

Arithmetic Sequences and Series Review WS #1

Date _____ Period _____

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Find the explicit formula and the three terms in the sequence after the last one given.

1) 8, -192, -392, -592, ...

Given the explicit formula for an arithmetic sequence find the first five terms and the term named in the problem.

2) $a_n = 20n$

Find a_{35} **Given the first term and the common difference of an arithmetic sequence find the first five terms and the term named in the problem.**

3) $a_1 = -4, d = 30$

Find a_{23} **Given the second term and the common difference of an arithmetic sequence find the first five terms and the term named in the problem.**

4) $a_2 = -36, d = -7$

Find a_{20}

Given a term in an arithmetic sequence and the common difference find the first five terms and the 52nd term.

5) $a_{25} = 104$, $d = 5$

Given the recursive formula for an arithmetic sequence find the first five terms and the term named in the problem.

6) $a_n = a_{n-1} + 3$

$a_1 = 40$

Find a_{35}

Find the missing term or terms in each arithmetic sequence.

7) ..., -18, ____, ____, ____, -98, ...

8) ..., 2, ____, ____, ____, ____, ____, -28, ...

Evaluate the related series of each sequence.

9) 19, 27, 35, 43, 51, 59, 67

Evaluate each arithmetic series described.

10) $a_1 = 8, a_n = 98, n = 11$

11) $a_1 = 17, d = 9, n = 12$

12) $28 + 35 + 42 + 49 \dots, n = 11$

13) $\sum_{n=5}^{14} (9n - 7)$

14) $\sum_{m=4}^{18} (6m + 4)$

15) $\sum_{m=2}^7 (4m - 7)$

Determine the number of terms n in each arithmetic series.

16) $a_1 = 9, a_n = 129, S_n = 897$

17) $a_1 = 3, a_n = 28, S_n = 93$