Arithmetic Series Practice

Date_____

Evaluate the related series of each sequence.

) 44, 53, 62, 71, 80, 89

399

2) 13, 16, 19, 22, 25, 28

123

Evaluate each arithmetic series described.

3) $a_1 = 8,\ a_n = 53,\ n = 10$

305

4) $a_1 = 30,\ a_n = 100,\ n = 15$

975

5) $a_1 = 23,\ a_n = 243,\ n = 45$

5985

6) $a_1 = 40,\ a_n = 180,\ n = 15$

1650

) $a_1 = 12,\ d = 6,\ n = 11$

462

8) $a_1 = 3,\ d = 2,\ n = 8$

80

9) $a_1 = 1,\ d = 2,\ n = 13$

169

10) $a_1 = 6,\ d = 10,\ n = 25$

3150

11) $18 + 23 + 28 + 33...,\ n = 16$

888

12) $17 + 23 + 29 + 35...,\ n = 7$

245

13) $\sum_{i=1}^{5}(8i-6)$

90

14) $\sum_{k=1}^{6} 7k$

147

15) $\sum_{n=3}^{11}(7n-14)$

315

16) $\sum_{k=3}^{16}(2k+6)$

350

Express the related arithmetic series in Sigma Notation. Find the sum of the finite series.

17) 27, 37, 47, 57

168

$a_n = 27+10(n-1)$

$a_n = 27+10n-10$

$a_n = 10n+17$

$\sum_{n=1}^{4}(10n+17)$

18) 13, 22, 31, 40, 49, 58, 67

280

$a_n = 13+9(n-1$

$a_n = 13+9n-9$

$a_n = 9n+4$

$\sum_{n=1}^{7}(9n+4)$

19) 16, 23, 30, 37

106

$a_n = 16+7(n-1)$

$a_n = 16+7n-7$

$a_n = 7n+9$

$\sum_{n=1}^{4}(7n+9)$

20) 1, 3, 5, 7

16

$a_n = 1+2(n-1)$

$a_n = 1+2n-2$

$a_n = 2n-1$

$\sum_{n=1}^{4}(2n-1)$

21) 19, 22, 25, 28

94

$a_n = 19+3(n-1)$

$a_n = 19+3n-3$

$a_n = 3n+16$

$\sum_{n=1}^{4}(3n+16)$

22) 39, 49, 59, 69, 79, 89, 99

483

$a_n = 39+10(n-1)$

$a_n = 39+10n-10$

$a_n = 10n+29$

$\sum_{n=1}^{7}(10n+29)$

23) 6, 13, 20, 27

66

$a_n = 6+7(n-1)$

$a_n = 6+7n-7$

$a_n = 7n-1$

$\sum_{n=1}^{4}(7n-1)$

24) 1, 10, 19, 28, 37

95

$a_n = 1+9(n-1)$

$a_n = 1+9n-9$

$a_n = 9n-8$

$\sum_{n=1}^{5}(9n-8)$