(18) Sigma Notation for Series

WORKING AT D/E

(1) (a) Write down what type of sequence $7 + 2r$ is.

(b) Hence, using the formula book, find

$$\sum_{r=1}^{45} 7 + 2r$$

(c) Write down what type of sequence 3×2^r is.

(d) Hence, using the formula book, find

$$\sum_{r=1}^{20} 3 \times 2^r$$

(2) Evaluate

$$\sum_{r=1}^{40} 5 - 6r$$

(3) Evaluate

$$\sum_{r=1}^{100} 4 \times 0.5^r$$

WORKING AT B/C

(1) Evaluate

$$\sum_{r=10}^{50} 5 - 6r$$

(2) Give that

$$\sum_{r=1}^{10} p \times 3^r = 44286$$

use the formula book to find the value of the constant p.

(3) Give that

$$\sum_{r=1}^{n} 7n - 6 = 5226$$

use the formula book to find the value of n.

WORKING AT A*/A

(1) Evaluate

$$\sum_{r=10}^{20} 2 \times 1.1^r + 2r$$

Giving your answer to 1 decimal place.

(2) Show that

$$\sum_{r=1}^{n+1} 4 \times 2^r = 2^{n+4} - 2^3$$

(3) Given that

$$\sum_{r=1}^{2} 3 \times R^r = 5.13$$

where R is a constant, find

$$\sum_{r=1}^{\infty} 3 \times R^r$$