Name:_____ Per:_____ Date:_____

Exponential Functions

1. There were 50 ants that stumbled upon a granola bar, if each minute 18% more ants showed up, how many ants were there after 20 minutes?

2. The number of cell phones in the US is growing exponentially. If in 2007 there were 1 million cell phones and increasing by 22% per year, how many cell phones in 2017.

3. A mouse infestation in an old building is out of control. The terminator shows up, if initially there were 6000 mice and the chemical eliminates 16% of the mice per day, how many mice are left after 18 days?

4. A cars purchase price is $22,000, once you drive if off the lot it loses $4,000. After that it depreciates by 7.2% compounded monthly. How much is the car worth after 8 years?

5. A bank is offering an amazing CD (certificate of deposit) with a rate of 6% compounded monthly. If you invest $2000 into this account and then you do not touch it for 5 years. How much will you have?

6. If the total number of students who ask for a temp ID on the 1ˢᵗ day of school is 40 and the cumulative number of student is increasing daily by 8%, how many totally students would have asked for temp IDs on the 22ⁿᵈ day of school?

7. The BHS Cloud server host tons of files and that number is increasing exponentially daily! If on the first day there were 650 documents uploaded and that is increasing by 12% each day, how many files will be on the server at the end of March, given the first day is Jan 1 and it is not a leap year!

8. Georges MiniMart is unfortunately going out of business and on his everything must go sale, he is offering a $500 Weber grill at a discount of 4%, but that discount will be calculated daily until the grill is sold. What will the grill cost in 12 days?

9. If there are 200 polar bears in a particular area and unfortunately their population is decreasing by 8% each week, how many polar bears are left after 4 months?

10. If you invest $3000 in a bank account earning 2% compounded quarterly, how much would you have after 8 years?