



INDIAN SCHOOL DARSAIT

DEPARTMENT OF MATHEMATICS



Subject : MATHEMATICS Topic : ARITHMETIC Date of Worksheet : 17/05/2018
 Worksheet no: 5 PROGRESSION

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Name of the Student _____ Class & Division: X _____ Roll Number : ____

S.No.	Section A-[Basic skills]	
1.	$110 - \frac{2}{5} =$	
2.	$204.5 + 78.9 =$	
3.	$10008 \div 100 =$	
4.	$123.89 \times 4.5 =$	
5.	$4483 \div 13.1 =$	
Sl.No.	Section B -[Chapter based questions]	Marks
1.	Find the position of 98 in the following series 3,8,13?	2
2.	Find the 35th term if the first term is 8 and common difference is 1.5	2
3.	Find the number of terms in the series 8,11,14,....95	2
4.	Find the values of x in the Arithmetic series $3x+1, 5x-1, 5x+1, \dots$	2
5.	In an A.P the 12th term is 61 and common difference is 5 then find the series	3
6.	In an A.P $T_4:T_7::2:3$ then find $T_3:T_{11}$	3
7.	Find the sum of all numbers between 200 and 400 which are divisible by 7	3
8.	Find the sum of the first 12 odd numbers.	3
9.	Find the three numbers in A.P whose sum is 21 and sum of their squares is 179	3
10.	How many terms of the series $230+227+224+\dots$ make a sum of 4200	3
11.	Determine the rth term of an A.P. whose 6th term is 12 and 8th term is 22	3
12.	If 7 times the 7th term of an A.P is equal to 11 times its eleventh term, find the 18th term of the A.P.	3
13.	Check whether -100 is a term of the AP: 11, 8, 5, 2,.....	3
14.	Determine k so that $k+2, 4k-6$ and $4k-2$ are the three consecutive terms of an A.P	3
15.	The sum of the 5 th and 9 th terms of an AP is 72 and the sum of the 7 th and 12 th terms is 97. Find the AP	3



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SECTION C [HOT QUESTIONS]

1.	The sums of n terms of three arithmetical progressions are S_1 , S_2 and S_3 . The first term of each is unity and the common differences are 1, 2 and 3 respectively. Prove that $S_1 + S_3 = 2 S_2$	4
2.	For A.P. show that $a_p + a_{p+2q} = 2a_{p+q}$	2
3.	How many three digit numbers are such that when divided by 7, leave a remainder 3 in each case	2
4.	If S_1 , S_2 and S_3 be the sum of n , $2n$ and $3n$ terms respectively of an A. P. prove that $S_3 = 3(S_2 - S_1)$	3
5.	If in an AP the sum of m terms is equal to n and the sum of n terms is equal to m , prove that the sum of $(m + n)$ terms is $-(m + n)$	4
6.	Find the sum of the following: $(1 - \frac{1}{n}) + (1 - \frac{2}{n}) + (1 - \frac{3}{n}) + \dots$ upto n terms.	3
7.	The sum of the first p , q and r terms of an AP are a , b and c respectively. Show that $\frac{a}{p}(q - r) + \frac{b}{q}(r - p) + \frac{c}{r}(p - q) = 0$	4
8.	The ratio of the sums of m and n terms of an AP is $m^2 : n^2$. Show that the ratio of the m^{th} and n^{th} terms is $(2m - 1) : (2n - 1)$.	4
9.	The digits of a positive integer having three digits are in AP and their sum is 15. The number obtained by reversing the digits is 594 less than the original number. Find the number.	4