

Review: Means, Sequences, & Systems

Show all work and reasoning. Use a pencil and highlight your answers.

1. Each of the tables represents an arithmetic sequence. Find the missing terms in the sequence, showing your method.

a)

n	$f(n)$
1	5
2	
3	
4	23
5	
6	
7	

b)

n	$f(n)$
1	
2	-10
3	
4	
5	
6	38
7	

c)

n	$f(n)$
1	
2	27
3	
4	
5	
6	
7	-13

2. Each of the tables represents a geometric sequence. Find the missing terms in the sequence, showing your method.

a)

n	$f(n)$
1	
2	10
3	
4	250
5	
6	
7	

b)

n	$f(n)$
1	
2	3
3	
4	
5	192
6	
7	

c)

n	$f(n)$
1	
2	
3	18
4	
5	
6	
7	1458

3. Write the next 2 terms for each sequence, and write the recursive and explicit functions. Determine the indicated term.

a) 89, 72, 55, 38,
_____, _____

Recursive Function:

Explicit Function:

760th term:

b) 6, 7.5, 9, 10.5,
_____, _____

Recursive Function:

Explicit Function:

2015th term:

c) $\frac{1}{50}$, $\frac{-1}{5}$, 2, -20,
_____, _____

Recursive Function:

Explicit Function:

10th term:

d) 16, 24, 36, 54,
_____, _____

Recursive Function:

Explicit Function:

13th term:

4. Solve each system of equation.

a)
$$\begin{cases} y = -2x - 1 \\ 2x + 3y = 9 \end{cases}$$

b)
$$\begin{cases} 4x + 3y = 7 \\ 2x - 9y = 35 \end{cases}$$

c)
$$\begin{cases} 5x - 3y = 11 \\ 3x - 4y = 22 \end{cases}$$

5. The Health Office is tracking the number of cases of sinus infections at El Camino. There were 5 cases on the first week of this semester, and the number of cases doubled each week.

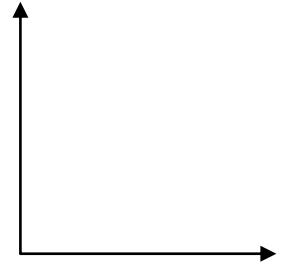
a) What type of sequence fits this situation? Explain.

d) How many cases are reported on the tenth week? Clearly communicate your reasoning.

e) Sketch a graph of this situation.

b) Write a recursive function.

c) Write an explicit function.



6. The Counseling Office is tracking the number of students failing classes at EC. There were 560 students failing at least one class on the first day back of break. There are 20 fewer students failing at least one class every day thereafter.

a) What type of sequence fits this situation? Explain.

d) How many students are failing at least one class on the 18th day back from break? Clearly communicate your reasoning.

e) Sketch a graph of this situation.

b) Write a recursive function.

c) Write an explicit function.

