Name:_____

Block:____

Test: Unit 2
Sequences, Series
Group A.

There are **17 questions** in this test, each worth **3pts** .
You have **40 minutes** to complete the test (more if you have accommodations).

(Note: The test will be weighted on Gradebook as 50 points, compared to quizzes which are usually between 10 to 15 points).

======= Start of test

Find the next number in each sequence.

1. 2, 5, 9, 14,…

2. 1, 4, 9, 16,…

Determine if the sequence is arithmetic or geometric, then find the ninth term.

3. 8, 4, 2, …

4. −3, 1, 5,…

5. 2, $\frac{4}{3}$, $\frac{8}{9}$…

Find the sum of the first 11 terms of each series.

6. $5 + 12 + 19 + \cdots$

7. $4 + \frac{10}{3} + \frac{8}{3} + \cdots$

8. $1 - 3 + 9 - \cdots$

Find the following sums.

9. $\sum_{n=1}^{8}(2n - 1)$

10. $\sum_{k=1}^{6}(-3)^k$

11. $\sum_{n=1}^{6}\left(\frac{1}{3}\right)^n$

Find the sum of the infinite series, if possible.

12. $9 + 3 + 1 + \cdots$

13. $8 + 4 + 0 + \cdots$

14. $7 - 2 + \frac{4}{7} - \cdots$

15. Find the first term (a_1) and the common difference (d) for the arithmetic sequence, given

$$a_4 = 14 \qquad a_8 = 30$$

16. Find the first term (g_1) and the common factor (r) for the geometric sequence, given

$$g_4 = \frac{3}{2} \qquad g_9 = -48$$

17. The sum of the first 11 elements of an arithmetic sequence is 121. The fourth element in the sequence is 7. Find the first element and the common difference of the sequence.

============== Feedback =================
(put a mark somewhere on the scales below)

How would you rate the level of difficulty of this test? |_____|_____|
                                                             Easy   Medium   Titanic

Did you feel well prepared? |_____|_____|
                                                             Did you teach this?   Somewhat   Perfect

Do YOU have good notes from the class? |_____|_____|
                                                             Wiped on the   Random   Encyclopedic
                                                             white board   collection   level !

Did you look at the book? |_____|_____|
                                                             What book?   Once   Trillion times!!

===== End of test