1 Naga states a hypothesis.

"Most people read more than 100 books a year."

She asks a sample of five people in a book club how many books they read last month.
The table shows the results.

	Lynn	**Ali**	**Paul**	**Chen**	**Ruth**
Number of books	10	11	8	10	13

1 (a) Show how Naga could use the data to support her hypothesis.

[2 marks]

1 (b) Give two reasons why this sample should **not** be used to support her hypothesis.

[2 marks]

Reason 1

Reason 2

2 p is a positive number.

n is a negative number.

For each statement, tick the correct box.

[4 marks]

	Always true	**Sometimes true**	**Never true**
$p + n$ is positive	☐	☐	☐
$p - n$ is positive	☐	☐	☐
$p^2 + n^2$ is positive	☐	☐	☐
$p^3 \div n^3$ is positive	☐	☐	☐

3 Circle the triangular number.

[1 mark]

9 12 15 18

4 In the grid, the **product** of each row, column and diagonal is 1

	$\frac{1}{4}$	
	4	$\frac{1}{8}$

Complete the grid.

[2 marks]

5 Work out how many 5-digit **odd** numbers can be made using these digits **once** each.

2 4 6 7 9

Do **not** list them.

[2 marks]

Answer _____

6 (a) $9k + 7$ and $2k^2 + 3$ are consecutive integers.
$9k + 7$ is the smaller integer.

Work out the value of the **next** consecutive integer.

[5 marks]

Answer _____

6 (b) x is a square number.

Show that the **next** square number is $x + 2\sqrt{x} + 1$

[2 marks]