Algebra 2   Name: _____
Chapter 9 Review   Period: _____

1. Consider the sequence $3600, 2520, 1764, ...$ a. find u_{10} b. find S_{10}

Find the sum

2. $5 + 6.2 + 7.4 + ... + 17$ 3. $\sum_{n=1}^{15} 12.5(1.1)^{n-1}$ 4. $\sum_{n=1}^{50} (72 - 3.5n)$ 5. $\sum_{n=1}^{\infty} 5\left(\frac{2}{7}\right)^{n-1}$

Find the missing values of a geometric sequence.

6. $u_1 = 4$, $r = 3$, $S_{10} = $____   7. $r = 1.1$, $S_6 = 92.58732$, $u_1 = $____

8. The first time you run a 5-mile distance course, it takes you 49 minutes. You run the same course 1 minute and 30 seconds faster each week. How fast can you run the course after 15 weeks?

9. A 6-year lease states that the annual rent for a retail space is $\$92,000$ the first year and will increase by 4% each additional year of the lease. What will be the total rent expense for the 6-year lease?

10. A display of toothpaste cartons has 12 rows, each containing 2 fewer cartons than the row below. If the bottom row contains 30 cartons, how many cartons are in the display?

11. Each year a certain type of tree grows vertically 80% as much as it did the year before. If the tree grows 1.3 meters the first year, how tall will it eventually grow?

12. pg. 540 (1, 2, 4, 5)