

Answers for Lesson 11-2 Exercises

1. no 2. yes; 10 3. no 4. no
5. yes; 3 6. yes; -11 7. yes; 4 8. no
9. no 10. no 11. 127 12. 0.3
13. 12.5 14. 0.0085 15. 225 16. -159
17. -59 18. 240 19. -146 20. 137
21. -7.5 22. 21 23. 13 24. 16
25. -7 26. 660 27. 7.5 28. 2.5
29. a_{11} or $\frac{a_{10} + a_{12}}{2}$ 30. 82.5 31. 4
32. $\frac{1}{2}$ 33. 13 34. 120 35. -19.5
36. 1.1 37. -1 38. $\frac{4}{5}$ 39. $\frac{r + s}{2}$
40. $\frac{2r + s}{2}$ 41. 0 42. $2x + 1$
43. The student assumed that the sequence was $a_n = 2^{n-1}$. However, $a_1 = 2^0 = 1$, not 0 as given in the problem.
44. a. Answers may vary. Sample: 25, 18, 11, 4, -3 , $-10, \dots$; to find the n th term, multiply $n - 1$ times (-7) and add to a_1 .
- b. Answers may vary. Sample: Start with the first term and continue to subtract 7 for each term. For each term, you subtract 7 times (term number -1) from the first term.
45. Answers may vary. Sample: An advantage of a recursive formula is that only the preceding term must be known to find the next term; a disadvantage is that many calculations may be required to find a term. An advantage of an explicit formula is that it is easy to find any term.
46. 23 47. 15 48. 18.5 49. 22
50. 6 51. 29

Answers for Lesson 11-2 Exercises (cont.)

52. $a_n = 2 + 2(n - 1); a_n = a_{n-1} + 2, a_1 = 2$

53. $a_n = 0 + 6(n - 1); a_n = a_{n-1} + 6, a_1 = 0$

54. $a_n = -5 + 1(n - 1); a_n = a_{n-1} + 1, a_1 = -5$

55. $a_n = -4 - 4(n - 1); a_n = a_{n-1} - 4, a_1 = -4$

56. $a_n = -2 + 7(n - 1); a_n = a_{n-1} + 7, a_1 = -2$

57. $a_n = 27 - 12(n - 1); a_n = a_{n-1} - 12, a_1 = 27$

58. $a_n = -5 + 1.5(n - 1); a_n = a_{n-1} + 1.5, a_1 = -5$

59. $a_n = -32 + 12(n - 1); a_n = a_{n-1} + 12, a_1 = -32$

60. $a_n = 1 + \frac{1}{3}(n - 1); a_n = a_{n-1} + \frac{1}{3}, a_1 = 1$

61. $a_n = \frac{1}{8}(n - 1); a_n = a_{n-1} + \frac{1}{8}, a_1 = 0$

62. 6 min; 1 min 63. -4, -10, -16 64. 4.6, -0.8, -6.2

65. -8, -17, -26 66. $\frac{19}{5}, 5, \frac{31}{5}$ 67. 17, 17, 17

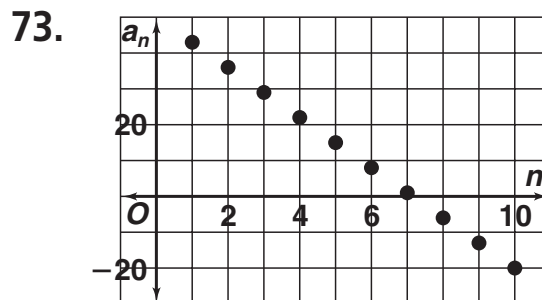
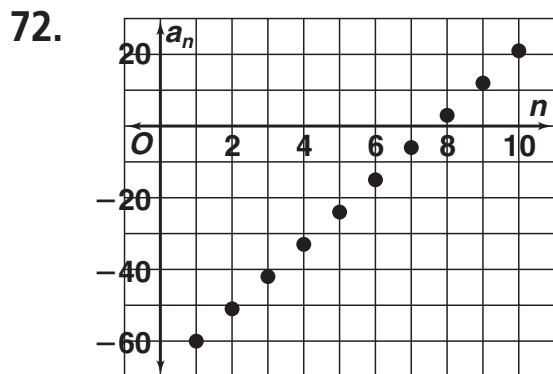
68. 681, 702, 723 69. -12.5, -8, -3.5

70. $a + 5, a + 9, a + 13$

71. a. \$20, \$45, \$75, \$110, \$150, \$195, \$245, \$300, \$360, \$425, \$495

b. $a_n = a_{n-1} + \$20 + \$5(n - 1), a_1 = \$20$

c. \$495



Answers for Lesson 11-2 Exercises (cont.)

74. 2.46 min or 2 min 28 s

75. 54

76. 8

77. 21st term

78. 43rd term

79. $a_1 = -1, d = 3$

80. $a_1 = -4, d = 4$

81. $a_1 = 52, d = -10$

82. $a_1 = -21\frac{1}{4}, d = 4\frac{1}{4}$

83. $a_1 = -100.5, d = 22$

84. $a_1 = -9, d = 2.2$

85. $9k + 32$

86. $21k - 43$