

CHAPTER 05**Arithmetic Progressions****Example:**

How many two – digit numbers are divisible by 3?

Sol.

The list of two – digit numbers divisible by '3' is 12, 15, 18 ... 19

Is this A.P?

Yes, it is.

Here, $a = 12$, $d = 15 - 12 = 3$, $a_n = 99$

$$a_n = a + (n - 1)d$$

We have $99 = 12 + (n - 1) 3$

$$\Rightarrow 99 - 12 = (n - 1) 3$$

$$\Rightarrow 87 = (n - 1)3$$

$$\Rightarrow 3(n - 1) = 87$$

$$\Rightarrow (n - 1) = \frac{87}{3} = 29$$

$$\Rightarrow n = 29 + 1 = 30$$

So, 99 is the 30th term there are 30 two – digit numbers divisible by '3'.

