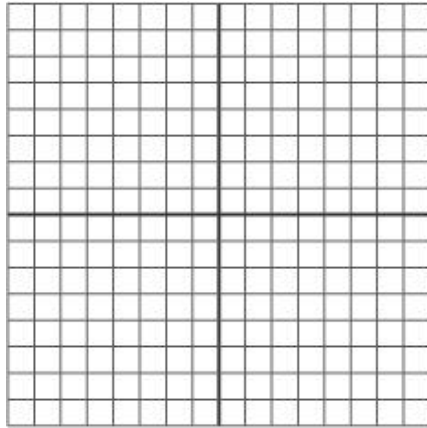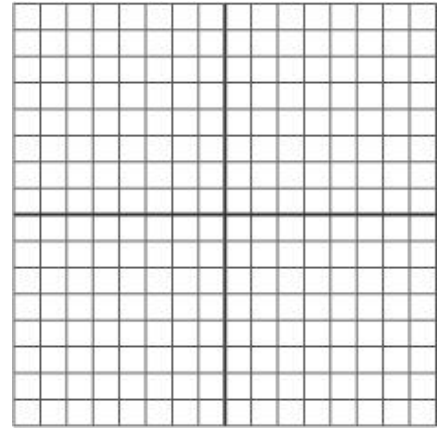Logs and Exponentials LE1:

Sketch the graph of the following functions:

1. $y = 2(2)^x$

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

Label the following functions as exponential growth or decay.

3. $y = 3(.5)^x$

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

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

6. Write an exponential function that goes through (0, 3) and (4, 51).

7. Write an exponential function that goes through (0, 15) and (8, 5).

8. You blow up a bubble with bubble gum. It starts out 1 inch in diameter. As you blow it up, the diameter triples every second. Write an equation that models this situation. What is the diameter of the bubble in 5 seconds?

9. The population of Your Town was 53,222 in 1990. The population grows exponentially to 75,000 in 2000. Write an equation that models the situation. What will the population be in 2020?

10. There are 1000 ounces of water in a barrel. Each day, half of the water evaporates. Write an equation that models the situation. How much water is left in the barrel in 2 weeks?