

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

If $7k - 11$, $2k + 1$ and $k + 12$ are any three consecutive terms of an A.P, then find the value of 'k'.

Sol.

Here, $7k - 11$, $2k + 1$ and $k + 12$ are three consecutive terms of an A.P.

i.e. a, b, c are in A.P

$$\Rightarrow b - a = c - b$$

$$\Rightarrow (2k + 1) - (7k - 11) = (k + 12) - (2k + 1)$$

$$\Rightarrow 2k + 1 - 7k + 11 = k + 12 - 2k - 1$$

$$\Rightarrow 2k - 7k - k + 2k = 12 - 1 - 1 - 11$$

$$\Rightarrow -4k = -1$$

$$\Rightarrow k = \frac{1}{4}$$