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International Examinations Papers

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Pure Mathematics-1

TOPIC- Sequences

Arithmetic Progression

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1   The first term of an arithmetic progression is 61 and the second term is 57. The sum of the first n terms is n. Find the value of the positive integer n.   *N-12-11-1*   [4]

02   The first term of an arithmetic progression is 6 and the fifth term is 12. The progression has n terms and the sum of all the terms is 90. Find the value of n.   *N-8-3*   [4]

3   The ninth term of an arithmetic progression is 22 and the sum of the first 4 terms is 49.

   (i) Find the first term of the progression and the common difference. $J-10-11-3$ [4]

The nth term of the progression is 46.

   (ii) Find the value of n.   [2]

4 The 1st, 3rd and 13th terms of an arithmetic progression are also the 1st, 2nd and 3rd terms respectively of a geometric progression. The first term of each progression is 3. Find the common difference of the arithmetic progression and the common ratio of the geometric progression. [5]

J—16—13—4

5 An arithmetic progression has first term a and common difference d. It is given that the sum of the first 200 terms is 4 times the sum of the first 100 terms.

J- 14–11–5

    (i) Find d in terms of a.

[3]

    (ii) Find the 100th term in terms of a.

[2]

06   In an arithmetic progression, the 1st term is -10, the 15th term is 11 and the last term is 41. Find the sum of all the terms in the progression.

                                               3-4   [5]