

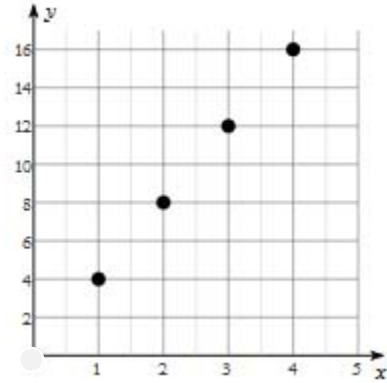
6.2 Recursive Formulas

Name: _____

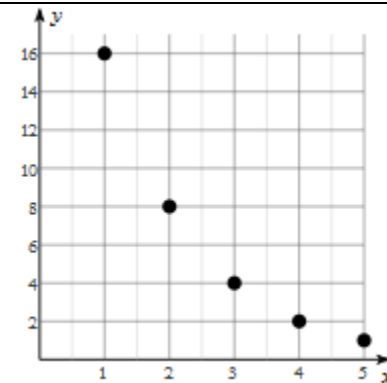
Corrective Assignment

Directions: 1-2: Consider the following graph as a sequence plotted by $(n, B(n))$.

- 1)
 a) Is this an arithmetic or geometric sequence? How do you know?
 b) What is the recursive formula for this sequence?
 c) What are the next three terms?



- 2)
 a) Is this an arithmetic or geometric sequence? How do you know?
 b) What is the recursive formula for this sequence?
 c) What are the next three terms?



Directions: 3-7: Use the sequence to answer each of the questions.

3) 243, 81, 27, 9	4) -20, -8, 4, 16	5) $\frac{2}{5}, 2, 10, 50$
a) What are the next three terms?	a) What are the next three terms?	a) What are the next three terms?
b) What is the recursive formula for this sequence?	b) What is the recursive formula for this sequence?	b) What is the recursive formula for this sequence?
c) Is the sequence geometric or arithmetic? Why?	c) Is the sequence geometric or arithmetic? Why?	c) Is the sequence geometric or arithmetic? Why?
d) Describe what the graph will look like using complete sentences.	d) Describe what the graph will look like using complete sentences.	d) Describe what the graph will look like using complete sentences.

6) 20.75, 16.25, 11.75, 7.25	7) 430, 502, 574, 646
a) What are the next three terms?	a) What are the next three terms?
b) What is the recursive formula for this sequence?	b) What is the recursive formula for this sequence?
c) Is the sequence geometric or arithmetic? Why?	c) Is the sequence geometric or arithmetic? Why?
d) Describe what the graph will look like using complete sentences.	d) Describe what the graph will look like using complete sentences.

Directions: 8-10: Choose the best recursive formula for the following sequence.

8) 20, 30, 45, 67.5	9) -4, 8, -16, 32	10) 14, 21, 28, 35
a) $G(n) = G(n - 1) \times 1.5$	a) $h_n = h \times -2$	a) $b_n = b_{n-1} \times 7$
b) $G(n) = G(n - 1) + 10$	b) $h_n = h - 2$	b) $b_n = b_{n-1} + 7$
c) $G(n) = G(n - 1) - 10$	c) $h_{n-1} = h_n \times -2$	c) $b_n = b_{n+1} + 7$
d) $G(n) = G(n - 1) \times -1.5$	d) $h_n = h_{n-1} \times -2$	d) $b_n = b_n + (-7)$

6.2 Recursive Formulas

Corrective Assignment Answers

- a. Arithmetic because it forms a linear relationship. b. $B(n) = B(n-1) + 4$; $B(1) = 4$ c. 20, 24, 28
- a. Geometric because it forms an exponential relationship. B. $B(n) = \frac{1}{2} \times B(n-1)$; $B(1) = 16$ c. $\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$
- a. $3, \frac{1}{3}, \frac{1}{9}$ b. $H_n = \frac{1}{3} \times H_{n-1}$, $H_1 = 243$ c. It's geometric because there is a constant multiplier of one-third. d. It will form an exponential curve that starts high and curves lower going to the right.
- a. 28, 40, 52 b. $A(n) = A(n-1) + 12$; $A(1) = -20$ c. It's an arithmetic pattern because there is a constant difference of 12. D. The graph will have a linear pattern that goes up to the right.
- 250, 1250, 6250 b. $G_n = G_{n-1} \times 5$; $G_1 = \frac{2}{5}$ c. It's a geometric sequence because there is a constant multiplier of 5. d. The graph would form an exponential curve that starts low and curves up to the right.
- a. 2.75, -1.75, -6.25 b. $T_n = T_{n-1} - 4.5$ c. This sequence is arithmetic because it has a constant difference of -4.5. d. The graph would appear linear with it start high and going down to the right.
- a. 718, 790, 862 b. $M(n) = M(n-1) + 72$; $M(1) = 430$ c. This is an arithmetic sequence because there is a constant difference. d. This graph would form a linear relationship going up to the right.
- A
- D
- B