



INDIAN SCHOOL DARSAIT
DEPARTMENT OF MATHEMATICS
WORKSHEET # 9



Subject : MATHEMATICS	Topic : ARITHMETIC PROGRESSION	Date of Worksheet : 13/08/2017
Resource Person: Mrs.Indu .P		Date of submission : 20/08/2017
Name of the Student _____	Class & Division: _____	Roll Number : ____

S.No.	Section A-[Basic skills]
1.	$110 - \frac{2}{5} =$
2.	$204.51 + 78.9 =$
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



INDIAN SCHOOL DARSAIT
DEPARTMENT OF MATHEMATICS



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
16.	How many terms of two digits are divisible by 3?	2
17.	The sum of the first n terms of an AP is given by $S_n = (3n^2 - n)$, find its n th term.	3
18.	In an AP, the first term is 22, n th term is -11 and sum to first n th terms is 66. Find n and d common difference.	3
19.	Find the sum of first hundred even natural numbers which are divisible by 5.	3
20.	The first and last terms of an AP are 4 and 81 respectively. If the common difference is 7, how many terms are there in the AP and what is their sum?	3
21.	The sum of first 6 terms of an AP is 42. The ratio of its 10 th term to its 30 th term is 1 : 3. Calculate the first and the thirteenth terms of the AP.	3
22.	A ladder has rungs 25cm apart . The rungs decrease uniformly in length from 45cm at the bottom to 25 cm at the top. If the top and bottom rungs are 2.5 cm apart , what is the length of the wood required for the rungs?	4
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: $(1 - \frac{1}{n}) + (1 - \frac{2}{n}) + (1 - \frac{3}{n}) + \dots\dots\dots$ 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 sum of n terms of two AP's is $(7n + 1) : (4n + 27)$. Find the ratio of their m th terms.	4
9.	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
10.	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