Sec I – Term 3 Name_____ ID: 1

WS: T3-50 Exp Growth & Decay Real World Date_____Period_____

Determine the multiplier for each growth or decay rate.

1. 45% growth
2. 10% decay
3. 300% growth
4. 25% decay
5. double
6. Cut by 1/4

Find the following multiplier then change it to the percentage of growth or decay.

7) If there are 15 deer in the forest this year, and 23 in one year, what percent is the percent growth of the dear?

8) Last year there were 30 goldfish in the pond, and this year there are 40. What is the annual percent growth?

9) Last year there were 10 apes and the population is now 19, what is the annual percent growth?

10) Last year there were 280 snowboarders per day, and this year there is 310 snowboarders. How would you describe the percent 'growth' of this population?

For the following, determine the Formula then answer the question(s).

11) A type of bacteria has a very high exponential growth rate at 80% every hour. If there are 10 bacteria, determine how many there will be in 5 hours, 1 day, and 1 week?

a) 5 hours: c) 1 Week b) 1 Day 10)

12) A culture of bacteria contained 3,842,700 cells on one day and is growing at a daily rate of 6.8%. How many cells would be present 4 days later?

13) Since January 2003, the population of the city of Brownville has grown according to the mathematical model y = 720,500(1.022)x , where x is the number of years since January 2010.
a) Explain what the numbers 720,500 and 1.022 represent in this model

What will be the population of Brownsville in the years 2025, 2035, and 2060?

b) 2025: c) 2035: d) 2060:

14) A species of extremely rare, deep water fish has an extremely rarely have children. If there are a 821 of this type of fish and their growth rate is 2% each month, how many will there be in half of a year, in 10 years and 100 years?

a) Half a year b) 10 years c) 100 years

15) The population of Henderson City was 3,381,000 in 2010, and is growing at an annual rate of 1.8%. If this growth continues, what will the approximate population of Henderson City be in the years 2020, 2030, and 2050?

a) 2020: b)2030: c)2050: