

Arithmetic Sequences and Series Review WS

Date_____ Period_____

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Find the term named in the problem and the explicit formula.

1) $-16, -10, -4, 2, \dots$

Find a_{23} **Given the recursive formula for an arithmetic sequence find the first five terms using the formula and showing all work, the term named in the problem, and the explicit formula.**

2) $a_n = a_{n-1} + 100$

$a_1 = -35$

Find a_{38} **Given the second term and the common difference of an arithmetic sequence find the term named in the problem and the explicit formula.**

3) $a_2 = 13, d = -2$

Find a_{23} **Given a term in an arithmetic sequence and the common difference find the term named in the problem and the explicit formula.**

4) $a_{21} = 77, d = 5$

Find a_{37}

Given two terms in an arithmetic sequence find the term named in the problem and the explicit formula.

5) $a_{10} = 903$ and $a_{39} = 3803$

Find a_{25}

Find the missing term or terms in each arithmetic sequence.

6) ..., 31, ____, ____, ____, ____, ____, 61, ...

7) ..._____,_____, 1, _____, _____, _____, _____, $-\frac{17}{3}$, _____ ...

Evaluate the related series of each sequence.

8) 19, 26, 33, 40, 47, 54

Evaluate each arithmetic series described.

9) $a_1 = 32$, $a_n = 102$, $n = 8$

10) $a_1 = 13$, $d = 7$, $n = 45$

11) $36 + 46 + 56 + 66 \dots$, $n = 16$

12) $\sum_{m=4}^{18} (10m - 19)$

13) $\sum_{n=3}^{13} (4n + 6)$

14) $\sum_{k=4}^{11} (2k - 7)$

15) $\sum_{k=3}^{17} (2k + 4)$

Determine the number of terms n in each arithmetic series.

16) $a_1 = 44$, $a_n = 485$, $S_n = 13225$

17) $a_1 = 7$, $a_n = 19$, $S_n = 65$

Answers to Arithmetic Sequences and Series Review WS (ID: 1)

1) $a_{23} = 116$

Explicit: $a_n = -22 + 6n$

2) First Five Terms: $-35, 65, 165, 265, 365$

$a_{38} = 3665$

Explicit: $a_n = -135 + 100n$

3) $a_{23} = -29$

Explicit: $a_n = 17 - 2n$

4) $a_{37} = 157$

Explicit: $a_n = -28 + 5n$

5) $a_{25} = 2403$

Explicit: $a_n = -97 + 100n$

6) $36, 41, 46, 51, 56$

7) $-\frac{1}{3}, -\frac{5}{3}, -3, -\frac{13}{3}$

8) 219

9) 536

10) 7515

11) 1776

12) 1365

13) 418

14) 64

15) 360

16) 50

17) 5