Lesson 3.1 - Properties and Graphs of Exponential Functions

I. Graphs of Exponential Functions

Graph each of the following on the same plot and state the end behavior for each function. Specify at least 3 ordered pairs for each graph.

1. $y = 2^x$

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

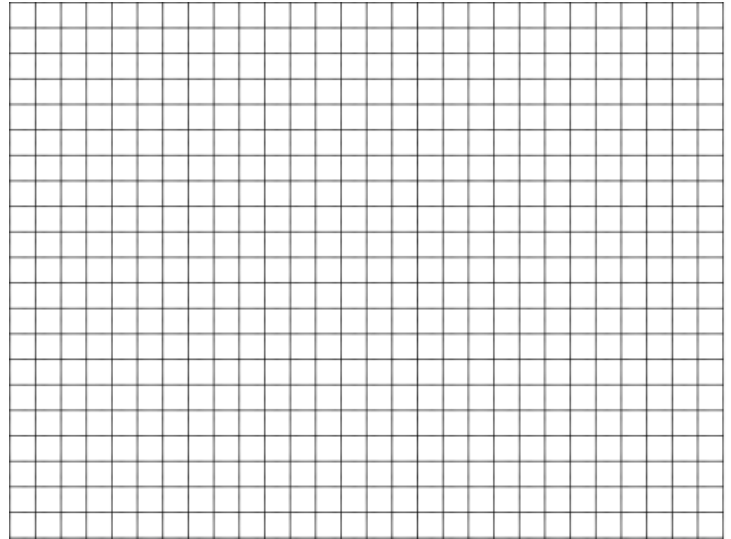3. $y = -2^{x+3} - 1$

Exponential Functions

II. Practice

Graph each of the following and state the end behavior for each function. They have been grouped to graph together on the same plot. Specify at least 3 ordered pairs for each graph, along with the equation for any asymptotes. Check you graphs using Desmos or a graphing calculator.

4. $y = 3^x$
5. $y = -(3^x)$
6. $y = 3^{-x}$
7. $y = \left(\frac{1}{3}\right)^x$

8. $y = 2^x - 3$
9. $y = 2^{x-3}$
10. $y = 2^{-x}$

11. $y = -2^{x+3} + 1$
12. $y = \left(\frac{1}{2}\right)^{x-3} - 4$