

**SEQUENCES & SERIES (Q 5, PAPER 1)**

**2010**

5. (a) The first term of a geometric sequence is 4 and the common ratio is 0.5.  
Write down the first five terms of the sequence.
- (b) In an arithmetic series, the first term is 6 and the fifth term is 22.
- (i) Find  $d$ , the common difference.
- (ii) Find  $T_{14}$ , the fourteenth term.
- (iii) Find  $S_{20}$ , the sum of the first twenty terms.
- (c) In a geometric series, the fourth term is 9 and the seventh term is 243.
- (i) Find  $r$ , the common ratio.
- (ii) Find  $a$ , the first term.
- (iii) Find  $S_8$ , the sum of the first eight terms.

**ANSWERS**

- 5 (a) 4, 2, 1, 0.5, 0.25
- (b) (i) 4 (ii) 58 (iii) 880
- (c) (i) 3 (ii)  $\frac{1}{3}$  (iii)  $\frac{3280}{3}$