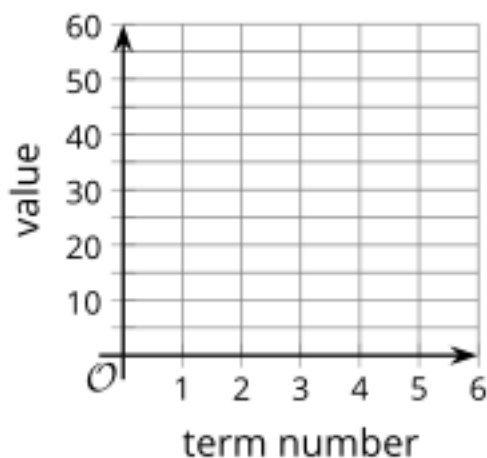

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Unit 1 Lesson 8 Curated Practice Problems

1. A sequence is defined by $f(0) = -20$, $f(n) = f(n - 1) - 5$ for $n \geq 1$.
 - a. Explain why $f(1) = -20 - 5$.
 - b. Explain why $f(3) = -20 - 5 - 5 - 5$.
 - c. Complete the expression: $f(10) = -20 -$. Explain your reasoning.
2. A sequence is defined by $f(0) = -4$, $f(n) = f(n - 1) - 2$ for $n \geq 1$. Write a definition for the n^{th} term of the sequence.
3. Here is the recursive definition of a sequence: $f(1) = 3$, $f(n) = 2 \cdot f(n - 1)$ for $n \geq 2$.
 - a. Find the first 5 terms of the sequence.
 - b. Graph the value of the term as a function of the term number.
 - c. Is the sequence arithmetic, geometric, or neither? Explain how you know.

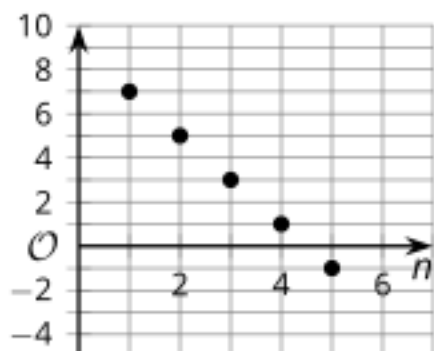


4. (From Alg2_Rev, Unit 1, Lesson 7.)
5. Here is a graph of sequence M . Define M recursively using function notation.

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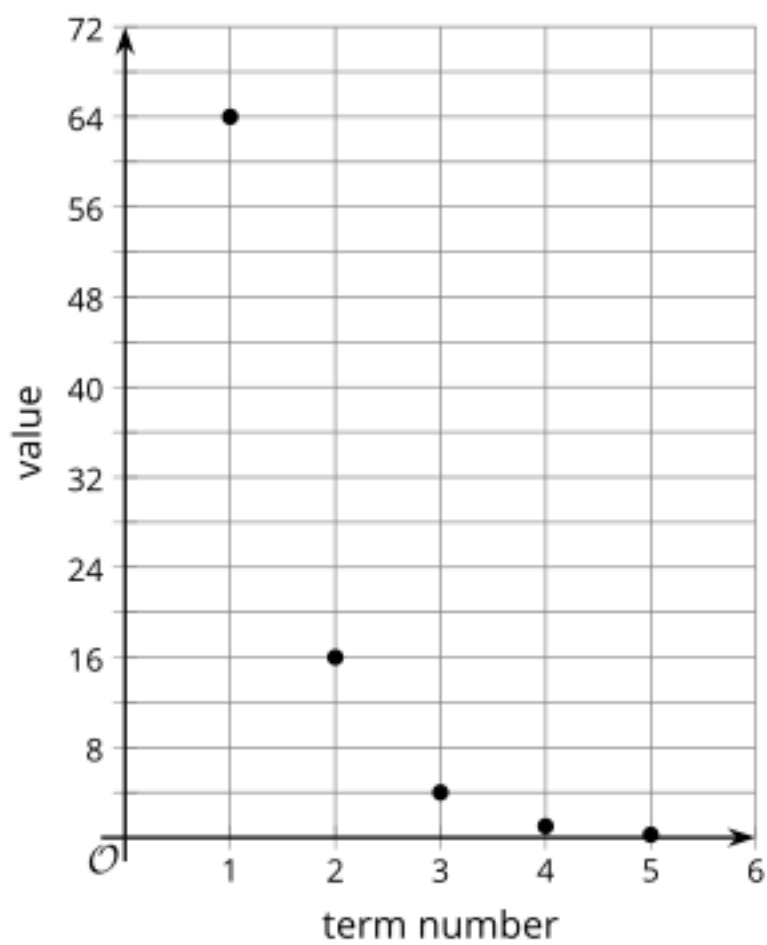


6. (From Alg2_Rev, Unit 1, Lesson 6.)
7. Write the first five terms of each sequence. Determine whether each sequence is arithmetic, geometric, or neither.
- $a(1) = 5, a(n) = a(n - 1) + 3$ for $n \geq 2$.
 - $b(1) = 1, b(n) = 3 \cdot b(n - 1)$ for $n \geq 2$.
 - $c(1) = 3, c(n) = -c(n - 1) + 1$ for $n \geq 2$.
 - $d(1) = 5, d(n) = d(n - 1) + n$ for $n \geq 2$.
- (From Alg2_Rev, Unit 1, Lesson 5.)
8. Here is the graph of a sequence:
- Is this sequence arithmetic or geometric? Explain how you know.
 - List at least the first five terms of the sequence.
 - Write a recursive definition of the sequence.

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9.

(From Alg2_Rev, Unit 1, Lesson 7.)



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