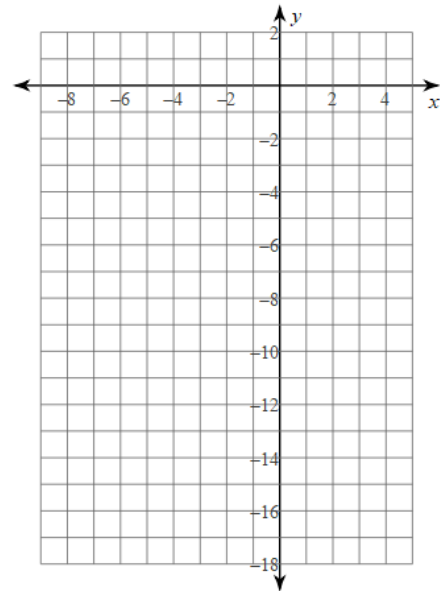
6) $y = 3(2)^x - 1$



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



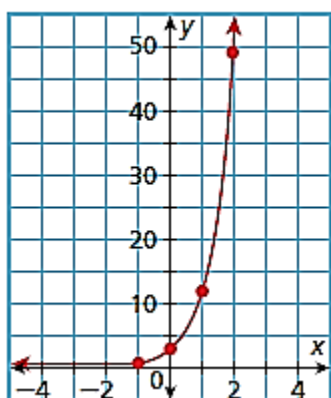
8) $y = -5 \cdot \left(\frac{1}{2}\right)^{x+2} + 2$



Characteristics of Exponential Functions

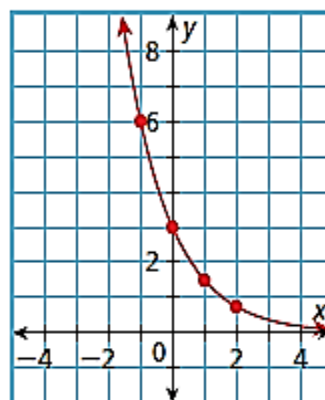
Y-Intercepts and Asymptotes

Y-Intercept		
Define: Point where the graph crosses the y-axis	Think: At what coordinate point does the graph cross the y-axis?	Write: (0, #) *look at graph or plug in 0 for x*
Asymptotes		
Define: A line that the graph get closer and closer to, but never touches or crosses.	Define: A line that the graph get closer and closer to, but never touches or crosses.	Define: A line that the graph get closer and closer to, but never touches or crosses.



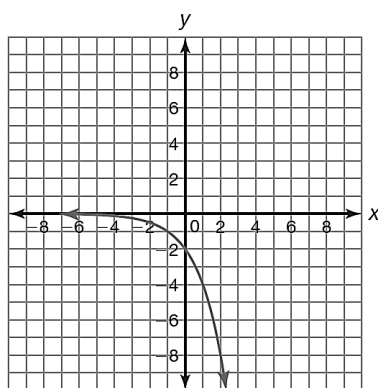
Y-intercept:

Asymptote:



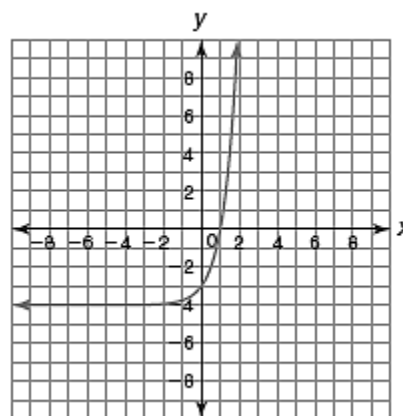
Y-intercept:

Asymptote:



Y-intercept:

Asymptote:

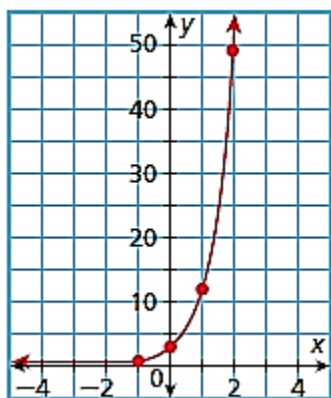


Y-intercept:

Asymptote:

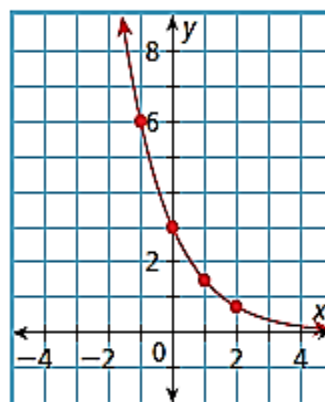
Domain and Range

Domain		
Define: All possible values of x	Think: How far left to right does the graph go?	Write: $(-\infty, \infty)$ OR all real numbers
Range		
Define: All possible values of y	Think: How far down to how far up does the graph go?	Write: $(\#, \#)$ <i>(lowest y value, highest y value)</i> *will involve the asymptote and ∞ or $-\infty$ *



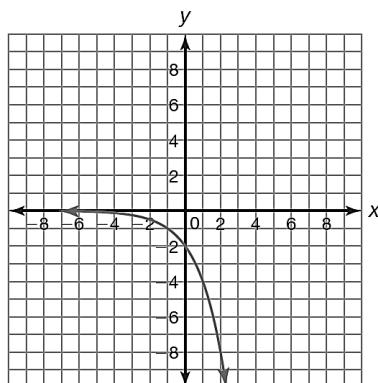
Domain:

Range:



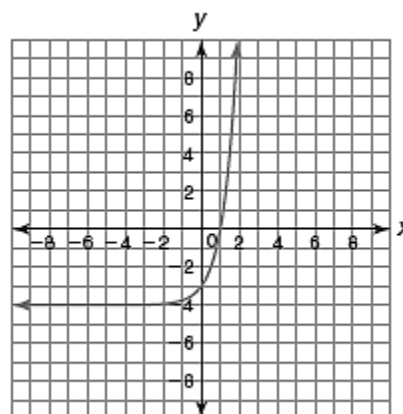
Domain:

Range:



Domain:

Range:



Domain:

Range: