

College Algebra, Section 8.3, #14
Sequences and Discrete Functions

Skills Check Find the first 6 terms of the sequence with first term 8 and n th term $a_n = a_{n-1} + 3$.¹

We are given the first term, $a_1 = 8$, and we are asked to find the next five terms of this sequence.

We'll start with the first term, and use the formula to find the rest...

$$a_1 = 8$$

$$\begin{aligned} a_2 &= a_{2-1} + 3 \\ &= a_1 + 3 \\ &= 8 + 3 \\ &= 11 \end{aligned}$$

$$\begin{aligned} a_3 &= a_{3-1} + 3 \\ &= a_2 + 3 \\ &= 11 + 3 \\ &= 14 \end{aligned}$$

$$\begin{aligned} a_4 &= a_{4-1} + 3 \\ &= a_3 + 3 \\ &= 14 + 3 \\ &= 17 \end{aligned}$$

$$\begin{aligned} a_5 &= a_{5-1} + 3 \\ &= a_4 + 3 \\ &= 17 + 3 \\ &= 20 \end{aligned}$$

$$\begin{aligned} a_6 &= a_{6-1} + 3 \\ &= a_5 + 3 \\ &= 20 + 3 \\ &= 23 \end{aligned}$$

The first 6 terms of this sequence are 8, 11, 14, 17, 20, 23.

¹Harshbarger/Yocco, *College Algebra In Context*, 5e, p. 617 #14.