SEQUENCES & SERIES (Q 5, PAPER 1)

1997

5	(a)	$T_1 + T_2 + T_3 + \dots$ is a geometric series. The first term, T_1 , is 1 and the common ratio is 2. Show that $T_3 + T_5 = 2(T_2 + T_4).$
	(b)	 The first four terms of an arithmetic sequence are given as <i>a</i>, -4, <i>b</i>, 6, Find (i) the value of <i>a</i> and the value of <i>b</i> (ii) <i>T</i>₅, the fifth term.
	(c)	In an arithmetic series $S_n = n^2 + n$, where S_n is the sum to the first <i>n</i> terms. Write down (i) S_{10} , the sum to 10 terms (ii) S_{11} , the sum to 11 terms (iii) T_{11} , the 11th. term.

Answers						
5	(b) (i) $a = -9, b = 1$	(ii) 11				
	(c) (i) 110	(ii) 132	(iii) 22			