

Inequalities on Graphs

Mark Scheme

Level	GCSE
Subject	Maths
Exam Board	Edexcel GCSE
Topic	Inequalities on Graphs
Grade Level	Grade 4
Booklet	Mark Scheme

Time Allowed: 33 minutes

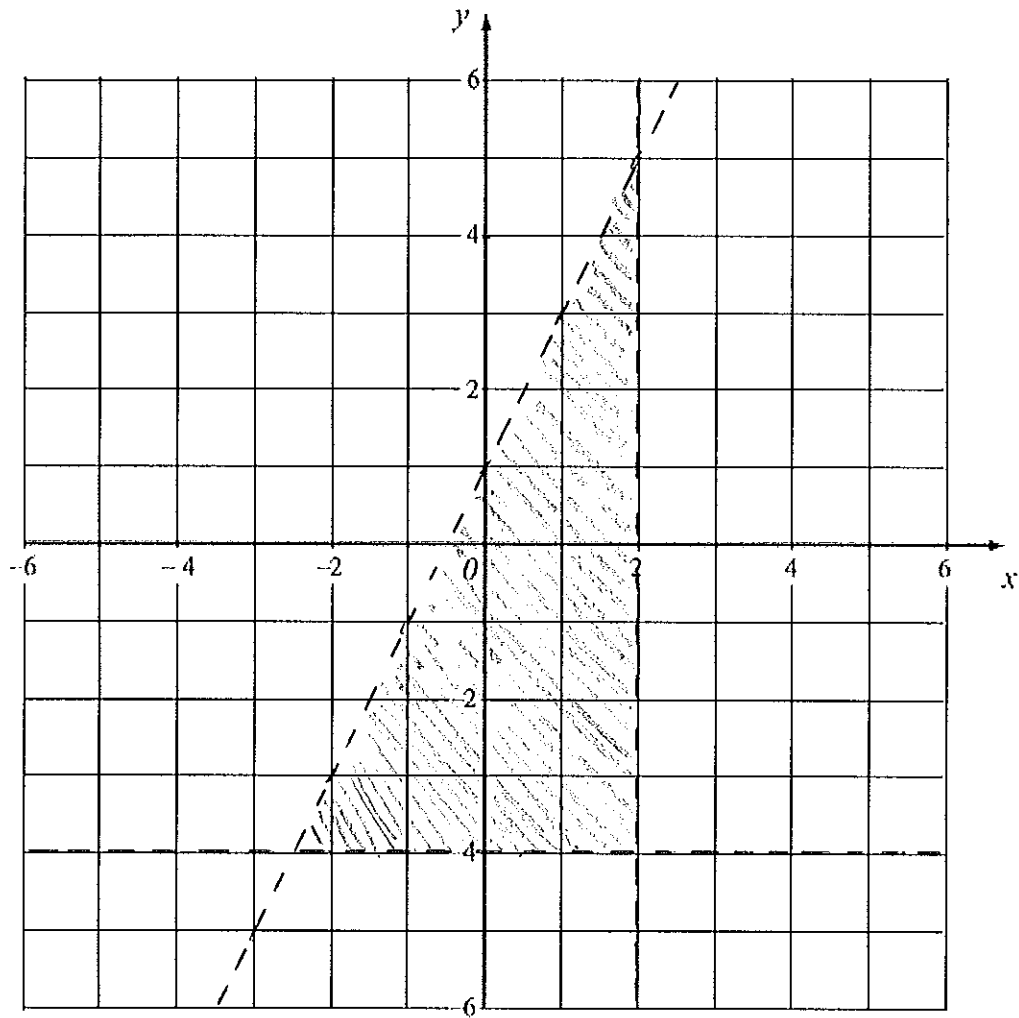
Score: /27

Percentage: /100

Grade Boundaries:

1. On the grid, shade the region that satisfies all three of these inequalities

$$y > -4 \quad x < 2 \quad y < 2x + 1$$

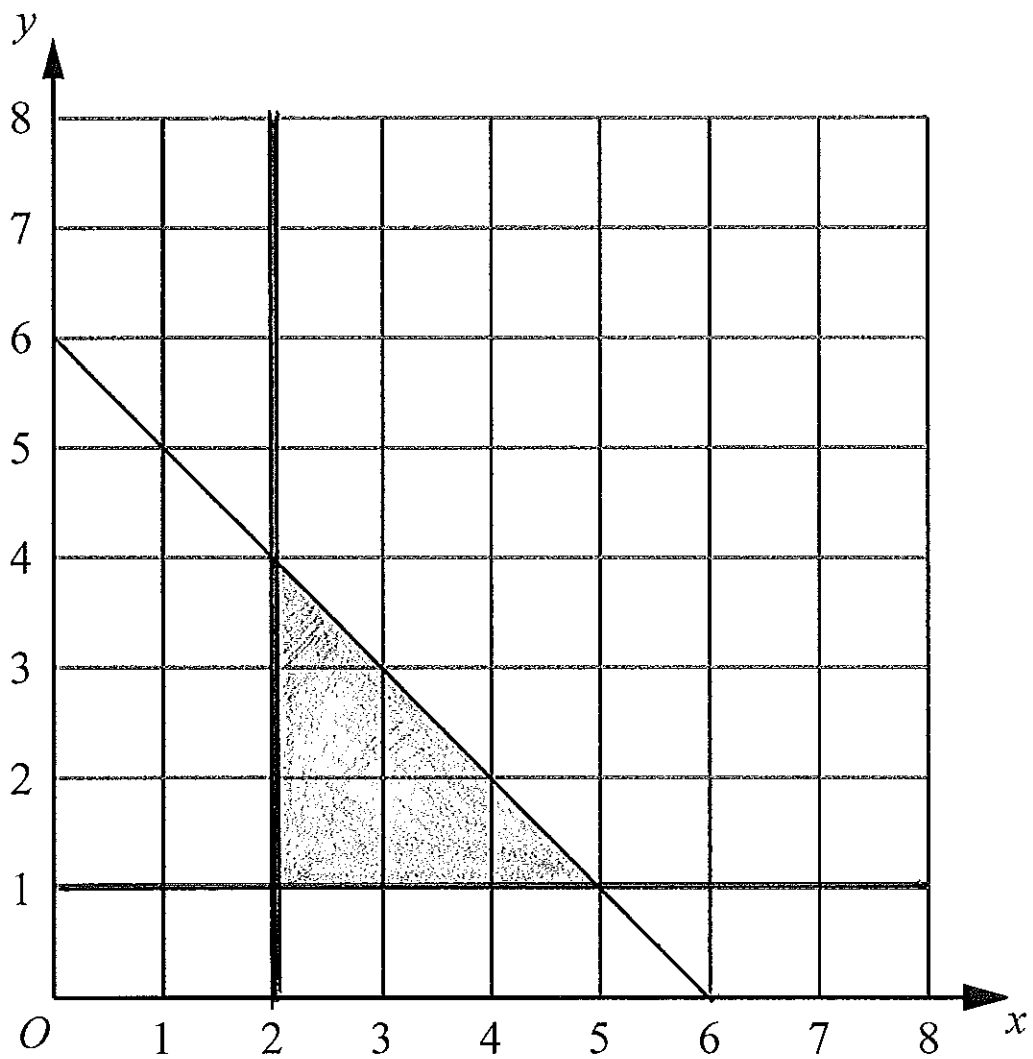


(Total for Question 19 = 4 marks)

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

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

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



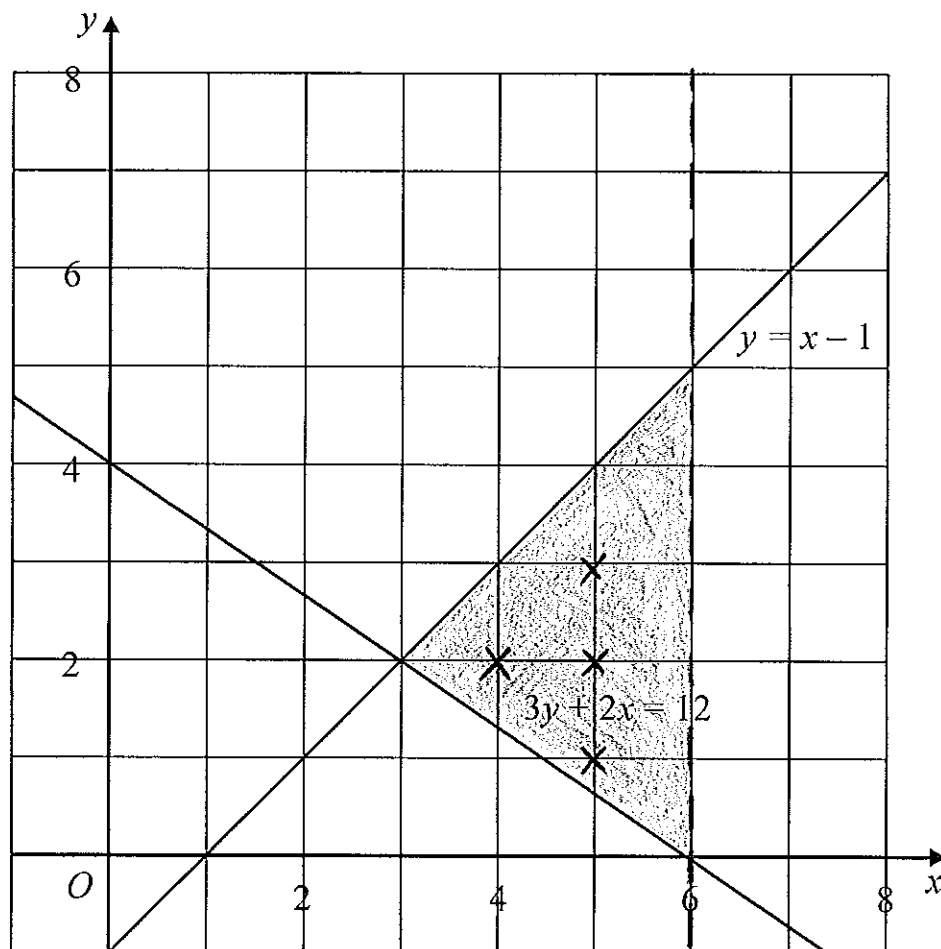
(Total 3 marks)

3. The graphs of the straight lines with equations

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

$$y = x - 1$$

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 (\times), each of the **four** points which satisfies **all** 3 inequalities.

(Total 3 marks)

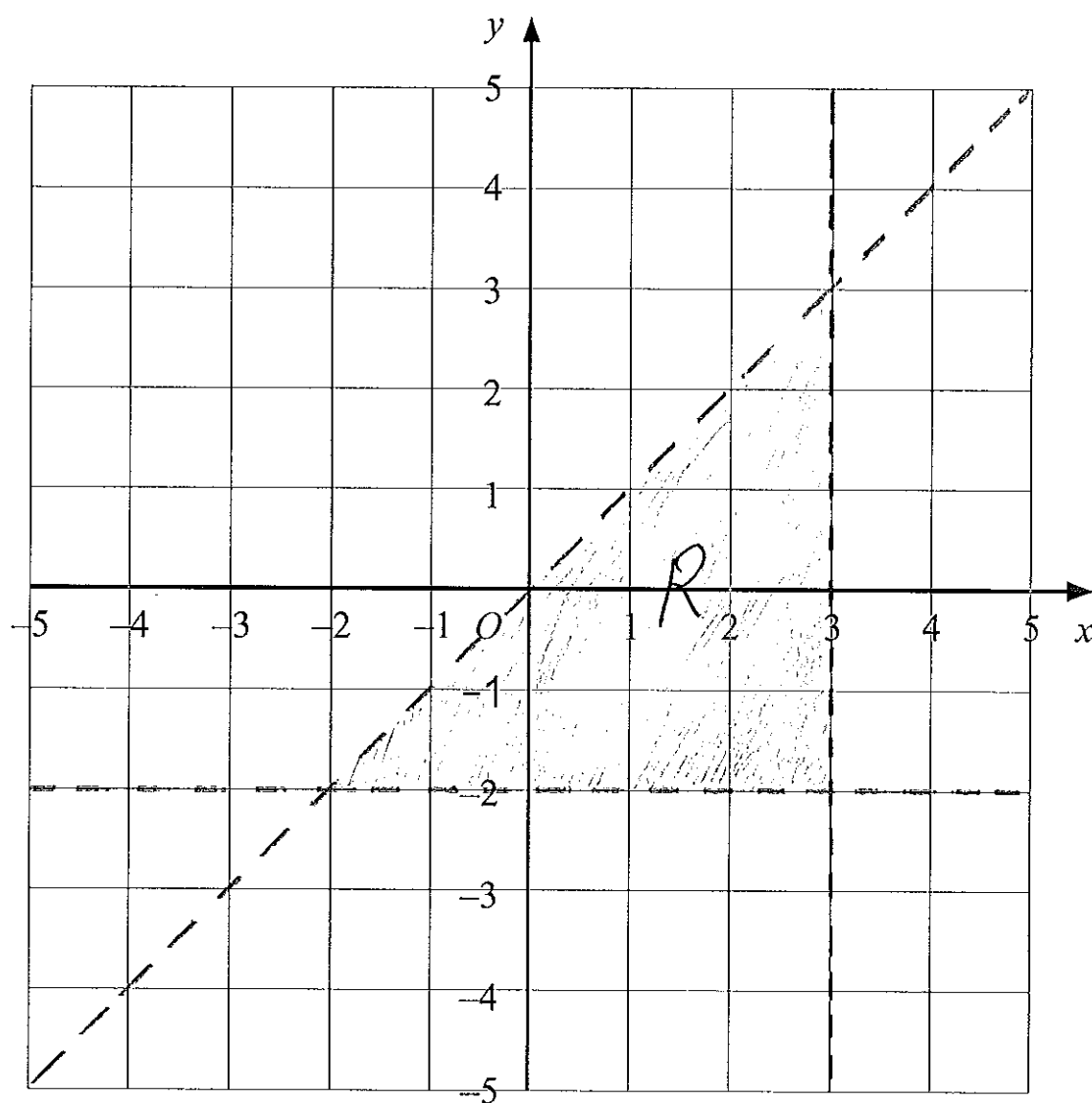
4. On the grid, show by shading, the region which satisfies all three of the inequalities.

$$x < 3$$

$$y > -2$$

$$y < x$$

Label the region **R**.

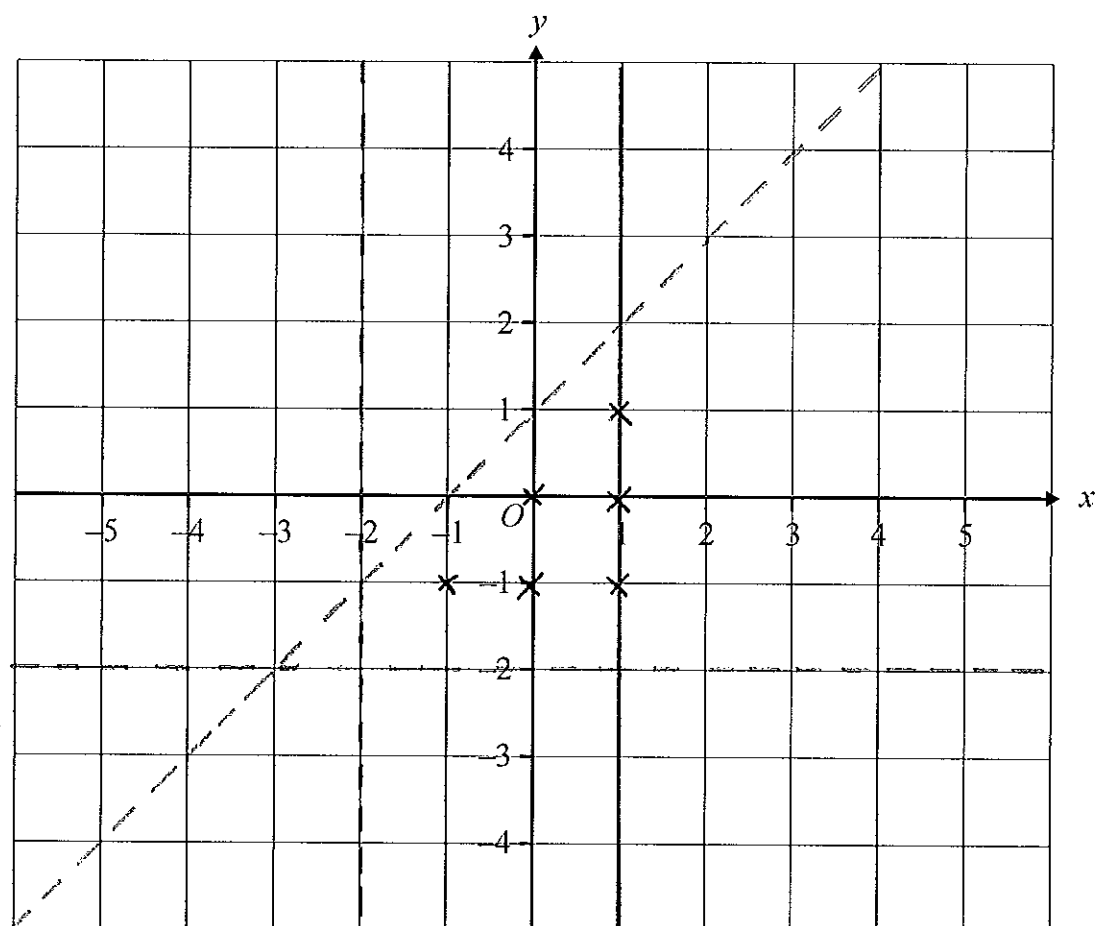


(Total 4 marks)

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

x and y are integers.

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



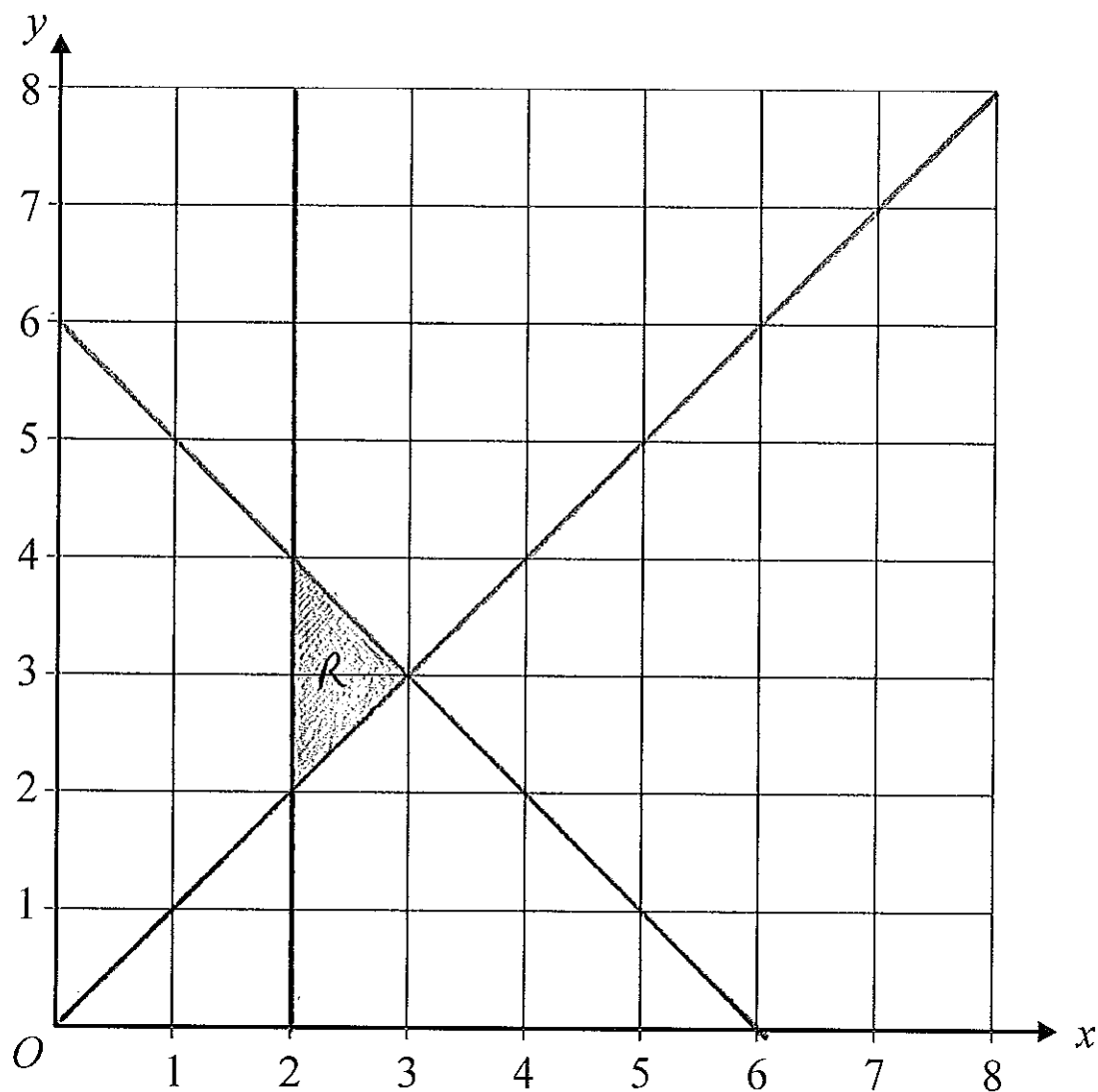
(Total 3 marks)

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

$$x \geq 2$$

$$y \geq x$$

$$x + y \leq 6$$



(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, 2) (2, 3) (2, 4) (3, 3)

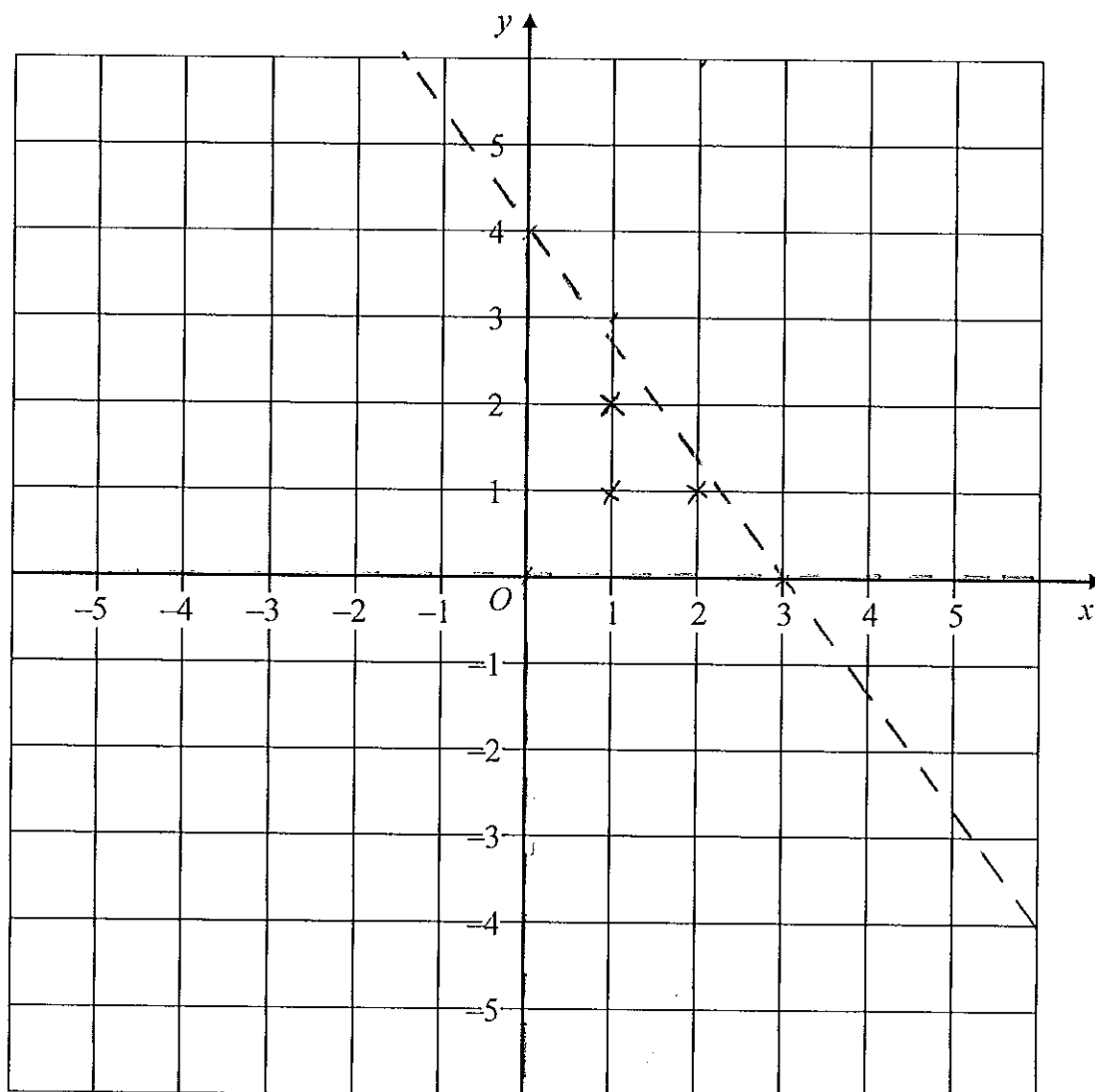
(2)

(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.



(3)
(Total 5 marks)