Algebra 1   Name_____
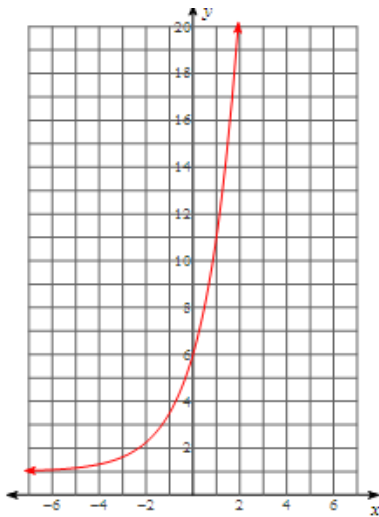Homework – Graphing Exponential Functions

For questions 1 – 4, determine if the following equation represents exponential growth or decay.

1. $y = 0.2^x$ 1._____

2. $y = 0.4^{-x}$ 2._____

3. $y = 5.7^x$ 3._____

4. $y = 3.5^{-x}$ 4._____
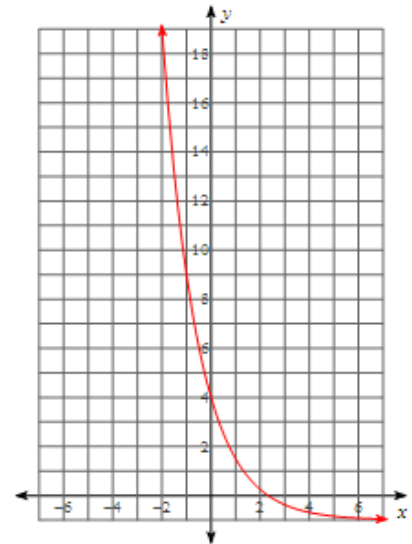
For problems 5 and 6. match the graph with a function:

5. _____   6. _____

a. $y = 5 \cdot 2^x + 1$

b. $y = 5 \cdot 2^x - 1$

c. $y = 5\left(\dfrac{1}{2}\right)^x + 1$

d. $y = 5\left(\dfrac{1}{2}\right)^x - 1$

7.   If $f(x) = 4 \cdot 3^x$ and $g(x) = 3 \cdot 2^x$, compare the functions and determine which of the following statements is correct.

   a.   The x-intercept of $f(x)$ is greater than the x-intercept of $g(x)$.
   b.   The functions increase at the same rate.
   c.   The y-intercept of $f(x)$ is greater than the y-intercept of $g(x)$.
   d.   The functions have the same y-intercept.

8.   If $f(x) = 2 \cdot 3^x$ and $g(x) = 2 \cdot 4^x$, compare the functions and determine which of the following statements is correct.

   a.   The functions have the same y-intercept.
   b.   The y-intercept of $f(x)$ is greater than the y-intercept of $g(x)$.
   c.   The functions increase at the same rate.
   d.   The x-intercept of $f(x)$ is greater than the x-intercept of $g(x)$.