"Sequences and Series" Review for Unit Test"

1. Find the next four terms of the arithmetic sequence 18, 13, 8, ... 1. _____

2. Find the 15th term of the arithmetic sequence in which $a_1 = 10$ and $d = 4$. 2. _____

4. Find the four arithmetic means between -8 and 17. 4. _____

5. Find S_n for the arithmetic series in which $a_1 = 5$, $a_n = 104$, and $n = 34$. 5. _____

6. Find the sum of the arithmetic series $7 + 4 + 1 + \cdots + (-32)$. 6. _____

7. Find $\sum_{n=3}^{7} (2n - 4)$. 7. _____

8. Find the fifth term of the geometric sequence for which $a_1 = 80$ and $r = \frac{3}{2}$. 8. _____

9. Find the next two terms of the geometric sequence 9, 6, 4, ... 9. _____

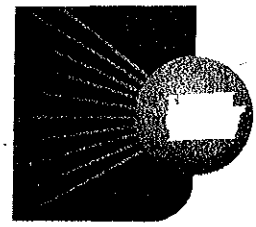
10. _____

11. Find four geometric means between 2430 and 10. 11. _____

12. Find the sum of the geometric series $\frac{1}{4} + \frac{1}{2} + 1 + \cdots$ to 7 terms. 12. _____

13. Find $\sum_{n=1}^{6} 5 \cdot 3^{n-1}$. 13. _____

Assessment



NAME _____ DATE _____

14. Find a_1 in a geometric series for which $S_n = 242$, $r = 3$, and $n = 5$. **14.** _____

For Questions 15 and 16, find the sum of each infinite geometric series, if it exists. **15.** _____

15. $\sum_{n=1}^{\infty} 15\left(\frac{4}{5}\right)^{n-1}$ **16.** $3 + 4 + \frac{16}{3} + \cdots$ **16.** _____

For Questions 18 and 19, find the first five terms of each sequence.

18. $a_1 = 11, a_{n+1} = a_n + 2n$ **18.** _____

* **19.** $a_1 = 4, a_2 = -3, a_{n+2} = a_{n+1} + a_n$ **19.** _____

20. $a_1 = 3$, $a_2 = 4$, $a_n = 2a_{n-2} + 3a_{n-1}$

20) _____

* Bonus (+5 pts)