

p. 173-4 – even problems only

Exercise 6G

- 1 Find the sum of the first 12 terms of the arithmetic series
 $3 + 6 + 9 + \dots$
- 2 Find the sum of the first 18 terms of the arithmetic series
 $2.6 + 3 + 3.4 + \dots$
- 3 Find the sum of the first 27 terms of the arithmetic series
 $100 + 94 + 88 + \dots$
- 4 Find the sum of the first 16 terms of the series
 $(2 - 5x) + (3 - 4x) + (4 - 3x) + \dots$

EXAM-STYLE QUESTION

- 5 Consider the series $120 + 116 + 112 + \dots + 28$.
 - a Find the number of terms in the series
 - b Find the sum of the terms.
 - 6 Find the sum of the series $15 + 22 + 29 + \dots + 176$
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Exercise 6H

- 1** An arithmetic series has $u_1 = 4$ and $S_{30} = 1425$
Find the value of the common difference.

EXAM-STYLE QUESTION

- 2 a** Write an expression for S_n , for the series $1 + 7 + 13 + \dots$
b Hence, find the value of n for which $S_n = 833$
- 3 a** Write an expression for S_n , for an arithmetic series
with $u_1 = -30$ and $d = 3.5$
b Hence, find the value of n for which $S_n = 105$
- 4** In January 2012, a new coffee shop sells 500 drinks. In February,
they sell 600 drinks, then 700 in March, and so on in an arithmetic progression.
a How many drinks will they expect to sell in December 2012?
b Calculate the total number of drinks they expect to sell in 2012.
- 5** In an arithmetic sequence, the 2nd term is four times the 5th term,
and the sum of the first ten terms is -20 . Find the first term and
the common difference.
- 6** In an arithmetic series, the sum of the first 12 terms is equal to
ten times the sum of the first 3 terms. If the first term is 5,
find the common difference and the value of S_{20} .
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