

**Find  $S_n$  for each arithmetic series described.**

1.  $a_1 = 3, a_n = 20, n = 6$

2.  $a_1 = 15, a_n = -12, n = 30$

3.  $a_1 = 90, a_n = -4, n = 10$

4.  $d = 7, n = 18, a_n = 72$

5.  $a_1 = -2, d = \frac{1}{3}, a_n = 9$

6.  $d = -\frac{2}{3}, n = 16, a_n = 44$

7.  $a_1 = -121, d = 3, a_n = 5$

8.  $a_1 = 70, d = -21, n = 40$

**Find the sum of each arithmetic series.**

9.  $13 + 20 + 27 + \dots + 272$

10.  $-14 - 8 - 2 - \dots + 142$

11.  $89 + 86 + 83 + \dots + 20$

12.  $5 + 11 + 17 + \dots + 95$

13.  $\sum_{n=21}^{75} (2n+5)$

14.  $\sum_{n=1}^{15} (2n+8)$

15.  $\sum_{n=5}^{25} n-1$

16.  $\sum_{n=5}^8 3n$

**Find the first three terms of each arithmetic series.**

17.  $a_1 = 7, a_n = 83, S_n = 900$

18.  $n = 19, a_n = 103, S_n = 1102$

Topic 11.2  
Arithmetic Series  
Homework

Name: \_\_\_\_\_

Date: \_\_\_\_\_