

DIRECTIONS: Find a formula for the n^{th} term of each arithmetic sequence.

1. 24, 32, 40, 48, ...

$$a_n = 8n + 16$$

3. -3, -10, -17, -24, ...

$$a_n = -7n + 4$$

5. 7, 11, 15, 19, ...

$$a_n = 4n + 3$$

2. 30, 20, 10, 0, ...

$$a_n = -10n + 40$$

4. -6, -1, 4, 9, ...

$$a_n = 5n - 11$$

6. 13, 4, -5, -14, ...

$$a_n = -9n + 22$$

DIRECTIONS: Find the specified term of each arithmetic sequence.

7. 4, 9, 14, 19, ...; a_{21}

$$104$$

9. 100, 98, 96, ...; a_{25}

$$52$$

11. -2, -11, -20, ...; a_{101}

$$-902$$

8. 3, 11, 19, 27, ...; a_{31}

$$243$$

10. 3, 3.5, 4, 4.5, ...; a_{101}

$$53$$

12. 17, 7, -3, ...; a_{1000}

$$-9973$$

DIRECTIONS: Find the arithmetic mean of each pair of numbers.

13. -3, 7 2

14. 2.3, 9.1 5.7

15. $\frac{4}{5}, \frac{11}{5}$ $\frac{3}{2}$

DIRECTIONS: Write each series in expanded form and find the sum.

16. $\sum_{n=1}^6 (n + 10)$

$$11 + 12 + 13 + 14 + 15 + 16 = 81$$

17. $\sum_{k=1}^8 3k$

$$3 + 6 + 9 + 12 + 15 + 18 + 21 + 24 = 108$$

18. $\sum_{n=1}^6 (3n - 2)$

$$1 + 4 + 7 + 10 + 13 + 16 = 51$$

19. $\sum_{n=4}^{10} (-2n + 1)$

$$-7 + -9 + -11 + -13 + -15 + -17 + -19 = -91$$

20. $\sum_{n=1}^5 6n$

$$6 + 12 + 18 + 24 + 30 = 90$$

21. $\sum_{k=1}^9 (k - 7)$

$$-6 + -5 + -4 + -3 + -2 + -1 + 0 + 1 + 2 = -18$$

DIRECTIONS: Find the sum of each arithmetic series.

22. $\sum_{k=1}^{100} 5k$

$$25,250$$

23. $\sum_{n=1}^{24} (2n - 1)$

$$576$$

24. $\sum_{j=1}^{50} (3j + 2)$

$$3925$$

25. $\sum_{m=10}^{20} (30 - m)$

$$165$$

26. The first 100 terms of the series

$$4 + 7 + 10 + 13 + \dots$$

$$15,250$$

27. The first 50 terms of the series

$$100 + 98 + 96 + 94 + \dots$$

$$2550$$