ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

FOR GOD AND COUNTRY

Worksheet-5

SUBJECT – MATHEMATICS

1st term

Chapter: Sequence & Series **Class: XI**

Topic: Arithmetic Progression (AP) **Date: 29.06.2020**

Choose the correct option **(1 X 15= 15)**

1. There are n arithmetic means between 14 and 38 such that , second mean : last mean = 4 : 7 . Then n = ?
   a) 5
   b) 6
   c) 7
   d) 8

2. The sum of three numbers in an A.P. is 12 and the sum of their squares is 56. The set of the numbers is –
   a) {2, 3, 7}
   b) {2, 4 , 6}
   c) {4, 3 , 5}
   d) {1, 4, 7}

3. The sum of all natural numbers between 500 and 1000 which are divisible by 13 is-
   a) 28406
   b) 28403
   c) 26405
   d) 28405

4. **The sum of all odd numbers , which are perfect squares between 50 and 10000 is-**
   a) 155766
   b) 166755
   c) 166566
   d) 155655

5. **The least value of n for which the sum of the series 20+28+36+ . . . to n terms is greater than 1000 is -**
   a) 14
   b) 15
   c) 16
   d) 17

6. **The perpendicular of a right angle triangle is 9cm and the three sides are in A.P. The integral value of the length of the hypotenuse is -**
   a) 12cm
   b) 15cm
   c) 13cm
   d) 39cm

7. **Find the sum of the three-digit natural numbers which leave a remainder 2, when divided be 3 –**
   a) 165433
   b) 157932
   c) 148924
   d) 164850

8. **A man arranges to pay off a debt of Rs.12000 in 30 annual installments which form an A.P. When 20 of the installments are paid, he dies leaving a half of his debt unpaid. The value of the first installment is -**
   a) Rs.101
   b) Rs.110
   c) Rs.111
   d) Rs.120

9. **Four numbers are in A.P. and their sum is 50, the greatest number is 4 times of the least. The numbers are –**
   a) 4, 10, 16, 22
   b) 5, 10, 15, 20
   c) 3, 7, 11, 15
   d) None of these.

10. **The 7^{th} and 13^{th} terms of an A.P. be 34 and 64 respectively, then the 18^{th} term is –**
   a) 87
   b) 88
   c) 89
   d) 90

11. **The sums of p^{th} terms of two A.P.'s are in the ratio (2p+1) : (2p-1). Then the ratio of their 8^{th} terms –**
   a) 31 : 29
   b) 29 : 32
   c) 29 : 31
   d) 32 : 29

12. If the sum of n terms of an A.P. is $3n^2+5n$, then which of its terms is 164 ?
a) 26^{th}
b) 27^{th}
c) 28^{th}
d) 29^{th}

13. If the sum of n terms of an A.P. is $2n^2+5n$, then its n^{th} term is -
a) $4n-3$
b) $3n-4$
c) $4n+3$
d) $3n+4$

14. If in an A.P., the p^{th} term is q and $(p+q)^{th}$ is zero, then the q^{th} term is -
a) -p
b) p
c) p+q
d) p-q

15. Let S_n denotes the sum of 1^{st} n terms of an A.P. If $S_{2n}=3S_n$ then $S_{3n} : S_n = ?$
a) 4
b) 6
c) 8
d) 10

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