

# Working with the Explicit Form of a Linear/Arithmetic Sequence

Write the recursive form of the equation that represents the following sequence:

5, 10, 15, 20, 25

$$T_n = 5 \quad T_n = T_{n-1} + 5$$

What is the 5th term of the equation whose recursive form is:

$$t_1 = 5$$

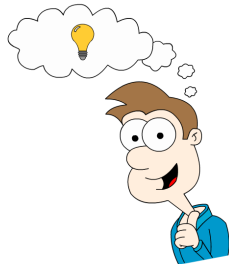
$$t_n = t_{n-1} + 50$$

$$\begin{array}{r|l} 1 & 2 & 3 & 4 & 5 \\ \hline 5 & 55 & 105 & 155 & 205 \end{array} \quad t_5 = 205$$

What is the 90th term of the sequence represented by the recursive formula:

$$t_1 = 1$$

$$t_n = t_{n-1} - 2$$



Generic Explicit Form:

$$t_n = t_1 + d(n - 1)$$

Where  $d =$  common difference

What is the 18th term of: 28, 34, 40, 46, 52

$$t_n = t_1 + d(n-1)$$

$$t_{18} = 28 + 6(18-1)$$

$$t_{18} = 28 + 6(17)$$

$$t_{18} = 28 + 102$$

$$t_{18} = 130$$

What is the 25th term of: 20, 10, 0, -10

$$t_{25} = 20 + -10(25-1)$$

$$t_{25} = 20 + -10(24)$$

$$t_{25} = 20 - 240$$

$$t_{25} = -220$$

For each sequence, write each form indicated:

Sequence	Next-Now	Recursive	Explicit
0, 3, 6, 9, 12	Next = Now + 3	$t_1 = 0$ $t_n = t_{n-1} + 3$	$t_n = 0 + 3(n-1)$
-1, 3, 7, 11	Next = Now + 4	$t_1 = -1$ $t_n = t_{n-1} + 4$	$t_n = -1 + 4(n-1)$
4, 2, 0, -2	Next = Now + 2	$t_n = t_{n-1} - 2$	$t_n = 4 + (-2)(n-1)$

## Attachments

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Day 2 Answers.pdf