



Arithmetic Progressions Ex 19.3 Q1

Let the 3rd term of A.P be

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

Then,

$$a - d + a + a + d = 21$$

$$3a = 21$$

$$\therefore a = 7$$

and

$$(a - d)(a + d) = a + 6$$

$$a^2 - d^2 = a + 6$$

$$7^2 - d^2 = 7 + 6$$

$$[\because a = 7]$$

$$d^2 = 36$$

$$d = \pm 6$$

Since d can't be negative, therefore

\therefore The A.P is 1, 7, 13.

Arithmetic Progressions Ex 19.3 Q2

Let the 3 numbers in A.P are

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

Then,

$$a - d + a + a + d = 27$$

$$3a = 27$$

$$\therefore a = 9$$

---(i)

and

$$(a - d)(a)(a + d) = 648$$

$$(9 - d)9(9 + d) = 648$$

$$[\because a = 9]$$

$$9^2 - d^2 = 72$$

$$\therefore d = 3$$

---(ii)

\therefore The given sequence is 6, 9, 12.

Arithmetic Progressions Ex 19.3 Q3

Let the four numbers in A.P be

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

$$(a - 3d) + (a - d) + (a + d) + (a + 3d) = 50$$

$$4a = 50$$

$$a = \frac{25}{2} \quad \text{--- (i)}$$

and

$$(a + 3d) = 4(a - 3d)$$

$$\frac{25 + 6d}{2} = 50 - 12d$$

$$30d = 75$$

$$d = \frac{25}{10} = \frac{5}{2} \quad \text{--- (ii)}$$

∴ The required sequence is 5, 10, 15, 20.

***** END *****