

UNIT 1 LESSON 8 – ARITHMETIC and GEOMETRIC SEQUENCE

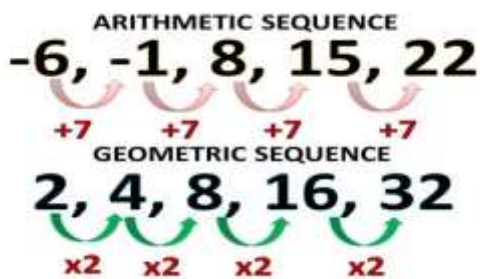
A sequence is an ordered list of numbers. Each number in a sequence is called a term.

Sequence:



In an ARITHMETIC sequence, each term is found by adding the same number to the previous term.

In a GEOMETRIC sequence, each term is found by multiplying the same number to the previous term.



Ex 1) Find the first 5 terms of the sequence. $6n + 1$

Substitute the values 1 – 5 for "n" to find the first 5 terms

$$6(1) + 1 = 7$$

$$6(2) + 1 = 13$$

$$6(3) + 1 = 19$$

$$6(4) + 1 = 25$$

$$6(5) + 1 = 31$$

ANSWER: The first 5 terms of the sequence are 7, 13, 19, 25, and 31

Ex 2) Find the missing terms in the sequence. 8, 13, 18, 23, _____, _____

Find the common difference/common ratio to find the missing terms

There is a common difference. Each term is being added by 5. Now you can find the missing terms.

$$23 + 5 = 28$$

$$28 + 5 = 33$$

ANSWER: The missing terms in the sequence are 28 and 33

Ex 3) Find the missing terms in the sequence. 2, 6, 18, _____, _____

Find the common difference/common ratio to find the missing terms

There is a common ratio. Each term is being multiplied by 3. Now you can find the missing terms.

$$18 * 3 = 54$$

$$54 * 3 = 162$$

ANSWER: The missing terms in the sequence are 54 and 162