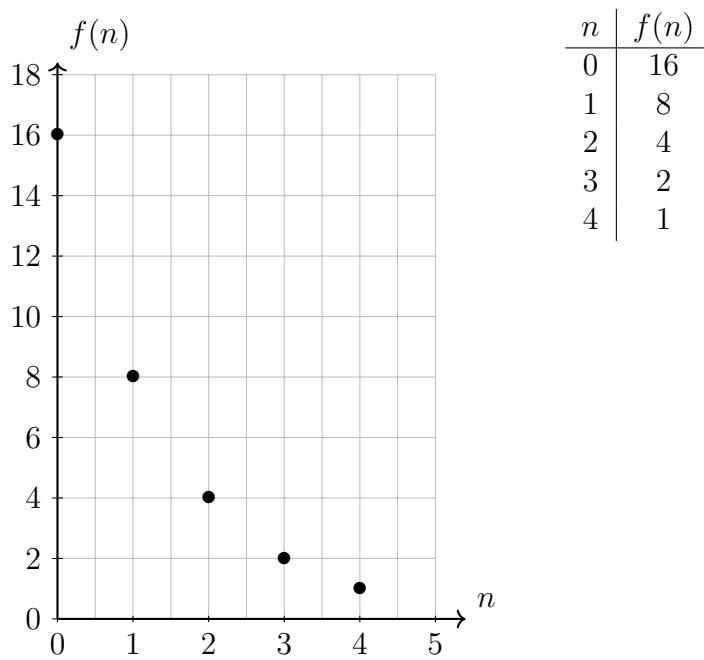


1.13 PreTest2: Graphing sequences

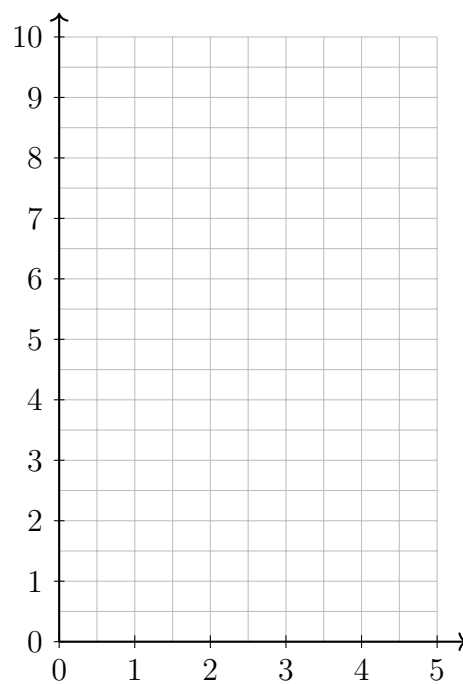
1. A sequence f is shown below as a graph and as a table.



- (a) Is sequence f geometric or arithmetic? Explain how you know.
- (b) Write an equation to define sequence f recursively.
- (c) For term $f(n)$, what are some values of that make sense to use? What are some values of n that don't make sense to use? Explain your reasoning.

2. An arithmetic sequence A is shown below in the table.

n	$A(n)$
1	$\frac{7}{2}$
2	?
3	$\frac{13}{2}$
4	8
5	?



(a) What is the rate of change, the constant difference d ?

(b) Find the missing values.

$$A(2) =$$

$$A(5) =$$

(c) Plot the sequence on the grid above.

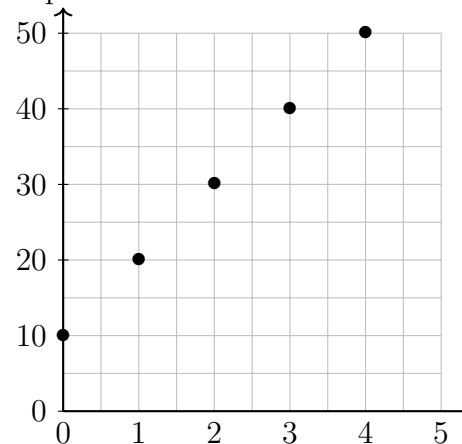
(d) Write a recursive definition for sequence A .

3. Here are two sequences:

Sequence A

term number	value
0	$\frac{1}{9}$
1	$\frac{1}{3}$
2	1
3	3
4	9

Sequence B



- For sequence A , describe a way to produce each new term from the previous term.
- For sequence B , describe a way to produce each new term from the previous term.
- Write a definition for the n^{th} term of sequence A . (an explicit formula, not a recursive one)
- Write a definition for the n^{th} term of sequence B .
- If these sequences continue, then which is greater, A or B ? Explain or show how you know.

4. The first few terms of a geometric sequence B are shown in the table.

n	$B(n)$
0	$\frac{2}{3}$
1	-1
2	$\frac{3}{2}$
3	$-\frac{9}{4}$
4	$?$

(a) What is the growth rate, the constant ratio r ?

(b) Find $B(4) =$

(c) Write a recursive definition for sequence B .

5. An arithmetic sequence has terms $h(1) = -2$ and $h(5) = 10$.

(a) What is the common difference, d ?

(b) Write a formula for the n^{th} term, $h(n)$.

(c) What is the value of n when $h(n) = 22$?

6. A geometric sequence has terms $j(0) = \frac{16}{9}$ and $j(2) = 1$. Find $j(3)$.