SEQUENCES & SERIES (Q 5, PAPER 1)

LESSON NO. 6: PROVING A SEQUENCE IS ARITHMETIC

2006

5 (c) The first three terms of an arithmetic sequence are

$h + 3, \ 5h - 2, \ 6h - 13$

where h is a real number.

(i) Find the value of h.

(ii) Hence, write down the value of each of the first three terms.

(iii) Find the value of the eleventh term.

1999

5 (c) The nth term of a series is given by

$T_n = 4n + 1$.

(i) Write down, in terms of n, an expression for T_{n-1}, the $(n-1)$st. term.

(ii) Show that the series is arithmetic.

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

ANSWERS

2006 5 (c) (i) $h = -2$ (ii) $1, -12, -25$ (iii) $T_{11} = -129$

1999 5 (c) (i) $T_{n-1} = 4n - 3$ (iii) 860