Algebra II Honors - Mr. Allen-Black Name_____

Evaluating Arithmetic Series

Date_____ Period____

Evaluate the related series of each sequence. Write out the formula for doing it using the "short-cut" method.

1) 11, 19, 27, 35, 43, 51, 59

2) −14, −20, −26, −32

3) −34, −44, −54, −64

4) 10, 20, 30, 40, 50, 60, 70

Evaluate each arithmetic series described.

5) $a_1 = -18,\ a_n = -117,\ n = 12$

6) $a_1 = 11,\ a_n = 44,\ n = 12$

7) $a_1 = -13,\ a_n = -97,\ n = 15$

8) $a_1 = -27,\ a_n = -147,\ n = 25$

Evaluate each arithmetic series given the first term, common difference, and number of terms. Remember $a_n = a_1 + d(n - 1)$

9) $a_1 = 23,\ d = 7,\ n = 15$

10) $a_1 = 4,\ d = 5,\ n = 13$

11) $a_1 = 20,\ d = 10,\ n = 10$

12) $a_1 = 27,\ d = 7,\ n = 11$

Evaluate each arithmetic series given the first few terms, and number of terms. Remember $a_n = a_1 + d(n-1)$

13) $39 + 48 + 57 + 66...,\ n = 7$

14) $41 + 51 + 61 + 71...,\ n = 17$

15) $24 + 28 + 32 + 36...,\ n = 8$

16) $9 + 14 + 19 + 24...,\ n = 17$

Evaluate each arithmetic series described.

17) $\sum_{n=1}^{7} (2n + 7)$

18) $\sum_{k=1}^{8} (5k + 5)$

19) $\sum_{n=1}^{40} (11 - 4n)$

20) $\sum_{k=1}^{30} (6k - 11)$

21) $\sum_{n=4}^{13} (4n - 10)$

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

23) $\sum_{i=5}^{17} (8i - 14)$

24) $\sum_{n=5}^{14} (4n - 10)$

Answers to Evaluating Arithmetic Series

1) 245	3) −196	5) −810	7) −825
9) 1080	11) 650	13) 462	15) 304
17) 105	19) −2840	21) 240	23) 962