Algebra II Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lesson 8-1 Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Hour\_\_\_

Homework #1

**Graph each function.**

**1.** *y* = 6*x* **2.** *y* = 3(10)x

4. The world population in 2000 was approximately 6.08 billion.

The annual rate of increase was about 1.26%.

1. Find the growth factor for the world population. \_\_\_\_\_\_\_\_\_
2. Suppose the rate of increase continues to be 1.26%. Write a

 function to model world population growth.

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**Write an exponential function *y*** = ***abx* for a graph that includes the given points.**

**4.** (4, 8), (6, 32) **5.** (2, 122.5), (3, 857.5) **6.** (2, 18), (5, 60.75)

**Without graphing, determine whether each function represents exponential growth**

**or exponential decay.**

**7.** *y* = 129(1.63)x**8.** *f*(*x*) = 2(0.65)*x* **9.** *y* = 12($\frac{17}{10}$)x **10.** *y* = 0.8x

**Graph each** function. **Identify the horizontal asymptote.**

11. *y* = (0.75)*x* 12. *y* = 2(0.5)*x*

**13.** A computer valued at $6500 depreciates at the rate of 14.3% per year.

 **a.** Write a function that models the value of the computer.

1. Find the value of the computer after three years.

**14. Write an exponential function for each graph. Evaluate the function for *x*** = **6.**