Exponential Growth and Decay Practice

Name: _____ Date: _____

$$Growth : y = P(1+r)^t \qquad Decay : y = P(1-r)^t$$

1. You deposit $1500 in an account that pays 5% interest compounded yearly. Find the balance after 6 years.

2. The mice population is 25,000 and is decreasing by 20% each year. Write a model for this situation. What will be the mice population after 3 years?

3. The number of mosquitoes at the beach has tripled every year since 1999. In 1999, there were 2,500 mosquitoes. Write a model for this situation. How many mosquitoes would you predict were at the beach in 2005?

4. Given the exponential model $y = 200(.80)^x$, tell whether the model represents exponential growth or decay. Then, tell what the growth/decay factor is and the growth/decay percent.

5. I bought a car for $25,000, but its value is depreciating at a rate of 10% per year. How much will my car be worth after 8 years?