Graphing Exponential Functions

Exponential functions take the form $f(x) = a(b)^x$. The initial value is a when the exponent is equal to 0. The base is b, and this is the change factor, common ratio, or multiplier, that is used to get the next term from the previous term.

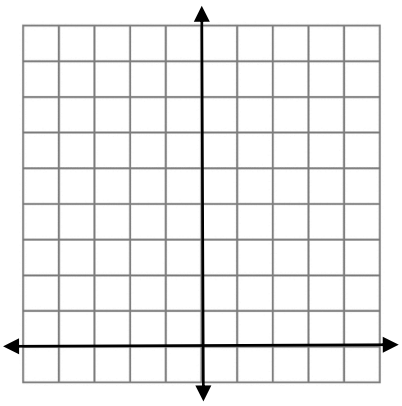
When graphing exponential functions, a complete graph includes:

1. Make a _____ of values that include both _____ and _____ values of x. This is your _____ for the graph you are drawing.
2. Completely label the graph with _____ and label the _____
2. Plot the _____ from your _____.
4. Draw a _____ that fits the graph. Be sure to draw _____.

Graph each exponential. Make a table. Completely label the graph.

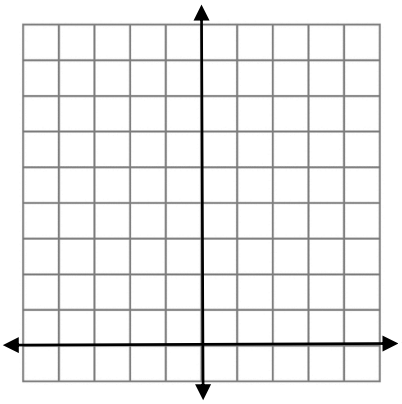
1. $f(x) = 3^x$

x	$f(x)$
–3	
–2	
–1	
0	
1	
2	
3	



2. $f(x) = \left(\frac{1}{2}\right)^{x-1}$

x	$f(x)$
–2	
–1	
0	
1	
2	
3	
4	



3. $f(x) = 4(5)^x$

x	$f(x)$
–3	
–2	
–1	
0	
1	
2	
3