# SEQUENCES

## A NUMERICAL SEQUENCE

### A.1 FINDING NEXT NUMBER IN ARITHMETIC SEQUENCE

**Ex 1:**

$$6, 9, 12, 15, \boxed{18}$$

*Answer:*

$$\overset{+3}{\frown}\ \overset{+3}{\frown}\ \overset{+3}{\frown}\ \overset{+3}{\frown}$$
$$6\ ,\ 9\ ,\ 12\ ,\ 15\ ,\ \boxed{18}$$

**Ex 2:**

$$30, 28, 26, 24, \boxed{22}$$

*Answer:*

$$\overset{-2}{\frown}\ \overset{-2}{\frown}\ \overset{-2}{\frown}\ \overset{-2}{\frown}$$
$$30\ ,\ 28\ ,\ 26\ ,\ 24\ ,\ \boxed{22}$$

**Ex 3:**

$$50, 100, 150, 200, \boxed{250}$$

*Answer:*

$$\overset{+50}{\frown}\ \overset{+50}{\frown}\ \overset{+50}{\frown}\ \overset{+50}{\frown}$$
$$50\ ,\ 100\ ,\ 150\ ,\ 200\ ,\ \boxed{250}$$

**Ex 4:**

$$20, 17, 14, 11, \boxed{8}$$

*Answer:*

$$\overset{-3}{\frown}\ \overset{-3}{\frown}\ \overset{-3}{\frown}\ \overset{-3}{\frown}$$
$$20\ ,\ 17\ ,\ 14\ ,\ 11\ ,\ \boxed{8}$$

**Ex 5:**

$$7, 14, 21, 28, \boxed{35}$$

*Answer:*

$$\overset{+7}{\frown}\ \overset{+7}{\frown}\ \overset{+7}{\frown}\ \overset{+7}{\frown}$$
$$7\ ,\ 14\ ,\ 21\ ,\ 28\ ,\ \boxed{35}$$

**Ex 6:**

$$36, 31, 26, 21, \boxed{16}$$

*Answer:*

$$\overset{-5}{\frown}\ \overset{-5}{\frown}\ \overset{-5}{\frown}\ \overset{-5}{\frown}$$
$$36\ ,\ 31\ ,\ 26\ ,\ 21\ ,\ \boxed{16}$$

## A.2 FINDING NEXT NUMBER IN GEOMETRIC SEQUENCE

**Ex 7:**

$$1, 2, 4, 8, \boxed{16}$$

*Answer:*

$$\overset{\times 2}{\frown}\ \overset{\times 2}{\frown}\ \overset{\times 2}{\frown}\ \overset{\times 2}{\frown}$$
$$1\ ,\ 2\ ,\ 4\ ,\ 8\ ,\ \boxed{16}$$

**Ex 8:**

$$1, 3, 9, \boxed{27}$$

*Answer:*

$$\overset{\times 3}{\frown}\ \overset{\times 3}{\frown}\ \overset{\times 3}{\frown}$$
$$1\ ,\ 3\ ,\ 9\ ,\ \boxed{27}$$

**Ex 9:**

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

*Answer:*

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

**Ex 10:**

$$81, 27, 9, \boxed{3}$$

*Answer:*

$$\overset{\div 3}{\frown}\ \overset{\div 3}{\frown}\ \overset{\div 3}{\frown}$$
$$81\ ,\ 27\ ,\ 9\ ,\ \boxed{3}$$

**Ex 11:**

$$3, 6, 12, \boxed{24}$$

*Answer:*

$$\overset{\times 2}{\frown}\ \overset{\times 2}{\frown}\ \overset{\times 2}{\frown}$$

- $3\ ,\ 6\ ,\ 12\ ,\ \boxed{24}$

- $2 \times 12 = 12 + 12$
$$= 24$$