

# SEQUENCES

## A NUMERICAL SEQUENCE

### Definition Numerical sequence

A **numerical sequence** is a list of numbers that follow a rule. Each number in the sequence follows this rule, helping us know what the next number will be.

**Ex:** What do you think the next number in the sequence will be?

$$0, 1, 2, 3, 4, \square$$

*Answer:* The next number is 5, because each number increases by 1.

$$0, 1, 2, 3, 4, \square$$

+1 +1 +1 +1 +1

### Definition Arithmetic Sequence

An **arithmetic sequence** is a list of numbers where the same number is added or subtracted each time to get the next number.

**Ex:** What is the next number in the sequence?

$$3, 6, 9, 12, \square$$

*Answer:* The next number is 15, because each number increases by 3.

$$3, 6, 9, 12, \square$$

+3 +3 +3 +3

### Definition Geometric Sequence

A **geometric sequence** is a list of numbers where the same number is multiplied or divided each time to get the next number

**Ex:** What is the next number in the sequence?

$$2, 4, 8, 16, \square$$

*Answer:* The next number is 32, because each number is multiplied by 2.

$$2, 4, 8, 16, \square$$

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