

Recursive Sequences

KEY

Once you have reviewed the information on recursive formulas, try these!

Given the first term, use the recursive formula to find the next four terms in the arithmetic sequence.

1. $a_1 = 2$ $-4, -10, -16, -22$

$$a_n = a_{n-1} - 6$$

2. $a_1 = -8$ $-5, -2, 1, 4$

$$a_n = a_{n-1} + 3$$

3. $a_1 = 1$ $9, 17, 25, 33$

$$a_n = a_{n-1} + 8$$

4. $a_1 = 4$ $1, -2, -5, -8$

$$a_n = a_{n-1} - 3$$

Match the recursive formula to the arithmetic sequence that it describes.

(You may use a letter more than once!!)

A. $a_n = a_{n-1} + 3$

D. $a_n = a_{n-1} - 4$

B. $a_n = a_{n-1} + 11$

E. $a_n = a_{n-1} + 9$

C. $a_n = a_{n-1} - 6$

F. $a_n = a_{n-1} - 7$

5. $17, 11, 5, -1, \dots$

C

6. $-12, -9, -6, -3, \dots$

A

7. $98, 91, 84, 77, \dots$

F

8. $-8, -12, -16, \dots$

D

9. $3, 14, 25, 36, \dots$

B

10. $-4, 5, 14, 23, \dots$

E

11. $6, 2, -2, -6, -10, \dots$

D

12. $-7, 4, 15, 26, \dots$

B

13. $31, 34, 37, 40, \dots$

A

Why do you think you were able to use the same recursive formula for different arithmetic sequences?

They have the same rule but a different first number.