

Graphical Inequalities

Please write clearly in block capitals

Forename:

Surname:

Materials

For this paper you must have:

- mathematical instruments



You must **not** use a calculator.

Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.

Advice

- In all calculations, show clearly how you work out your answer.

- 1 On the grid, draw the straight lines and shade the region that satisfies the following inequalities: (Level 6)

$$y \leq 4$$

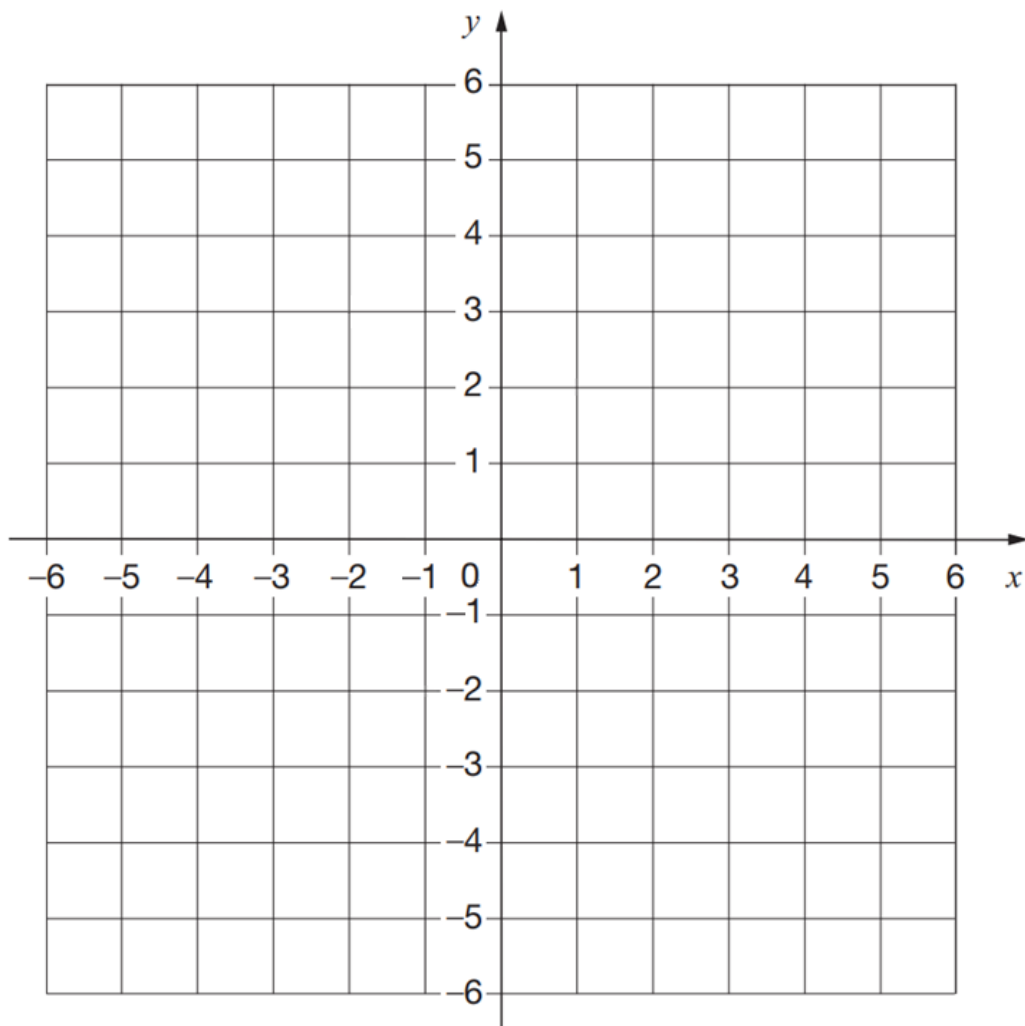
$$y \geq -2$$

$$x \geq -3$$

$$x \leq 1$$

Label the region R.

[2 marks]



Turn over for next question

2

On the grid, draw the straight lines and shade the region that satisfies the following inequalities:

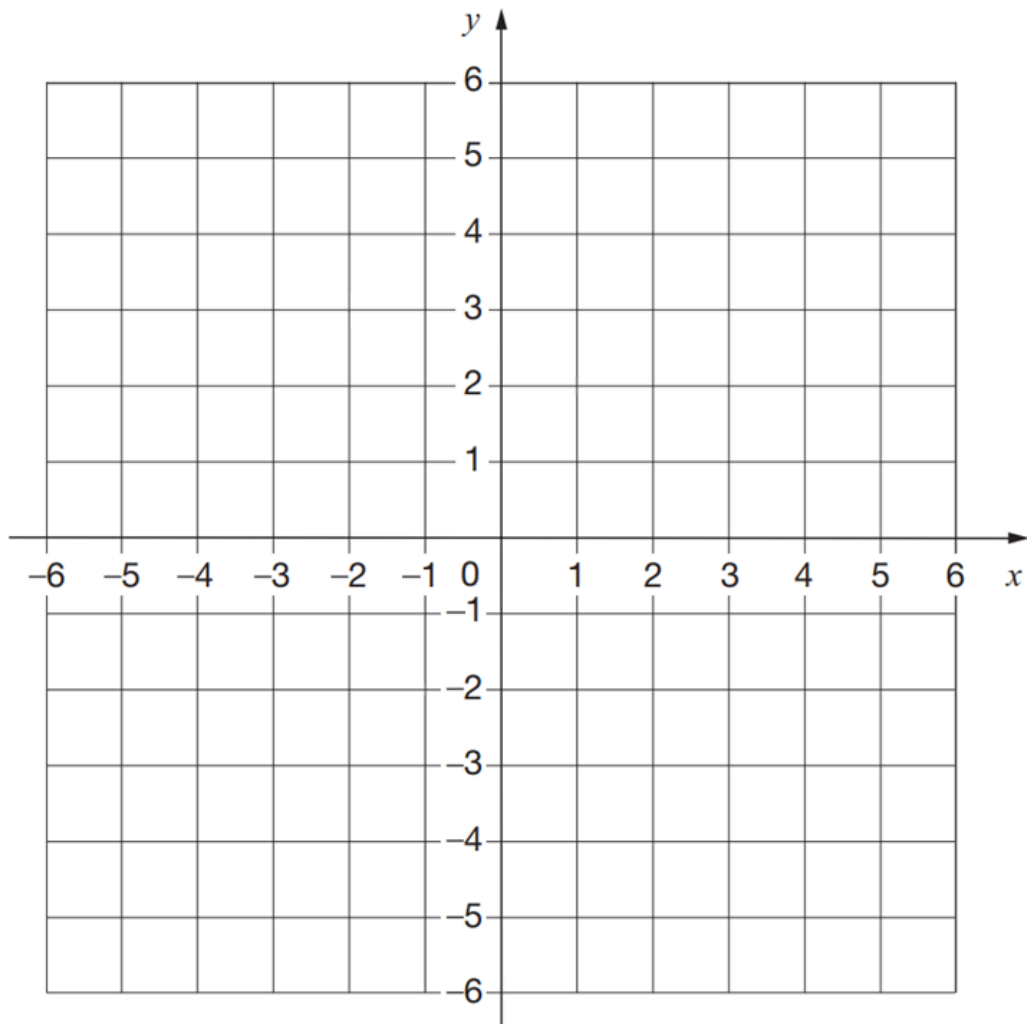
(Level 6)

$$y > 4x - 3$$

$$y < 6$$

$$x > 0$$

Label the region R.

[3 marks]

Turn over for next question

Turn over ►

- 3 On the grid, draw the straight lines and shade the region that satisfies the following inequalities: (Level 6)

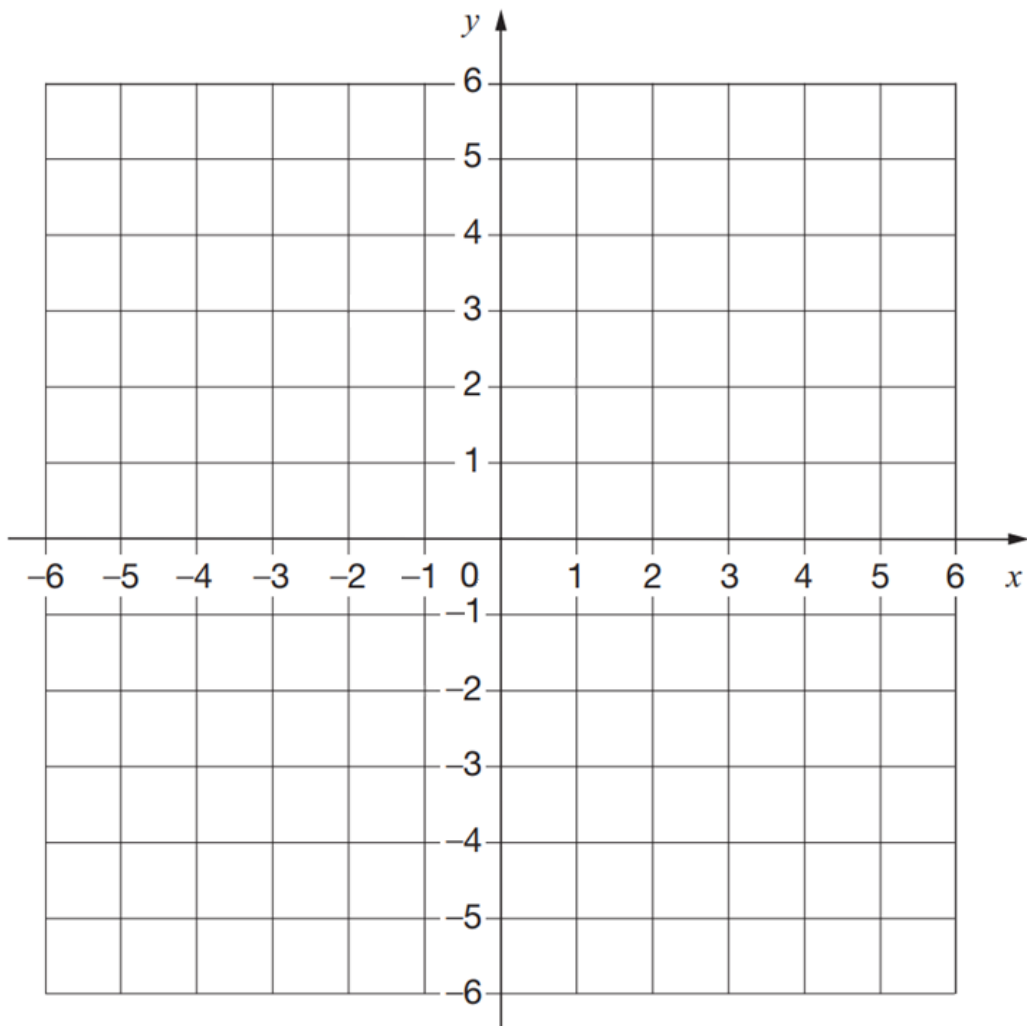
$$y \leq x + 1$$

$$y > -3$$

$$x \leq 4$$

Label the region R.

[3 marks]



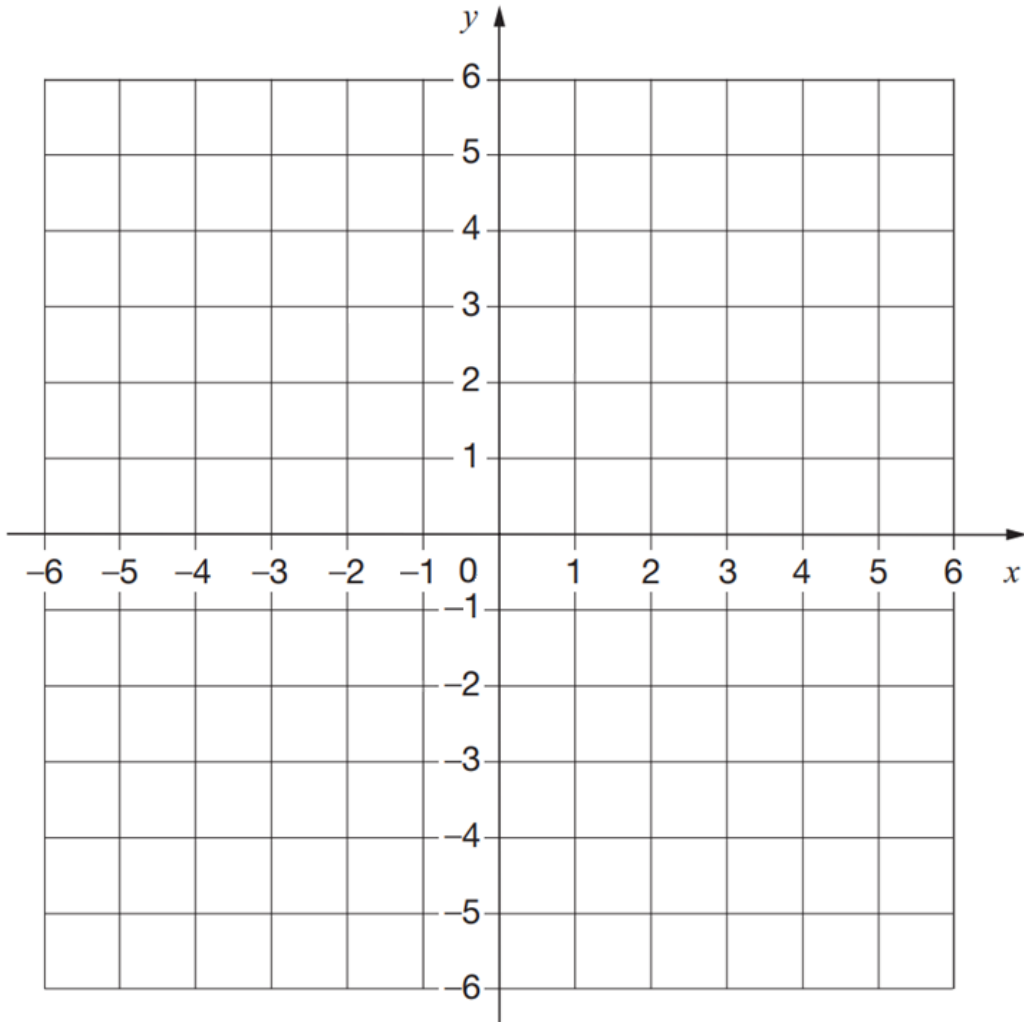
Turn over for next question

- 4 On the grid, draw the straight lines and shade the region that satisfies the following inequality (Level 6)

$$x + 3y \leq -12$$

Label the region R.

[3 marks]



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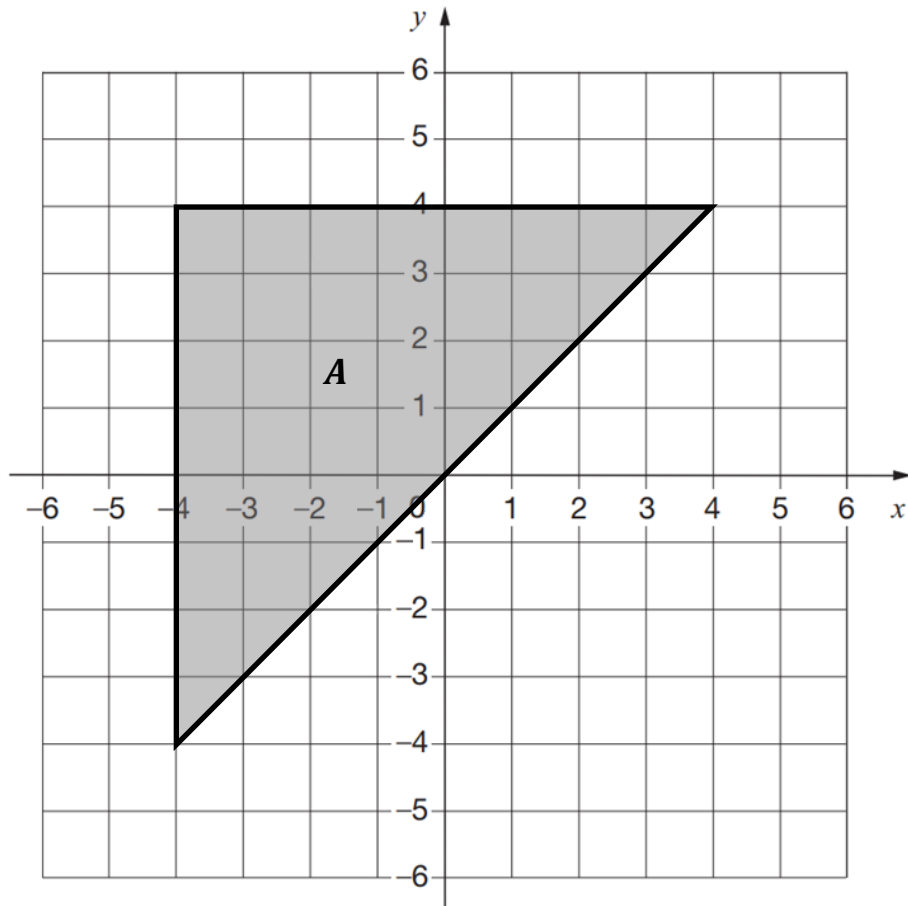
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5

Below is a graph showing the shaded region A.

(Level 7)



Find the three inequalities which satisfy the shaded region A.

[3 marks]

Inequality 1 : _____

Inequality 2 : _____

Inequality 3 : _____

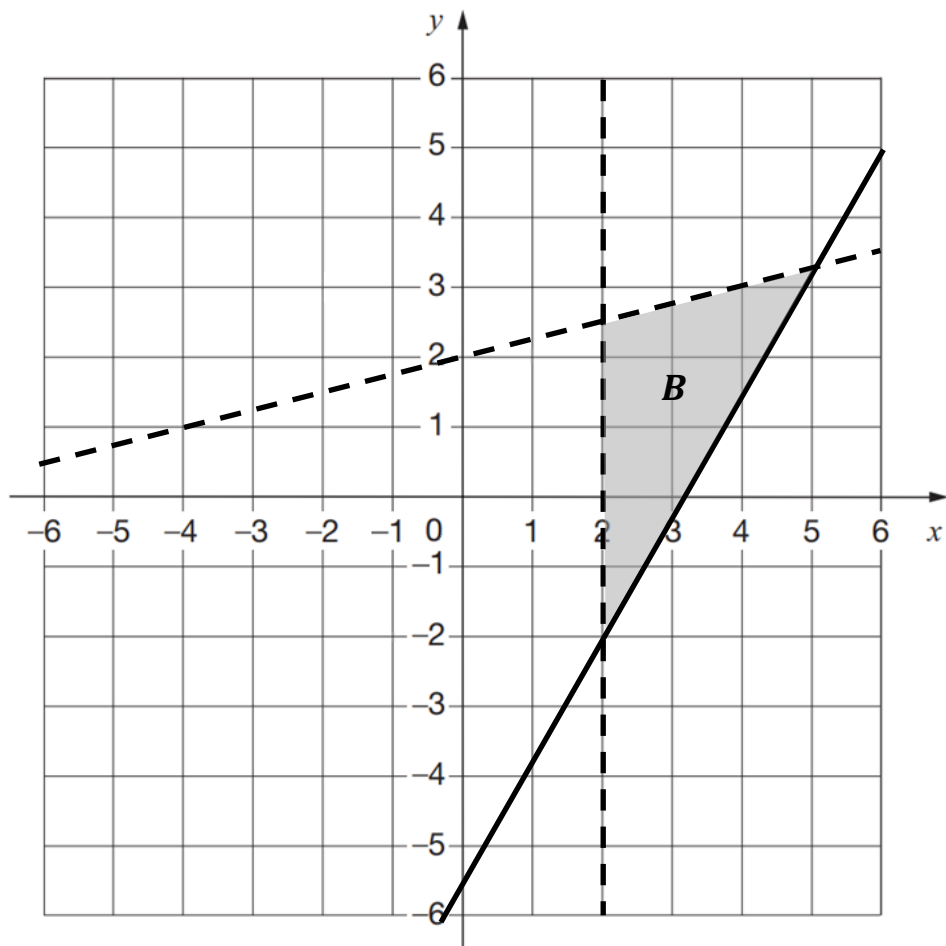
Turn over for next question

Turn over ►

6

Below is a graph showing the shaded region B.

(Level 7)



Find the three inequalities which satisfy the shaded region B.

[3 marks]

Inequality 1: _____

Inequality 2: _____

Inequality 3: _____

End of questions