



Arithmetic sequence

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What is a Sequence?

A Sequence is a list of things (usually numbers) that are in order.

Sequence:



Here are two examples of arithmetic sequences. Observe their common differences.

Increasing Arithmetic Sequence	Decreasing Arithmetic Sequence
* Common difference is positive!	* Common difference is negative!
$5, 9, 13, 17, \dots$ $+4 \quad +4 \quad +4$	$20, 17, 14, 11, \dots$ $-3 \quad -3 \quad -3$

Example 1: Find the next term in the sequence below.

7, 15, 23, 31, ?

First, find the common difference of each pair of consecutive numbers.

7, 15, 23, 31, ?
 $+8 \quad +8 \quad +8 \quad +8$

Since the common difference is $+8$, we can find the next term after 31 by adding 8 to it. Therefore, we have $31 + 8 = 39$.

7, 15, 23, 31, 39

Skills practice

Aithmetic sequences

1. Find the next three terms of each arithmetic sequence and write the common difference.

	Next three terms	Common difference
a) 3, 6, 9, 12, ...	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/>
b) 5, 7, 9, 11, ...	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/>
c) 22, 20, 18, 16, ...	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/>
d) 15, 13, 12, 10, ...	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/>
e) 10, 22, 34, 46, ...	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/>

2. Complete the table.

	Pattern	Is the sequence increasing or decreasing?	Is there a common difference? If so, what is it?
a.	2, 5, 8, 11, 14, ...	<input type="text"/>	<input type="text"/>
b.	55, 50, 45, 40, ...	<input type="text"/>	<input type="text"/>
c.	1, 2, 4, 9, 16, ...	<input type="text"/>	<input type="text"/>
e.	2.6, 2.9, 3.2, 3.5, ...	<input type="text"/>	<input type="text"/>

INSTRUCTIONS FOR SENDING THE ACTIVITY

2 Write an algebraic expression for each phrase.

1. a number g added to sixty-three

2. the quotient of seven and a number x

3. ten less than a number x

4. the difference

5. a number q is

6. the total of 1 and 2

7. ninety-seven is

8. the product of

9. the sum of the

10. twenty-three

11. twelve divided

12. a number y is

13. a number w decreased by any eight

14. a number b minus fifty-eight

15. forty-six more than

16. a number h divided

17. the sum of a number

18. the quotient of a number

19. the product of four

20. a number c added

When you finish your activity, you will click on the blue button that says FINISH and then you will click on the option: EMAIL MY ANSWERS TO MY TEACHER

3 What do you want to do?

Enter your full name:

Group/level:

School subject:

Enter your teacher's email or key code:

and you will write the following information in the boxes:

- Enter your full name: **ADDISON MONSOON ALEJO BAIN**
- Group / level: **1A**
- School subject: **MATH**
- Enter your teacher's email or key code: **a.m.rios.v@gmail.com**

And finally you will click on the option to send.



¡EXCELENTE!