SEQUENCES & SERIES (Q 5, PAPER 1)

2009

5 (a) The first term of a geometric sequence is 2 and the common ratio is 3.
Find the second term of the sequence.

(b) The first term of an arithmetic series is –2 and the second term is 4.
(i) Find d, the common difference.

(ii) Find T_{10}, the tenth term of the series.

(iii) The kth term of the series is 292. Find k.

(iv) Find S_{20}, the sum of the first 20 terms of the series.

(c) The first two terms of a geometric series are $-6 + 12 + ...$
(i) Find r, the common ratio.

(ii) Find T_7, the seventh term of the series.

(iii) Starting with the first term, how many terms of the series must be added to give
a sum of 30?

ANSWERS
5 (a) 6
(b) (i) 6   (ii) 52   (iii) 50   (iv) 1100
(c) (i) –2   (ii) –384   (iii) 4