

4.5 Paper Practice – Arithmetic Sequences

Determine whether each sequence is an arithmetic sequence. Justify your reasoning.

1. $-3, 1, 5, 9, \dots$

2. $\frac{1}{2}, \frac{3}{4}, \frac{5}{8}, \frac{7}{16}, \dots$

3. $-10, -7, -4, 1, \dots$

4. $-12.3, -9.7, -7.1, -4.5, \dots$

5. $4, 7, 9, 12, \dots$

6. $15, 13, 11, 9, \dots$

7. $7, 10, 13, 16, \dots$

8. $-6, -5, -3, -1, \dots$

Find the common difference of each arithmetic sequence. Then find the next three terms.

9. $0.02, 1.08, 2.14, 3.2, \dots$

10. $6, 12, 18, 24, \dots$

11. $21, 19, 17, 15, \dots$

12. $-\frac{1}{2}, 0, \frac{1}{2}, 1, \dots$

13. $3, 7, 11, 15, \dots$

14. $22, 19.5, 17, 14.5, \dots$

15. $-13, -11, -9, -7, \dots$

16. $-2, -5, -8, -11, \dots$

Use the given arithmetic sequence to write an equation and then find the 7th term of the sequence.

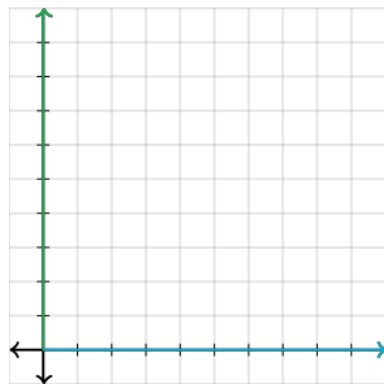
17. $-3, -8, -13, -18, \dots$

18. $-2, 3, 8, 13, \dots$

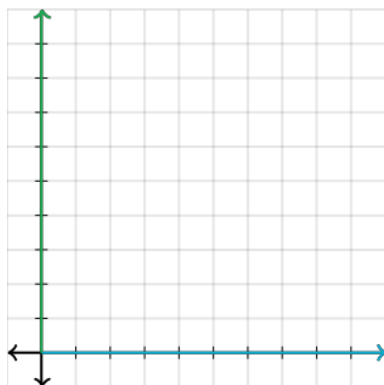
19. $-11, -15, -19, -23, \dots$

20. $-0.75, -0.5, -0.25, 0, \dots$

- 21.** Wanda is the manager for the soccer team. One of her duties is to hand out cups of water at practice. Each cup of water is 4 ounces. She begins practice with a 128-ounce cooler of water.
- Create a function to represent the arithmetic sequence.
 - Graph the function. Make sure to label your axes.
 - How much water is remaining after Wanda hands out the 14th cup?



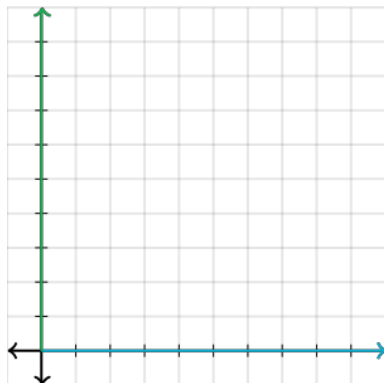
- 22.** A theater has 20 seats in the first row, 22 in the second row, 24 in the third row, and so on for 25 rows.
- Create a function to represent the arithmetic sequence.
 - Graph the function. Make sure to label your axes.
 - How many seats are in the last row?



- 23.** The price to send a large envelope first class mail is 88 cents for the first ounce and 17 cents for each additional ounce. The table shows the cost for weights up to 5 ounces.

Weight (ounces)	1	2	3	4	5
Postage (dollars)	0.88	1.05	1.22	1.39	1.56

- Create a function to represent the arithmetic sequence.
- Graph the function. Make sure to label your axes.
- How much did a large envelope weigh that cost \$2.07 to send?



- 24.** One of the most famous sequences in mathematics is the Fibonacci sequence. It is named after Leonardo de Pisa (1170-1250) or Filius Bonacci, alias Leonardo Fibonacci. The first several numbers in the Fibonacci sequence are shown.
- 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, . . .

Does this represent an arithmetic sequence? Why or why not?