MM 30　　　　　　　**Arithmetic Progression**　　　　　　　**Time 1h**

Section A 1 mark each

1. The 20th term of an A.P. exceeds its 15th term by 10. Common difference is
   (a) 2　　　　　　(b) 4　　　　　　(c) 20　　　　　　(d) None of These

2. In an AP, if d = –2, n = 7, a_n = 4, then a is
   (a) 16　　　　　　(b) 4　　　　　　(c) 12　　　　　　(d) None of These

3. The 24th term of the AP whose first two terms are –3 and 4 is
   (a) 17　　　　　　(b) 137　　　　　　(c) 143　　　　　　(d) –143

4. If 7 times the 7th term of an AP is equal to 11 times its 11th term, then its 18th term will be
   (a) 7　　　　　　(b) 11　　　　　　(c) 18　　　　　　(d) 0

5. The famous mathematician associated with finding the sum of the first 100 natural numbers is
   (a) Pythagoras　　　(b) Newton　　　(c) Euclid　　　(d) None of These

Section B 2 marks each

6. For the AP –3, –8, –13, ..., can we find directly $a_{40} - a_{30}$ without actually finding a_{40} and a_{30}? Give reasons for your answer.

7. Is 0 a term of the AP: 33, 29, 25, ...? Justify your answer.

8. Justify whether it is true to say that $1+m+m^2$ is the mth terms of an AP.

9. Derive a formula to find sum of n terms of A.P. a, a + d, a + 2d , -----------

Section C 3 marks each

10. The sum of the first three terms of an AP is 30. If the product of the first and the third term exceeds twice the second term by 71, find the AP.

11. A sum of 2750 is to be used to give ten cash prizes to students of a school for their over all academic performance. If each prize is Rs. 50 less than its preceding prize, Find the value of each of the prize.

12. If the sum of the first n terms of an AP is $4n - n^2$, what is the first term What is the second term? Similarly, find the 5rd, the 9th and the pth term.

cbseresults2009.com

Section D 4 marks each

13. The sum of four consecutive numbers in an AP is 46 and the ratio of the product of the first and the last terms to the product of the two middle term is 5:6. Find the numbers.

14. 610 logs are stacked in the following manner: 40 logs in the bottom row, 39 in the next row, 38 in the row next to it and so on. In how many rows are the 610 logs placed and how many logs are in the top row?

Paper prepared by

Dev Anoop
Teacher St. Joseph's Convent School
Bathinda
Email: devanoop@devanoop.com

Also Visit

cbse.biz

and

cbsesocialscience.com

and

cbsemathspapers.com