



Arithmetic Progressions Ex 19.3 Q4

Let three numbers be $a - d, a, a + d$

Then,

$$a - d + a + a + d = 12$$

$$3a = 12$$

$$a = 4$$

and

$$(a - d)^3 + a^3 + (a + d)^3 = \pm 288$$

$$a^3 + d^3 + 3ad(a + d) + a^3 + a^3 - a^3 - 3ad(a - d) = 288$$

$$\Rightarrow 2a^3 + 3a^2d + 3ad^2 - 3a^2d + 3ad^2 = 288$$

$$\Rightarrow 2a^3 + 3a^2d^2 = 288$$

$$\Rightarrow 128 + 48d^2 = 288$$

$$\therefore d = \pm 2$$

\therefore The required sequence is 2, 4, 6 or 6, 4, 2.

Arithmetic Progressions Ex 19.3 Q5

Let 3 numbers in A.P be

$$a - d, a \text{ and } a + d$$

$$\Rightarrow (a - d) + (a) + (a + d) = 24$$

$$3a = 24$$

$$a = 8$$

and

$$(a - d)(a)(a + d) = 440$$

$$8^2 - d^2 = 55$$

$$d = 3$$

\therefore The required sequence is 5, 8, 11.

Arithmetic Progressions Ex 19.3 Q6

Let the four angle be

$$a - 3d, a - d, a + d, a + 3d$$

Then,

$$\text{sum of all angles} = 360^\circ$$

$$a - 3d + a - d + a + d + a + 3d = 360^\circ$$

$$4a = 360^\circ$$

$$a = 90^\circ \quad \text{---(i)}$$

and

$$(a - d) - (a - 3d) = 10$$

$$2d = 10$$

$$d = 5$$

\therefore The angle of the given quadrilateral are $75^\circ, 85^\circ, 95^\circ$ and 105° .

***** END *****