

<p style="text-align: center;">BCM SCHOOL, BASANT AVENUE, DUGRI, LUDHIANA CLASS-X (MATHEMATICS) ASSIGNMENT(OCTOBER,2023) TOPIC: ARITHMETIC PROGRESSION</p>		
1.	What is the common difference of an AP in which $a_{18} - a_{14} = 32$? (a) 8 (b) -8 (c) -4 (d) 4	1
2.	If $k+2$, $4k-6$ and $3k-2$ are three consecutive terms of an AP, then value of k is: (a) -3 (b) 3 (c) 4 (d) -4	1
3.	Assertion : If S_n is the sum of the first n terms of an A.P., then its n th term a_n is given by $a_n = S_n - S_{n-1}$. Reason : The 10th term of the A.P. 5, 8, 11, 14, is 35. a.) Both Assertion and Reason are correct and Reason is the correct explanation for Assertion b.) Both Assertion and Reason are correct and Reason is not the correct explanation for Assertion. c.) Assertion is true but the reason is false. d.) Both assertion and reason are false.	1
4.	If the 9 th term of an A.P. is zero, then show that its 29 th term is double of its 19 th term.	2
5.	If m th term of an A.P. is $1/n$ and n th term is $1/m$, then find the sum of its first mn terms	3
6.	The ratio of the sums of first m and first n terms of an A. P. is $m^2 : n^2$. Show that the ratio of its m th and n th terms is $(2m - 1) : (2n - 1)$	3
7.	CASE STUDY: The school auditorium was to be constructed to accommodate at least 1500 people. The chairs are to be placed in concentric circular arrangement in such a way that each succeeding circular row has 10 seats more than the previous one. (i) If the first circular row has 30 seats, how many seats will be there in the 10th row? (ii) For 1500 seats in the auditorium, how many rows need to be there? OR If 1500 seats are to be arranged in the auditorium, how many seats are still left to be put after 10th row? (iii) If there were 17 rows in the auditorium, how many seats will be there in the middle row?	4