

Arithmetic Seq. Word Problems

①

hr	0	1	2	3	4
\$	0	2	4	6	8

+1
+2

$$A(n) = 2n$$

$$A(10) = 2(10)$$

$$A(10) = \$20$$

③

Test #	0	1	2	3	4
grade	47	50	53	56	59

+1
+3

$$A(n) = 3n + 47$$

$$A(20) = 3(20) + 47$$

$$A(20) = 107 + 47$$

$$A(20) = 107 \text{ (grade)}$$

②

Game #	0	1	2	3	4
Score	15	20	25	30	35

+1
+5

$$A(n) = 5n + 15$$

$$A(15) = 5(15) + 15$$

$$A(15) = 75 + 15$$

$$A(15) = 90 \text{ (Score)}$$

④

hr	0	1	2	3
\$	7	12	17	22

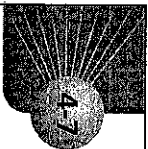
+1
+5

$$A(n) = 5n + 7$$

$$A(50) = 5(50) + 7$$

$$A(50) = 250 + 7$$

$$A(50) = \$257$$



NAME _____ DATE _____ PERIOD _____
4-7 Skills Practice
Arithmetic Sequences

#5

Determine whether each sequence is an arithmetic sequence. If it is, state the common difference.

- 1. 4, 7, 9, 12, ... no
- 2. 15, 18, 11, 9, ... yes; -2
- 3. 7, 10, 13, 16, ... yes; 3
- 4. -6, -5, -3, -1, ... no
- 5. -5, -3, -1, 1, ... yes; 2
- 6. -9, -12, -15, -18, ... yes; -3

Find the next three terms of each arithmetic sequence.

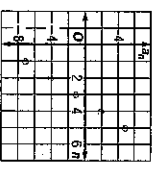
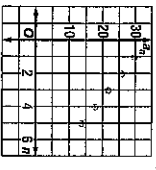
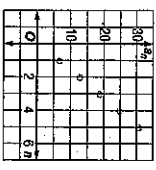
- 7. 3, 7, 11, 15, ... 19, 23, 27
- 8. 22, 20, 18, 16, ... 14, 12, 10
- 9. -13, -11, -9, -7, ... -5, -3, -1
- 10. -2, -5, -8, -11, ... -14, -17, -20
- 11. 19, 24, 29, 34, ... 39, 44, 49
- 12. 16, 7, -2, -11, ... -20, -29, -38

Find the n th term of each arithmetic sequence described.

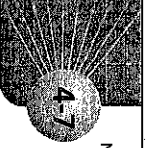
- 13. $a_1 = 6, d = 3, n = 12$ 36
- 14. $a_1 = -2, d = 5, n = 11$ 48
- 15. $a_1 = 10, d = -3, n = 15$ -32
- 16. $a_1 = -3, d = -3, n = 22$ -66
- 17. $a_1 = 24, d = 8, n = 25$ 216
- 18. $a_1 = 8, d = -6, n = 14$ -70
- 19. 8, 13, 18, 23, ... for $n = 17$ 98
- 20. -10, -3, 4, 11, ... for $n = 12$ 57
- 21. 12, 10, 8, 6, ... for $n = 16$ -18
- 22. 12, 7, 2, -3, ... for $n = 25$ -108

Write an equation for the n th term of each arithmetic sequence. Then graph the first five terms of the sequence.

- 23. 7, 13, 19, 25, ... $a_n = 6n + 1$
- 24. 30, 26, 22, 18, ... $a_n = -4n + 34$
- 25. -7, -4, -1, 2, ... $a_n = 3n - 10$



Lesson 4-7



NAME _____ DATE _____ PERIOD _____
4-7 Practice (Average)
Arithmetic Sequences

#4

Determine whether each sequence is an arithmetic sequence. If it is, state the common difference.

- 1. 21, 18, 5, -3, ... 2. -5, 12, 29, 46, ... 3. -2.2, -1.1, 0.1, 1.3, ...
- yes; -3
- yes; 17
- no

Find the next three terms of each arithmetic sequence.

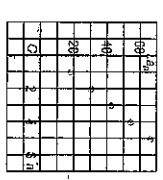
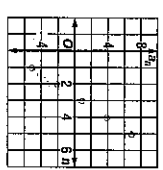
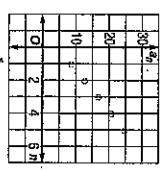
- 4. 82, 76, 70, 64, ... 5. -49, -35, -21, -7, ... 6. $\frac{3}{4}, \frac{1}{2}, \frac{1}{4}, 0, \dots$
- 7. 21, 35 7, 21, 35 $-\frac{1}{4}, -\frac{1}{2}, -\frac{3}{4}$

Find the n th term of each arithmetic sequence described.

- 7. $a_1 = 7, d = 9, n = 18$ 160
- 8. $a_1 = -12, d = 4, n = 36$ 128
- 9. -18, -13, -8, -3, ... for $n = 27$ 112
- 10. 4.1, 4.8, 5.5, 6.2, ... for $n = 14$ 13.2
- 11. $a_1 = \frac{3}{8}, d = \frac{1}{4}, n = 15$ $3\frac{7}{8}$
- 12. $a_1 = 2\frac{1}{2}, d = 1\frac{1}{2}, n = 24$ 37

Write an equation for the n th term of each arithmetic sequence. Then graph the first five terms of the sequence.

- 13. 9, 13, 17, 21, ... 14. -5, -2, 1, 4, ... 15. 19, 31, 43, 55, ...
- $a_n = 4n + 5$ $a_n = 3n - 8$ $a_n = 12n + 7$



BANKING For Exercises 16 and 17, use the following information.

- Chem deposited \$115.00 in a savings account. Each week thereafter, he deposits \$35.00 into the account.
- 16. Write a formula to find the total amount Chem has deposited for any particular number of weeks after his initial deposit. $a_n = 35n + 115$
- 17. How much has Chem deposited 30 weeks after his initial deposit? \$1165
- 18. **STORE DISPLAY** Tamika is stacking boxes of tissue for a store display. Each row of tissues has 2 fewer boxes than the row below. The first row has 23 boxes of tissues. How many boxes will there be in the tenth row? 5

Answers