**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**CC Algebra**

**Exponential Growth and Decay Homework**

In exercise 1, tell whether the function is an exponential growth function or exponential decay function, and find the constant percentage rate of growth.

1. P(t)=5.6(1.20)t

a. Exponential Decay, 5.6%

b. Exponential Decay, 20%

c. Exponential Growth, 20%

d. Exponential Growth, 10%

2. Determine the exponential function that satisfies the given conditions. Initial value=5, increasing at a rate of 17% per year

a. 5(1.17)x

b. 5(1.017)x

c. 5(0.83)x

d. 5(0.983)x

3. The 2000 population of Jacksonville, Florida, was 736,000 and was increasing at the rate of 1.49% each year. At that rate, when will the population be 1 million?

4. Ryan’s motorcycle is now worth $2500. It has decreased in value 12% each year since it was purchased. If he bought it four years ago, what did it cost new?

5. A Honda Accord depreciates at 15% per year. Six years ago it was purchased for $21,000. What is it worth now?