Edexcel GCSE
Mathematics (Linear) – 1MA0

INEQUALITIES REGIONS

Materials required for examination
Ruler graduated in centimetres and
millimetres, protractor, compasses,
pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil

Instructions

Use black ink or ball-point pen.
Fill in the boxes at the top of this page with your name, centre number and candidate number.
Answer all questions.
Answer the questions in the spaces provided – there may be more space than you need.
Calculators may be used.

Information

The marks for each question are shown in brackets – use this as a guide as to how much time to
spend on **each** question.
Questions labelled with an **asterisk** (*) are ones where the quality of your written communication
will be assessed – you should take particular care on these questions with your spelling, punctuation
and grammar, as well as the clarity of expression.

Advice

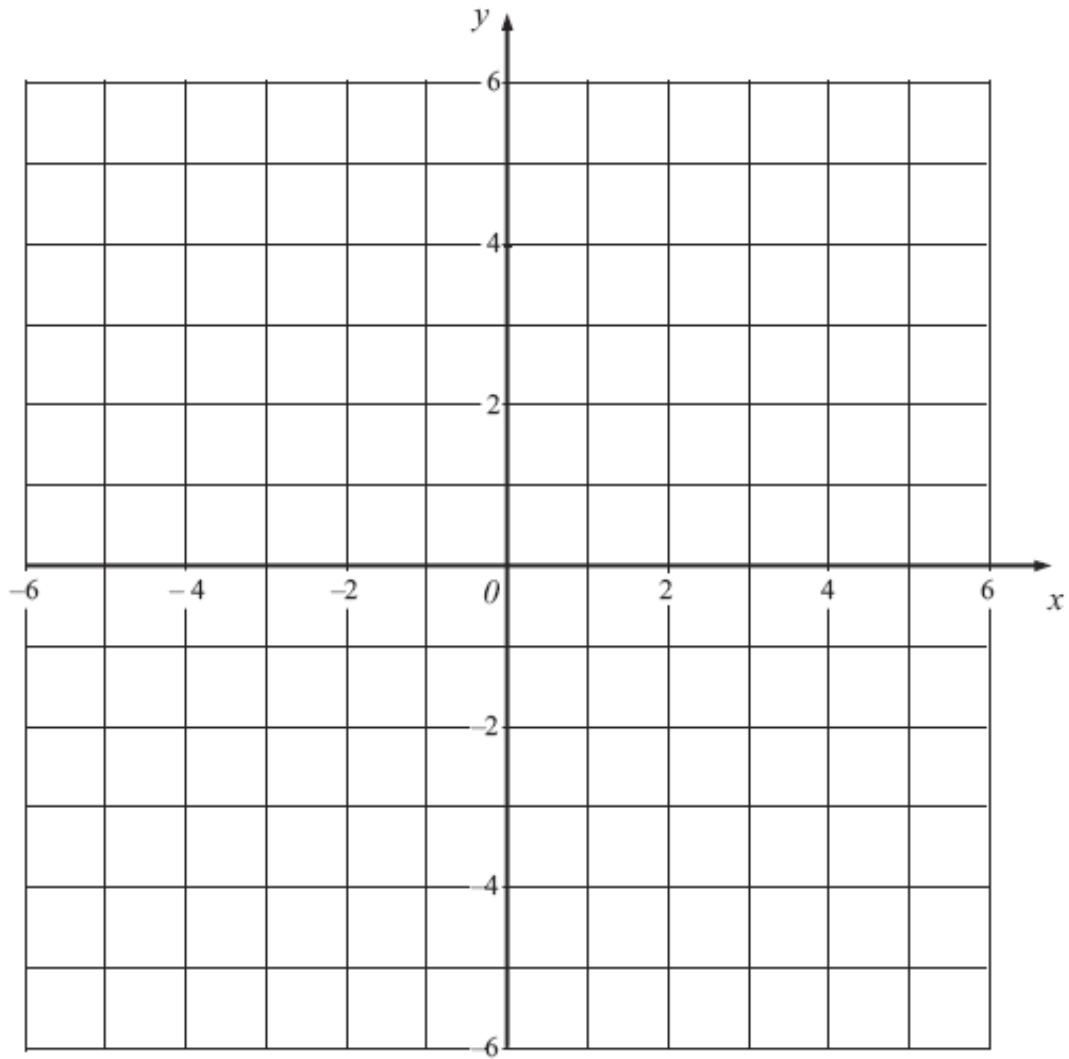Read each question carefully before you start to answer it.
Keep an eye on the time.
Try to answer every question.
Check your answers if you have time at the end.

1. On the grid, shade the region that satisfies all three of these inequalities
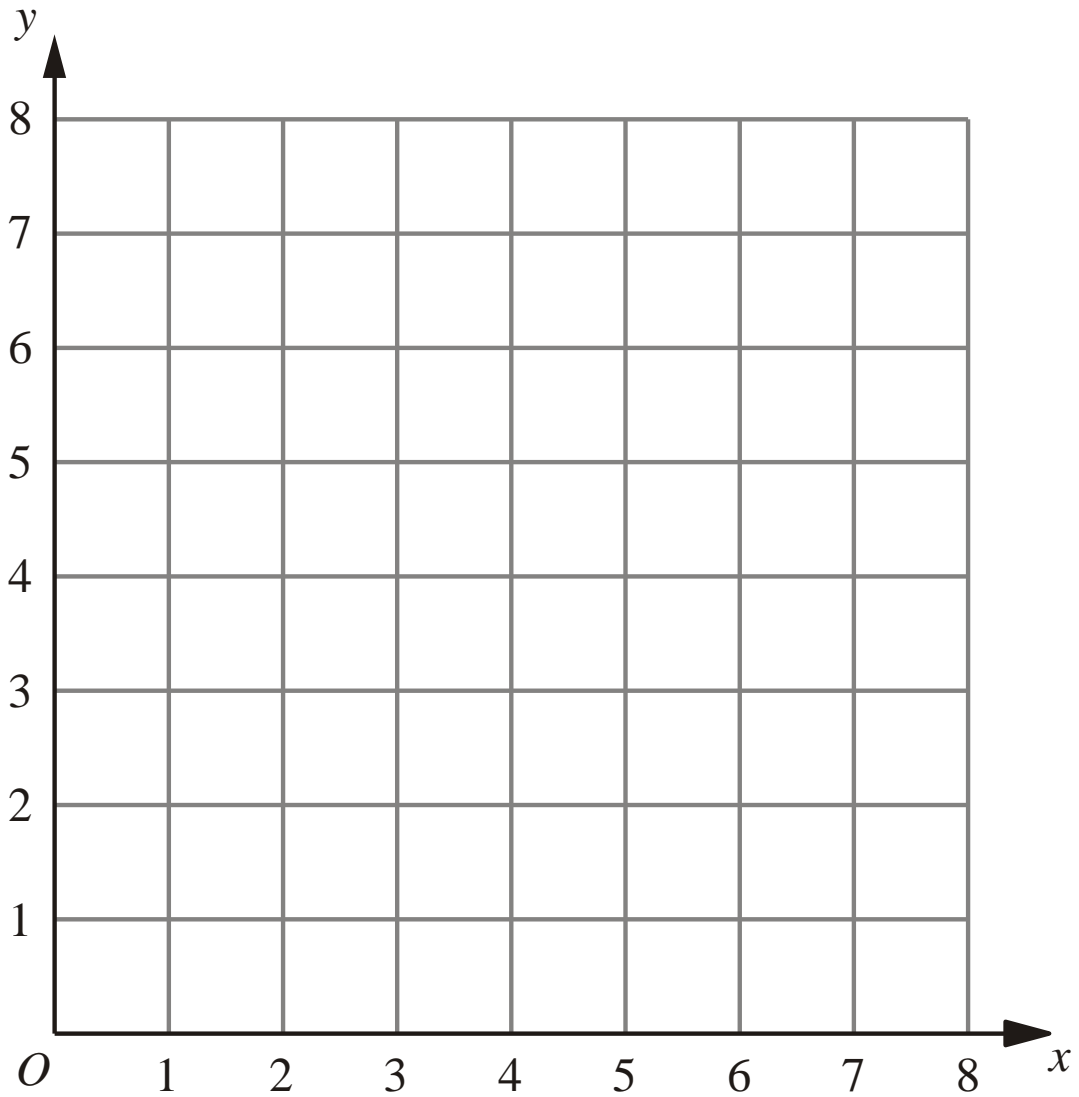
$y > -4$ $x < 2$ $y < 2x + 1$

2. The region **R** satisfies the inequalities

$$x \geq 2, \quad y \geq 1, \qquad x + y \leq 6$$

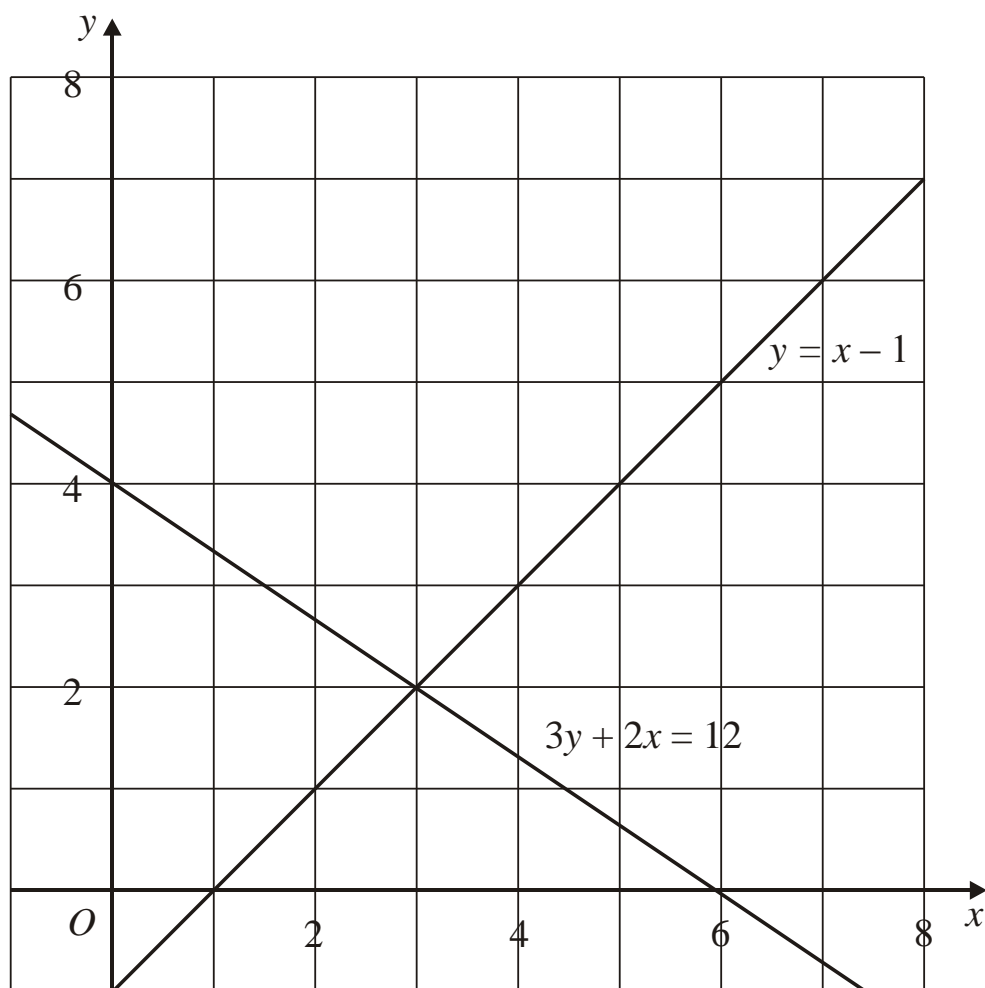On the grid below, draw straight lines and use shading to show the region **R**.

3. The graphs of the straight lines with equations

$$3y + 2x = 12 \qquad \text{and}$$

$$y = x - 1$$

have been drawn on the grid.

$3y + 2x > 12$ **$y < x - 1$**   **$x < 6$**

x and *y* are integers.

On the grid, mark with a cross (×), each of the **four** points which satisfies **all** 3 inequalities.
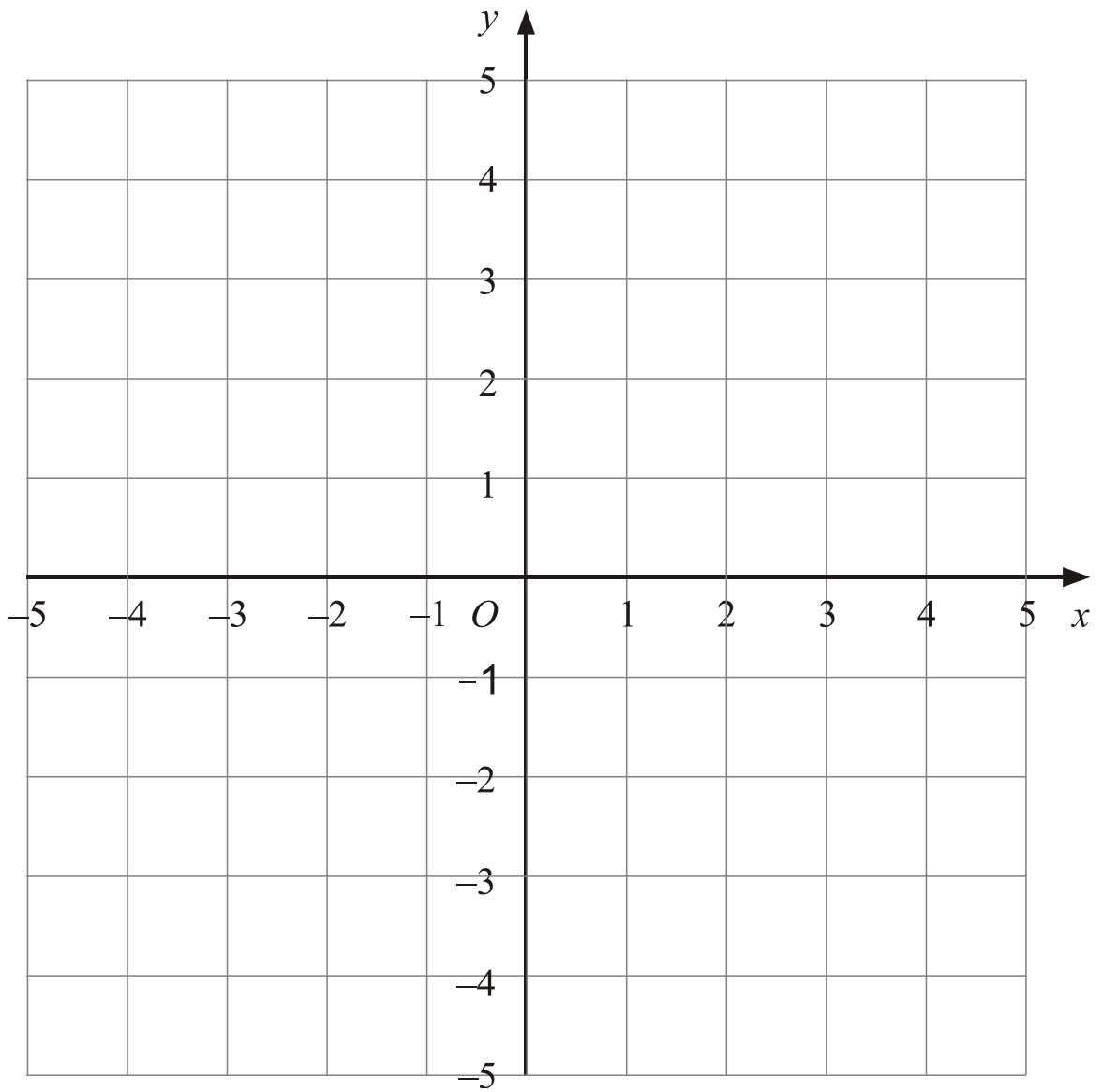
(Total 3 marks)

4. On the grid, show by shading, the region which satisfies all three of the inequalities.

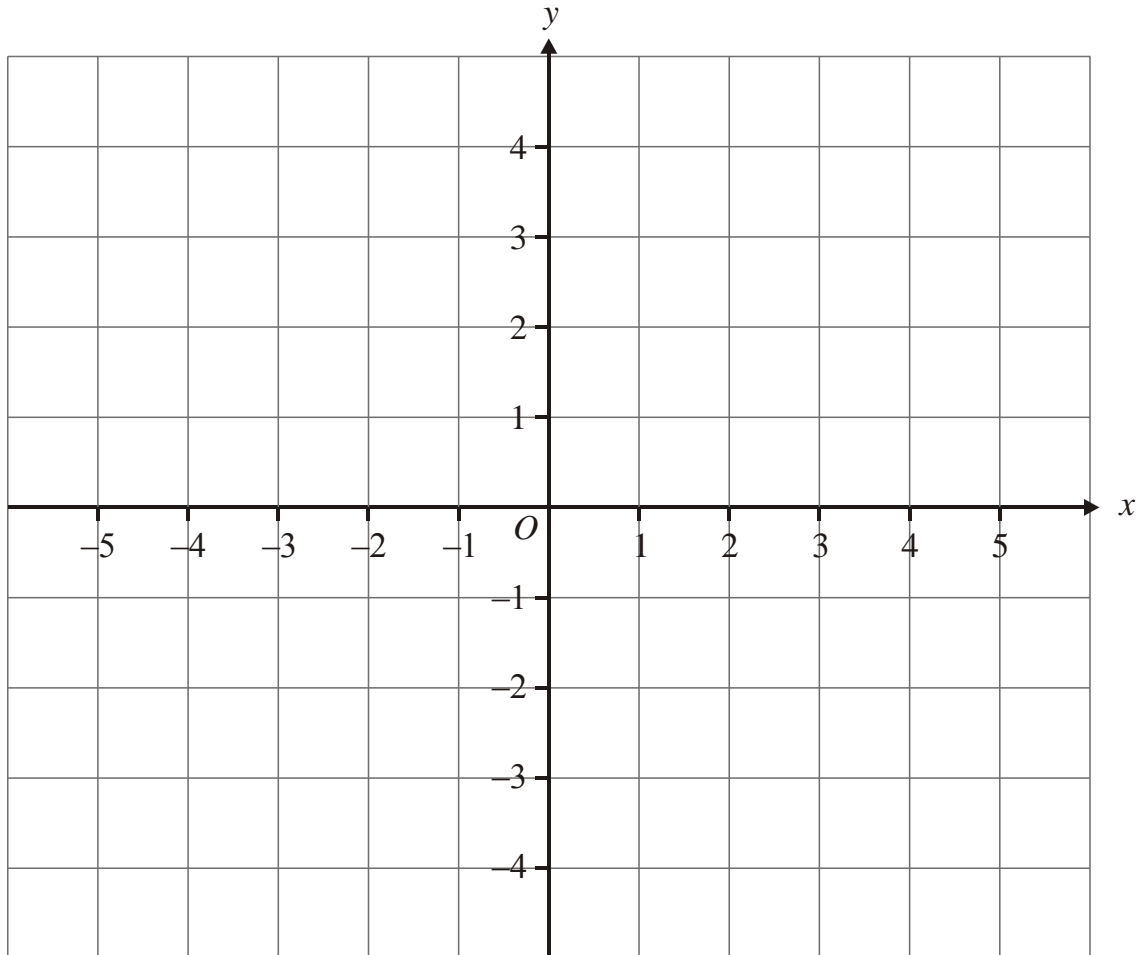$$x < 3 \qquad\qquad y > -2 \qquad\qquad y < x$$

Label the region **R**.

5. $-2 < x \le 1 \qquad y > -2 \qquad y < x + 1$

x and y are integers.

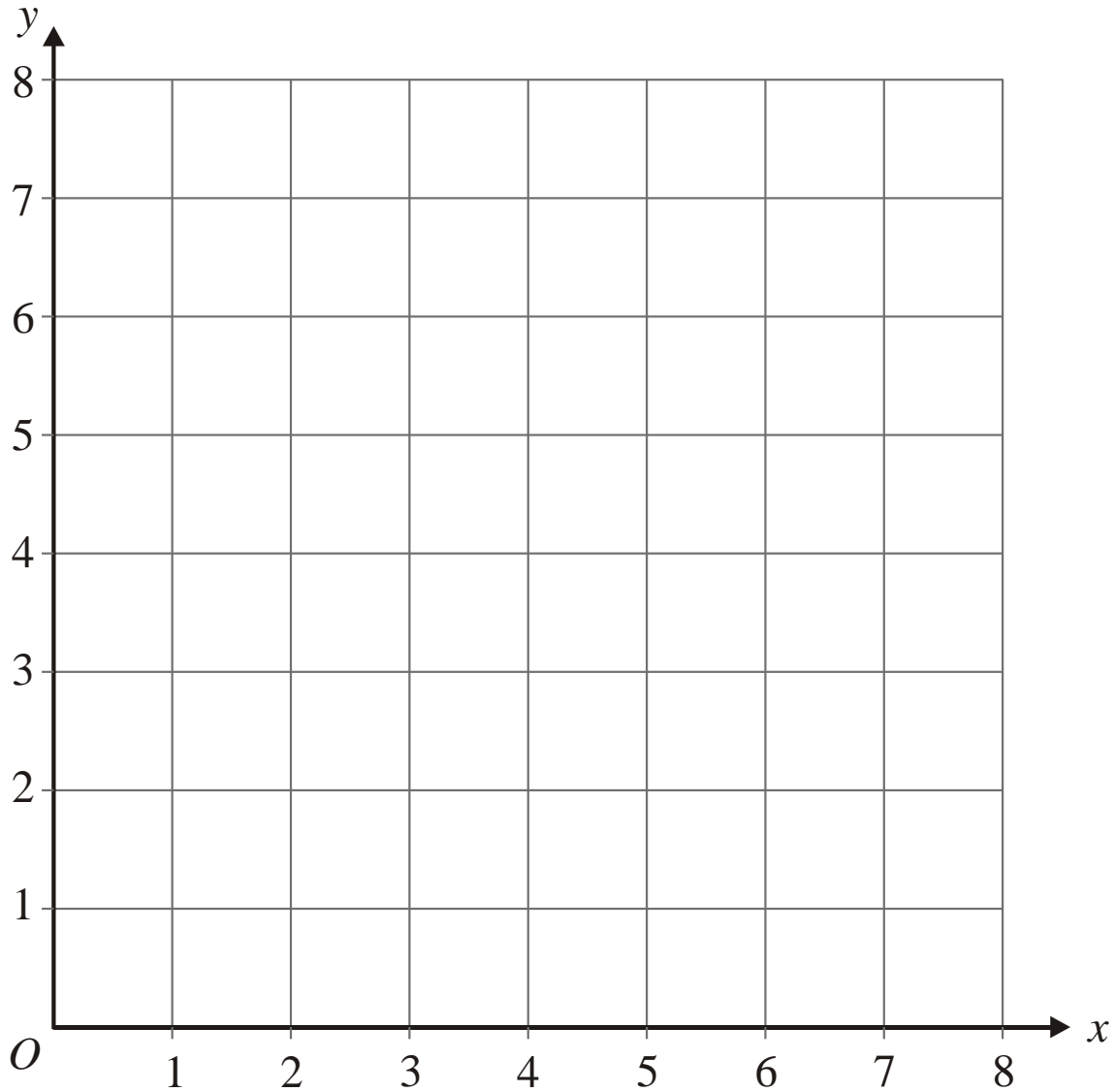On the grid, mark with a cross (✘), each of the six points which satisfies **all** these 3 inequalities.

6. (a) On the grid below, draw straight lines and use shading to show the region **R** that satisfies the inequalities

$$x \geq 2 \qquad y \geq x \qquad x + y \leq 6$$

(3)

The point *P* with coordinates (*x*, *y*) lies inside the region **R**.
x and *y* are **integers**.

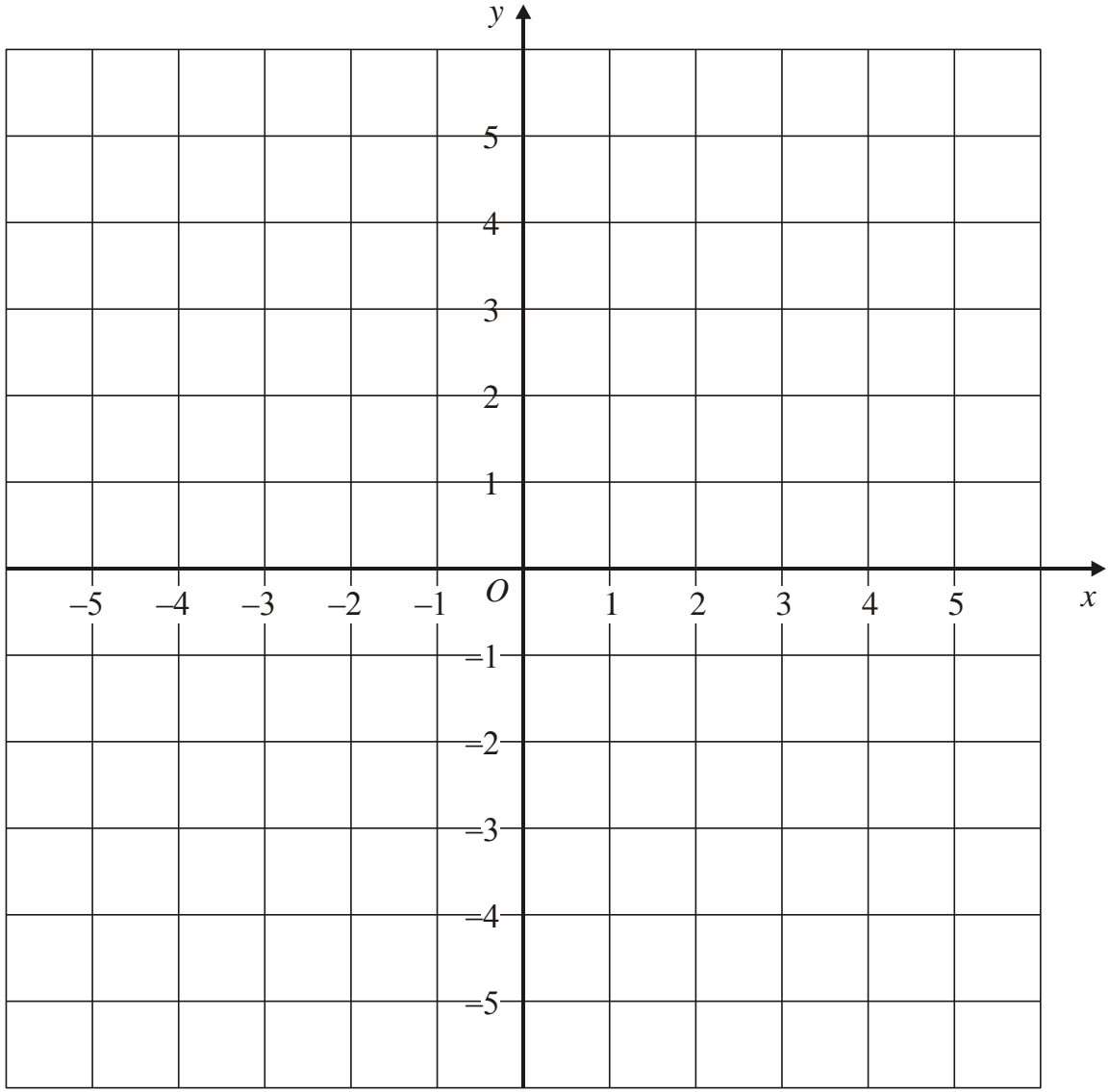(b) Write down the coordinates of **all** the points of **R** whose coordinates are both integers.

....

(2)

(Total 5 marks)

7. $4x + 3y < 12,$ $y < 3x,$ $y > 0,$ $x > 0$

x and y are both integers.

On the grid, mark with a cross ($\times$), each of the **three** points which satisfy **all** these four inequalities.

<div align="right">

(3)

(Total 5 marks)

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