

Name: _____

Date: _____

Period: _____

Growth Rate and Growth Factor Practice

1. This table shows the growth of the elk population in a state forest.

**Growth of
Elk Population**

a. The table shows that the elk population is growing exponentially. What is the growth factor? Explain how you found it.

b. Suppose this growth pattern continues. How many elk will there be after 10 years? How many elk will there be after 15 years?

c. Write an equation you could use to predict the elk population p for any year n after the elk were first counted.

Time (yr)	Population
0	30
1	57
2	108
3	206
4	391
5	743

d. In how many years will the population exceed one million?

2. Suppose there are 100 trout in a lake and the yearly growth factor for the population is 1.5. How long will it take for the number of trout to double?

3. Suppose there are 500,000 squirrels in a forest and the growth factor for the population is 1.6 per year. Write an equation you could use to find the squirrel population p in n years.

4. Find the growth rate associated with the given growth factor.

- a. 1.4 b. 1.9 c. 1.75

5. Find the growth factor associated with the given growth rate.

- a. 45% b. 90% c. 31%

6. Suppose the price of an item increases by 25% per year. What is the growth factor for the price from year to year?

7. Currently, 1,000 students attend Greenville Middle School. The school can accommodate 1,300 students. The school board estimates that the student population will grow by 5% per year for the next several years.

a. When will the population outgrow the present building?

b. Suppose the school limits its growth to 50 students per year. How many years will it take for the population to outgrow the school?