

ST. LAWRENCE HIGH SCHOOL A JESUIT CHRISTIAN MINORITY INSTITUTION



Solutions of worksheet-5

SUBJECT – MATHEMATICS

1st term

Chapter: Sequence & Series

Topic: Arithmetic Progression (AP)

Class: XI

(1 X 15 = 15)

Date: 29.06.2020

Choose the correct option

- 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 $20+28+36+\ldots$ 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 7th and 13th terms of an A.P. be 34 and 64 respectively, then the 18th 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 3n²+5n , then which of its terms is 164 ?
 - a) 26th
 - b) 27th
 - 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 pth term is q and (p+q)th is zero, then the qth 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

Prepared by :-

SUKUMAR MANDAL (SkM).