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?

$$0, 1, 2, 3, 4, \boxed{}$$

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

$$\overset{+1}{}\overset{+1}{}\overset{+1}{}\overset{+1}{}\overset{+1}{}$$
$$0, 1, 2, 3, 4, \boxed{5}$$

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?

$$3, 6, 9, 12, \boxed{}$$

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

$$\overset{+3}{}\overset{+3}{}\overset{+3}{}\overset{+3}{}$$
$$3, 6, 9, 12, \boxed{15}$$

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?

$$2, 4, 8, 16, \boxed{}$$

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

$$\overset{\times 2}{}\overset{\times 2}{}\overset{\times 2}{}\overset{\times 2}{}$$
$$2, 4, 8, 16, \boxed{32}$$