method maths

interactive practice papers

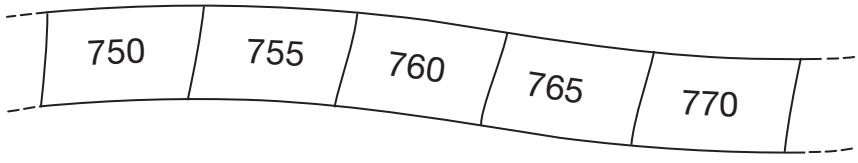
BOOSTER WORKBOOK

Algebra A3

Generate and describe linear number sequences

1 Here is part of a number sequence.

The numbers increase by the same amount each time.



The sequence continues.

Circle **all** of the numbers below that would appear in the sequence.

840 905 989 1000 2051

1 mark

2 Hayley makes a sequence of numbers.

Her rule is

'find half the last number then add 10'

Write in the next two numbers in her sequence.

36 28 24 ☐ ☐

2 marks

30 Here is a repeating pattern of shapes.

Each shape is numbered.

The pattern continues in the same way.

Write the numbers of the next two **stars** in the pattern.

 ☐ and ☐

1 mark

Complete this sentence.

Shape number 35 will be a circle because ...

.....

.....

.....

1 mark

4 The numbers in this sequence increase by the same amount each time.

Write in the missing numbers.

 1 ☐ ☐ 13

1 mark

5 Here is a number chart.
Every third number in the chart has a circle on it.

1	2	(3)	4	5
(6)	7	8	(9)	10
11	(12)	13	14	(15)
16	17	(18)	19	20
(21)	22			

The chart continues in the same way.
Here is another row in the chart.

Draw the missing circles.

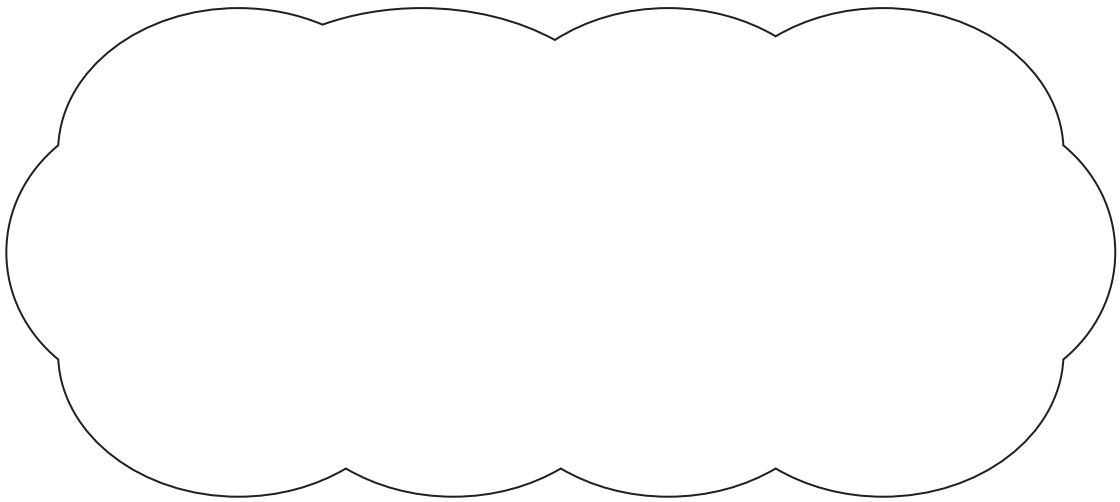
71	72	73	74	75

1 mark

Will the number **1003** have a circle on it?
Circle **Yes** or **No**.

Yes / No

Explain how you know.



1 mark

6 In this sequence each number is double the previous number.

Write in the missing numbers.

☐ ☐ 3 6 12 24 48 ☐

2 marks

7 The first two numbers in this sequence are 2.1 and 2.2

The sequence then follows the rule

'to get the next number, add the two previous numbers'

Write in the next two numbers in the sequence.

2.1 2.2 4.3 6.5 ☐ ☐

2 marks

8 This sequence of numbers **goes up by 40** each time.

40 80 120 160 200 ...

This sequence continues.

Will the number **2140** be in the sequence?
Circle Yes or No.

Yes / No

Explain how you know.

. . . . . .

. . . . . .

. . . . . .

1 mark

9 A sequence starts at **500** and **80** is **subtracted** each time.

500 420 340 ...

The sequence continues in the same way.

Write the **first two numbers** in the sequence which are **less than zero**.

2 marks

10 The rule for this sequence of numbers is **'add 3 each time'**.

1 4 7 10 13 16 ...

The sequence continues in the same way.

Mary says,

'No matter how far you go there will never be a multiple of 3 in the sequence'.

Is she correct?
Circle Yes or No.

Yes / No

Explain how you know.

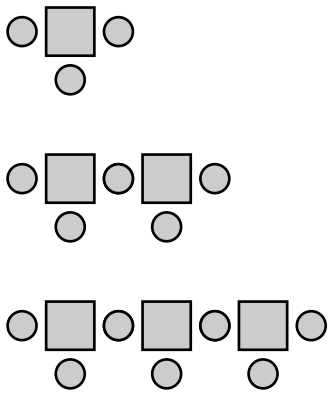
. . . . . .

. . . . . .

. . . . . .

1 mark

11 Here is a sequence of patterns made from squares and circles.



number of squares	number of circles
1	3
2	5
3	7

The sequence continues in the same way.

Calculate how many **squares** there will be in the pattern which has **25 circles**.

Show your **working**. You may get a mark.

2 mark

12 A sequence of numbers starts at 11 and follows the rule

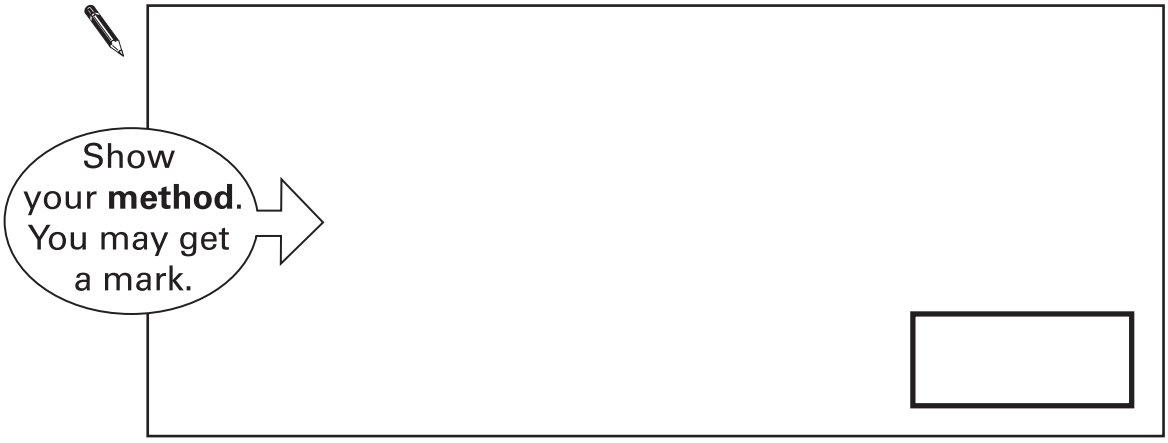
'double the last number and then subtract 3'

11 19 35 67 131 ...

The sequence continues.

The number 4099 is in the sequence.

Calculate the number which comes immediately **before 4099** in the sequence.



2 marks