

ARITHMETIC SEQUENCES AND SERIES HW

NAME: _____

1. Write the first five terms of the sequence defined by the given explicit formula $a_n = 3n - 6$ _____

2. Write the first five terms of each sequence defined by the given recursive formula $a_1 = 4$ and $a_n = a_{n-1} + 5$ _____

3. Write the terms of the series, then **evaluate**

$$\sum_{n=1}^5 3n - 2 \quad \underline{\hspace{10em}} = \underline{\hspace{10em}}$$

Tell whether the sequence is arithmetic, geometric, or neither and give explicit formula if the sequence is ARITHMETIC.

4. 1, 4, 9, 16, 25 ... _____

5. 1, 8, 15, 22, 29... _____

6. $\frac{9}{4}, \frac{3}{2}, \frac{3}{4}, 0, -\frac{3}{4}, \dots$ _____

7. $\sqrt{3}, \sqrt{5}, \sqrt{7}, \sqrt{9}, \dots$ _____

8. Find a_6 in the arithmetic sequence where $a_4 = 7$ and $a_7 = 22$ _____

9. Write the series using sigma notation $-2 + -7 + -12 + -17 + -22$

10. Find the sum of the arithmetic series $-2 + -7 + -12 + -17 + -22$

Application problems.

11. A theater has 50 rows of seats. The front row has 25 seats, and after that, each row has 6 more seats than the previous row. How many seats are there in the theater?

12. A couch potato plans to jog for 10 minutes the first day, and increases 5 minutes every day. At which day will they be able to jog for one hour?

13. Find the 20th term in an arithmetic sequence whose 5th term is 48 and 11th term is 36.