Name_____Date_____Hour_____

Honors Accelerated Pre-calculus 8.1-8.3 Review/Sequences and Series

State whether each type of sequence is **Arithmetic, Geometric, or Neither** and find an
explicit formula a_n. **Calculators will be allowed on the entire test!**

1. 17,13,9,5,...	2. $\frac{1}{3}, \frac{4}{5}, \frac{9}{7}, \frac{16}{9}, \dots$	3. $-1, \frac{1}{4}, -\frac{1}{16}, \frac{1}{64}, \dots$
A G N $a_n=$_____	A G N $a_n=$_____	A G N $a_n=$_____

4.   3,18,108,648,…

A G N $a_n=$_____

5. In an arithmetic sequence, $a_4 = 11$ and $a_8 = 39$. Find a_{17}	6. In an geometric sequence, $a_4 = -12$ and $a_7 = 96$. Find a_{14}
$a_{17=}$_____	$a_{14=}$_____

Give a recursive definition for the following sequence

7. 2, -4, 8, -16,……..	8. 3, 6, 12, 24,……..
$a_{n+1=}$_____	$a_{n+1=}$_____

Find the following sums

9. 0.25+0.5+1+2+…	10. 2+6+10+14……+398+402
Find $S_{15}=$_____	$S_n=$_____

11. On an 8x8 checker board, if you placed a kernel of corn on the first square, two kernels on the second. Four on the third, eight on the fourth, ect….If this pattern continues, how many kernels would be placed on the last square? On the whole board?

12. Each year Jimmy invests $1,950 per year ($75 per pay check) into his retirement account, which on average earns 9% interest per year. After 40 years of work, how much money does he have in his account? (after the first year $1950 is deposited, a year later that earns 9% and another $1950 is added)

13. Find the sum of:

$$\sum_{1}^{17} \left(n^3 - 1\right)$$

_____

14. find the sum of:

$$\sum_{n=0}^{\infty} 3\left(\frac{2}{7}\right)^n$$

_____

15. Express the following series using sigma notation, then find the sum.

$$\frac{1}{4} + \frac{3}{8} + \frac{7}{16} + \ldots + \frac{31}{64}$$

$$\sum$$

=_____