

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

Find the 10th term of the A.P: -10, -6, -2, 2...

Sol.

Here, $a = -10$,

$$d = -6 - (-10) = -6 + 10 = 4 \text{ and}$$

$$n = 10$$

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

$$\text{So, } a_{10} = -10 + (10-1)4$$

$$= -10 + (9)4$$

$$= -10 + 36$$

$$= 26$$

Example:

Find how many terms are there in the A.P: 16, 24, 32...96.

Sol.

Here, $a = 16$, $d = 24 - 16 = 8$ and last term (l) = 96

We have, $l = a + (n - 1) d$

$$\Rightarrow 96 = 16 + (n - 1)8$$

$$\Rightarrow 96 = 16 + 8n - 8$$

$$\Rightarrow 96 - 16 + 8 = 8n$$

$$\Rightarrow 8n = 88$$

$$\Rightarrow n = \frac{88}{8}$$

$$\therefore n = 11$$

