

Assignment 1.7 – Mixed Sequences

Two consecutive terms in an arithmetic sequence are given. Find the recursive equation.

1. If $f(3) = 5$ and $f(4) = 8 \dots$ Recursive Equation:

$$f(5) = \underline{\hspace{2cm}}. \quad f(6) = \underline{\hspace{2cm}}.$$

2. If $f(2) = 19$ and $f(3) = 12 \dots$ Recursive Equation:

$$f(4) = \underline{\hspace{2cm}}. \quad f(5) = \underline{\hspace{2cm}}.$$

3. If $f(5) = 6.1$ and $f(6) = 9.2 \dots$ Recursive Equation:

$$f(7) = \underline{\hspace{2cm}}. \quad f(8) = \underline{\hspace{2cm}}.$$

Two consecutive terms in a geometric sequence are given. Find the recursive equation.

4. If $f(3) = 20$ and $f(4) = 80 \dots$ Recursive Equation:

$$f(5) = \underline{\hspace{2cm}}. \quad f(6) = \underline{\hspace{2cm}}.$$

5. If $f(2) = 36$ and $f(3) = 12 \dots$ Recursive Equation:

$$f(4) = \underline{\hspace{2cm}}. \quad f(5) = \underline{\hspace{2cm}}.$$

6. If $f(2) = 25$ and $f(3) = 5 \dots$ Recursive Equation:

$$f(5) = \underline{\hspace{2cm}}. \quad f(6) = \underline{\hspace{2cm}}.$$

Refresh Your Memory

Fill in the table, decide if the sequence is arithmetic or geometric, find the recursive and explicit equations and explain the sequence in words.

7.

x	0	1	2	3	4
y	-5	-8	-11	-14	

Recursive Equation:

Arithmetic

Geometric

Explicit Equation:

Explanation:

8.

x	1	2	3	4	5
y	2	6	18	54	

Recursive Equation:

Arithmetic

Geometric

Explicit Equation:

Explanation:

9. Evaluate each expression, given that $a = 3$, $b = 6$, and $c = -5$

a. $2(a^2 - b + 1)^3$

b. $[a + 7(b - 3)]^2 \div 2$

c. $\frac{a^2 - c + 5}{(c + 3)}$