Algebra 2 Name_____

Sequence 3 WS : Arithmetic Series

Evaluate the related series of each sequence.

1) 47, 57, 67, 77

2) 33, 40, 47, 54

Evaluate each arithmetic series described.

3) $a_1 = 16,\ a_n = 114,\ n = 15$

4) $a_1 = 32,\ a_n = 112,\ n = 9$

5) $a_1 = 36,\ a_n = 153,\ n = 14$

6) $a_1 = -25,\ a_n = -124,\ n = 12$

7) $a_1 = 5,\ d = -5,\ n = 13$

8) $a_1 = -13,\ d = -2,\ n = 11$

9) $a_1 = 15,\ d = 5,\ n = 10$

10) $a_1 = 4,\ d = 3,\ n = 5$

11) $44 + 53 + 62 + 71..., \ n = 17$

12) $(-11) + (-21) + (-31) + (-41)..., \ n = 10$

13) $(-6) + (-9) + (-12) + (-15)..., \ n = 18$

14) $22 + 25 + 28 + 31..., \ n = 7$

15) $\sum_{i=1}^{50} (7i - 8)$

16) $\sum_{m=1}^{15} (10m - 19)$

17) $\sum_{i=1}^{12} (10i - 16)$

18) $\sum_{i=1}^{13} (8i - 7)$

19) $\sum_{k=1}^{5} (10k - 1)$

20) $\sum_{k=1}^{10} (7k + 1)$

Determine the number of terms *n* in each arithmetic series.

21) $a_1 = 5, \ a_n = 25, \ S_n = 165$

22) $a_1 = 7, \ a_n = 17, \ S_n = 72$

