

11.6 Writing formulas from a graph (Notes)

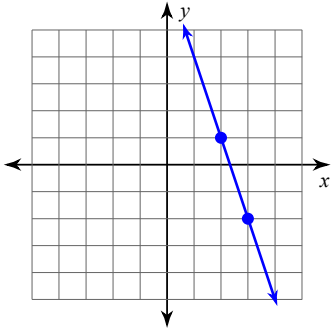
Step 1: Rewrite the graph as a sequence of numbers:

Use the y-coordinates of the graph for when $x = 1, 2,$ and 3 as the numbers for your sequence.

Step two:

Follow steps learned in past lessons to write formulas.

1)



Rewrite: 4, 1, -2,...

Recursive Formula:

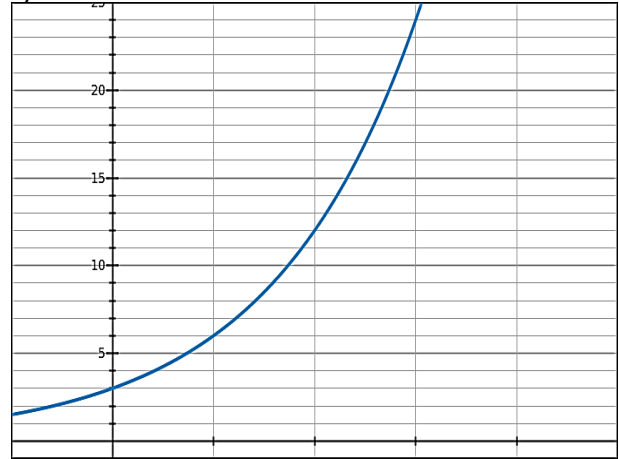
$$a_1 = 4$$

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

Explicit Formula:

$$a_n = 7 + 3n$$

2)



Rewrite:

Recursive Formula:

Explicit Formula:

	Explicit	Recursive
Arithmetic	$a_n = a_0 + dn$ <p> $a_n = \text{any term}$ $a_0 = \text{term zero}$ $d = \text{common difference}$ </p>	$a_1 =$ $a_{n+1} = a_n + d$
Geometric	$g_n = g_0 \cdot (r)^n$ <p> $r = \text{common ratio}$ </p>	$g_1 =$ $g_{n+1} = g_n \cdot r$