

Exploring the World of Math

Name: _____ Date: _____

Population Growth and Reduction

1. We estimate the rate of growth in the population of deer to be 9%. Using $N = N_0e^{rt}$ where the initial population in the area is 1750, what can we estimate the population to be in 5 years if this group is protected? $e = 2.71828$

2. We are monitoring the eastern puma and we observe a -2.0% population growth. We estimate the current population at 1500 eastern pumas. How many eastern pumas will be present in 10 years?

3. Using the formula, $t = \frac{\ln(\frac{N}{N_0})}{r}$ where N is the new population and N_0 is the original population. At the present rate of decline, how many years will pass for the population to be cut in half?

4. Create a graph of the eastern puma population based upon four calculations.

