

ARITHMETIC PROGRESSION

S.no	Terms	Descriptions
1	Arithmetic Progression	<p>An arithmetic progression is a sequence of numbers such that the difference of any two successive members is a constant</p> <p>Examples</p> <p>1) 1,5,9,13,17....</p> <p>2) 1,2,3,4,5,...</p>
2	common difference of the AP	<p>the difference between any successive members is a constant and it is called the common difference of AP</p> <p>1) If a_1, a_2, a_3, a_4, a_5 are the terms in AP then</p> $D = a_2 - a_1 = a_3 - a_2 = a_4 - a_3 = a_5 - a_4$ <p>2) We can represent the general form of AP in the form</p> $a, a+d, a+2d, a+3d, a+4d, \dots$ <p>Where a is first term and d is the common difference</p>
3	nth term of Arithmetic Progression	$n^{\text{th}} \text{ term} = a + (n - 1)d$
4	Sum of nth item in Arithmetic Progression	$S_n = (n/2)[a + (n-1)d]$ <p>Or</p> $S_n = (n/2)[t_1 + t_n]$