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

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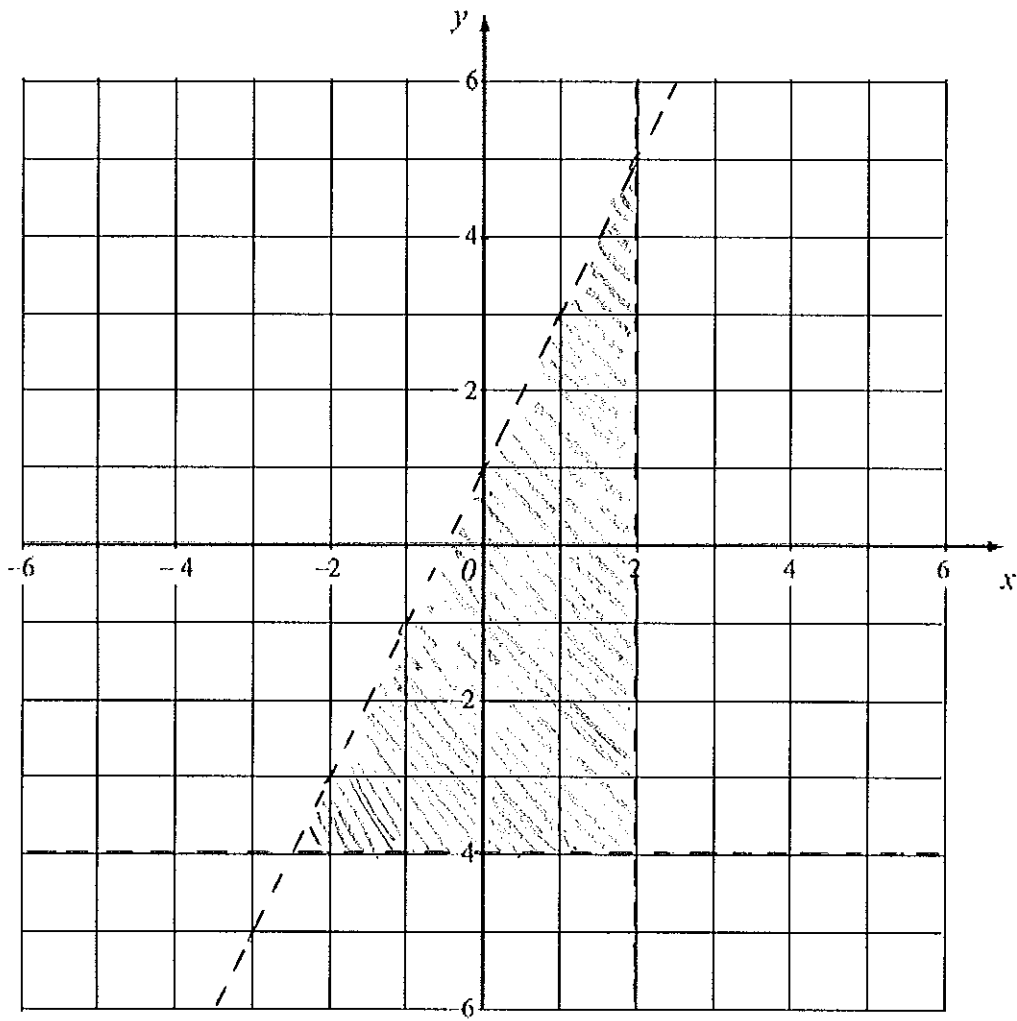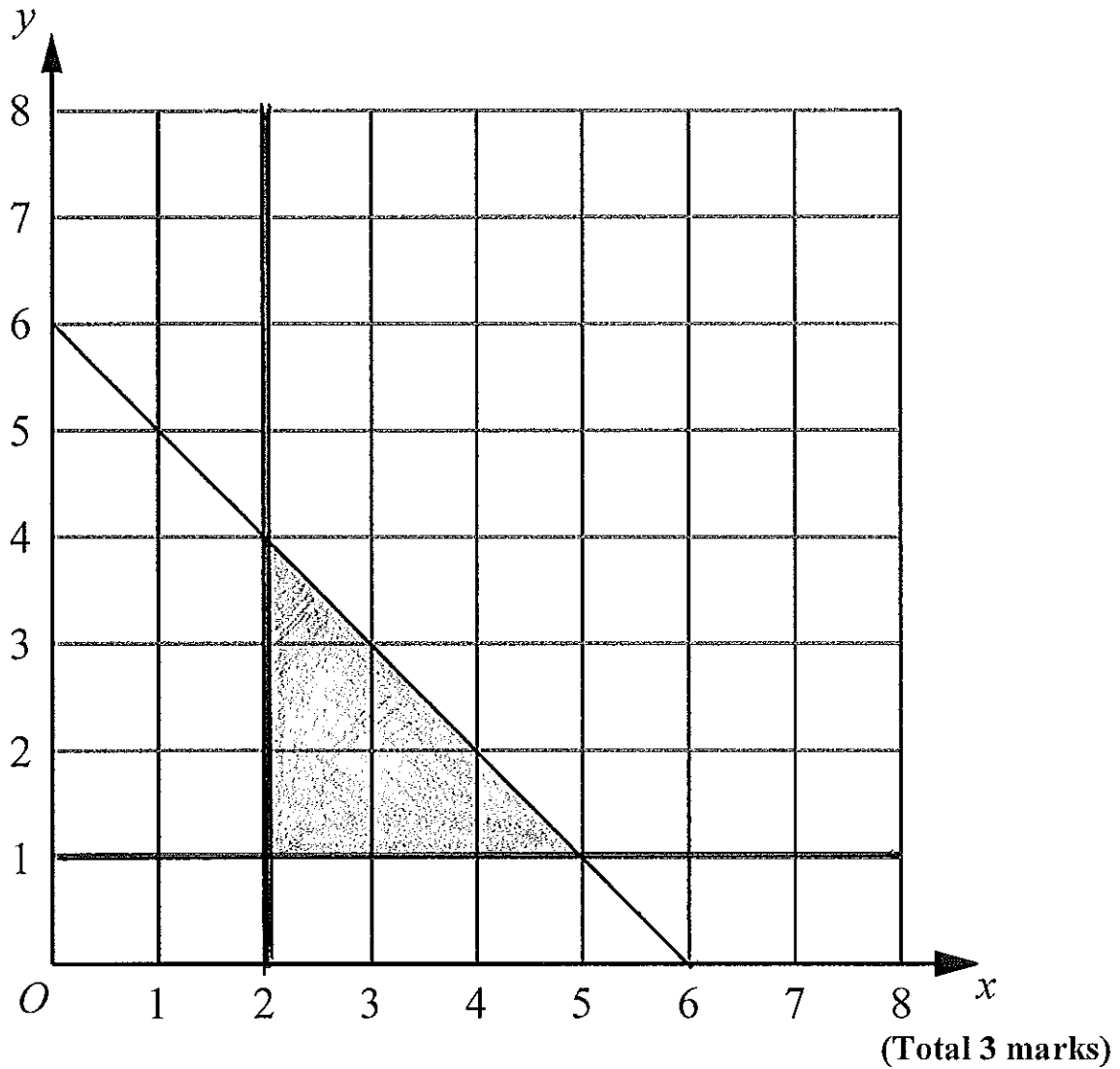

(Total for Question 19 = 4 marks)

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

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

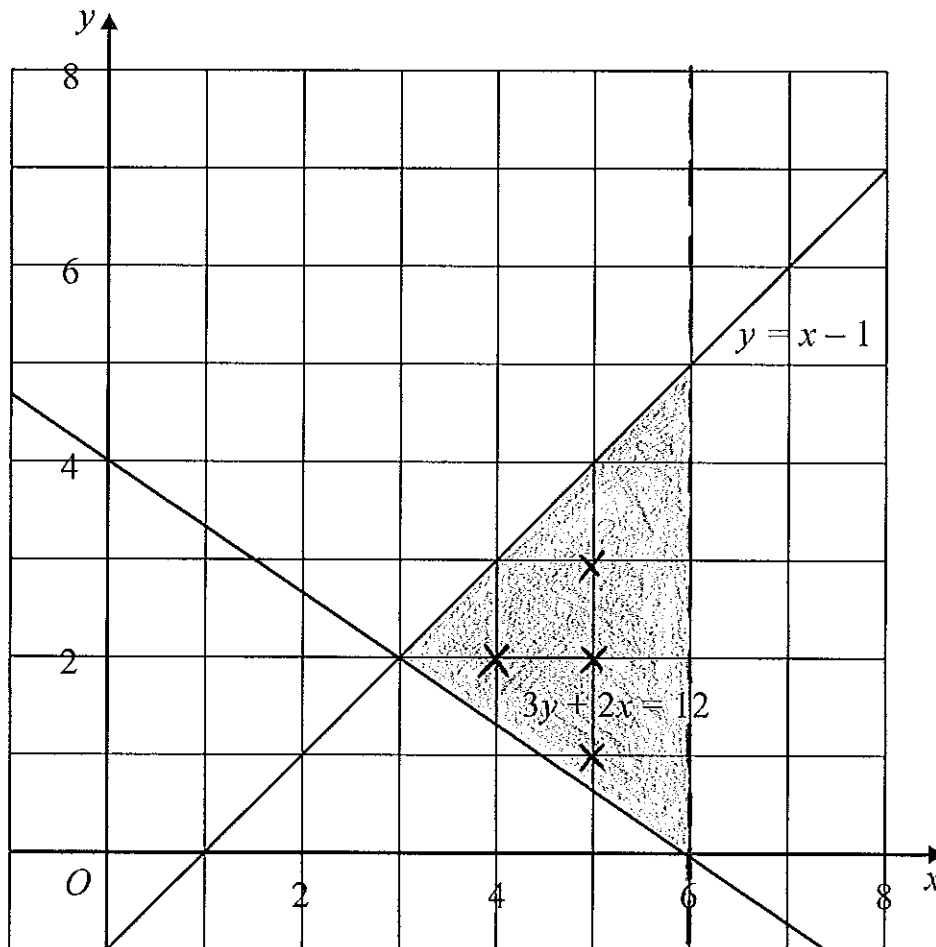On the grid below, draw straight lines and use shading to show the region **R**.

(Total 3 marks)

3. The graphs of the straight lines with equations

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

$$y = x - 1$$

have been drawn on the grid.

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

x and y are integers.

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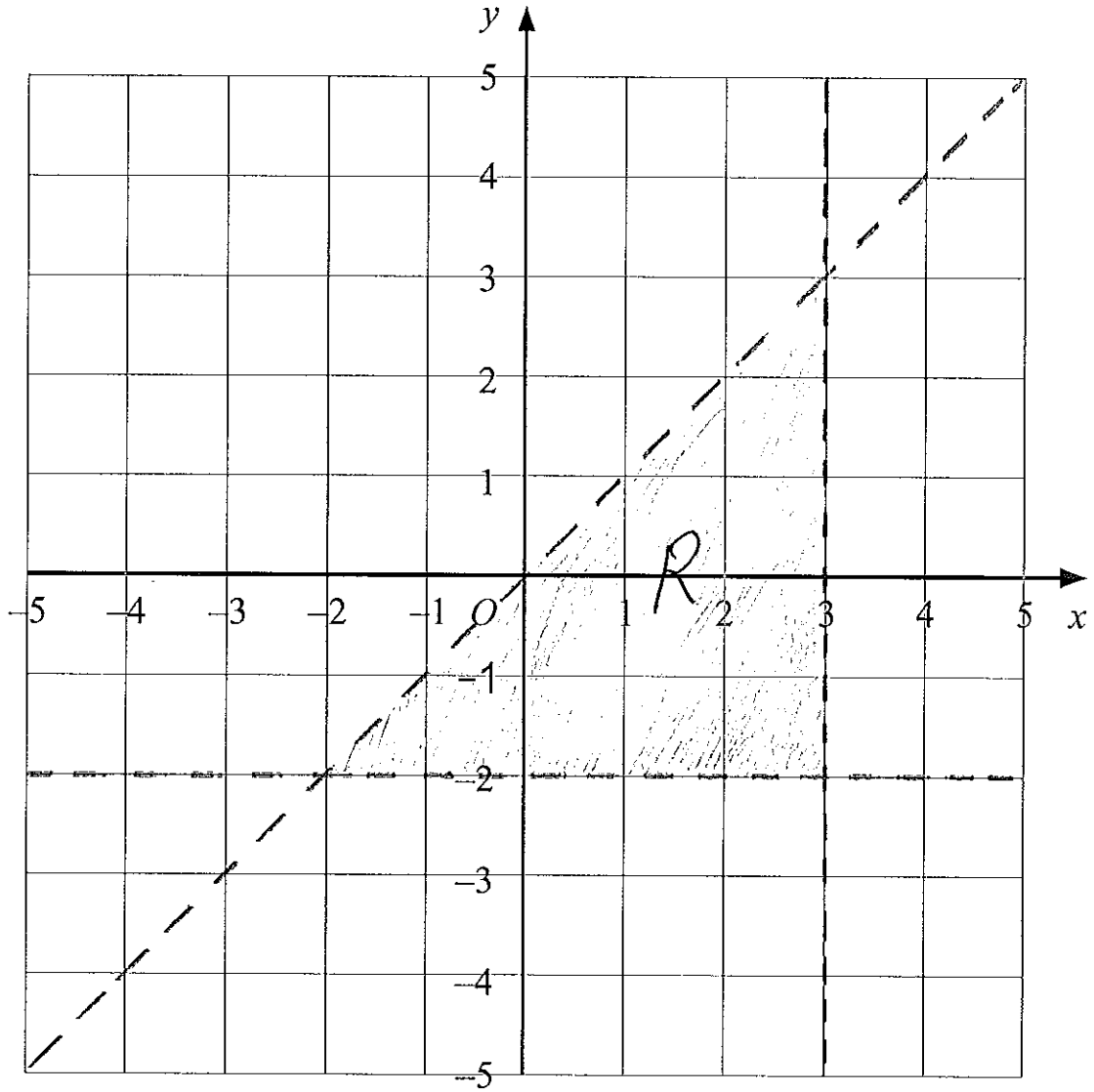
(Total 3 marks)

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

$$x < 3 \qquad\qquad y > -2 \qquad\qquad y < x$$
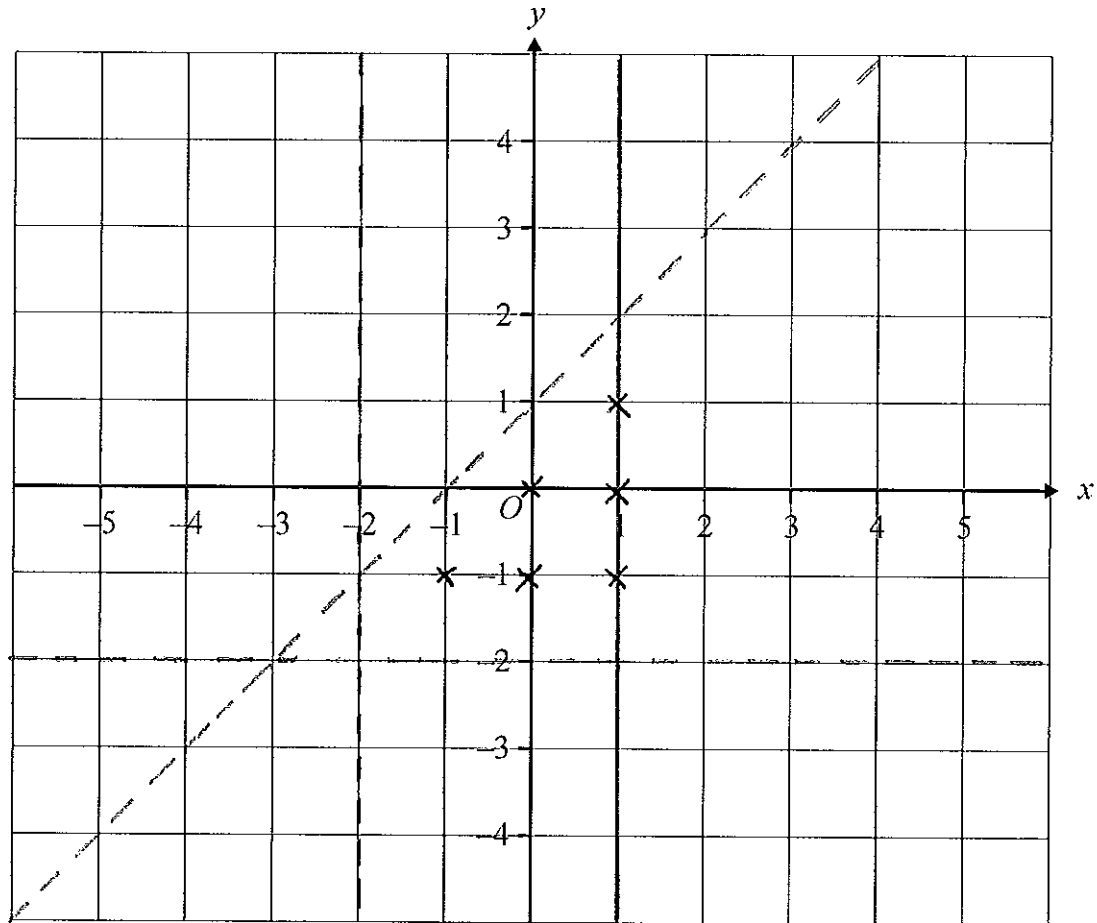
Label the region **R**.

(Total 4 marks)

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

x and y are integers.

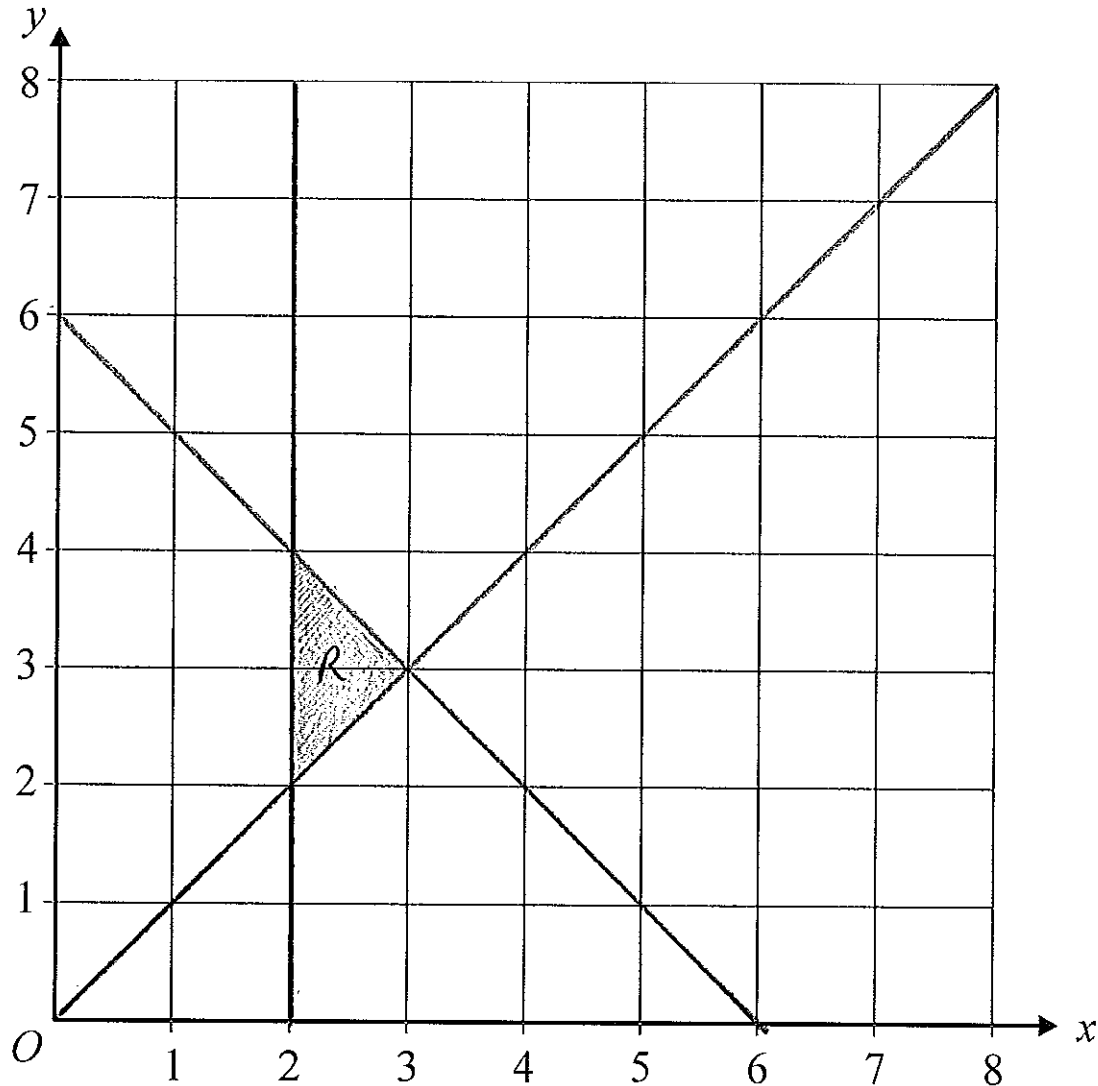On the grid, mark with a cross (✗), each of the six points which satisfies **all** these 3 inequalities.

(Total 3 marks)

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

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

(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.

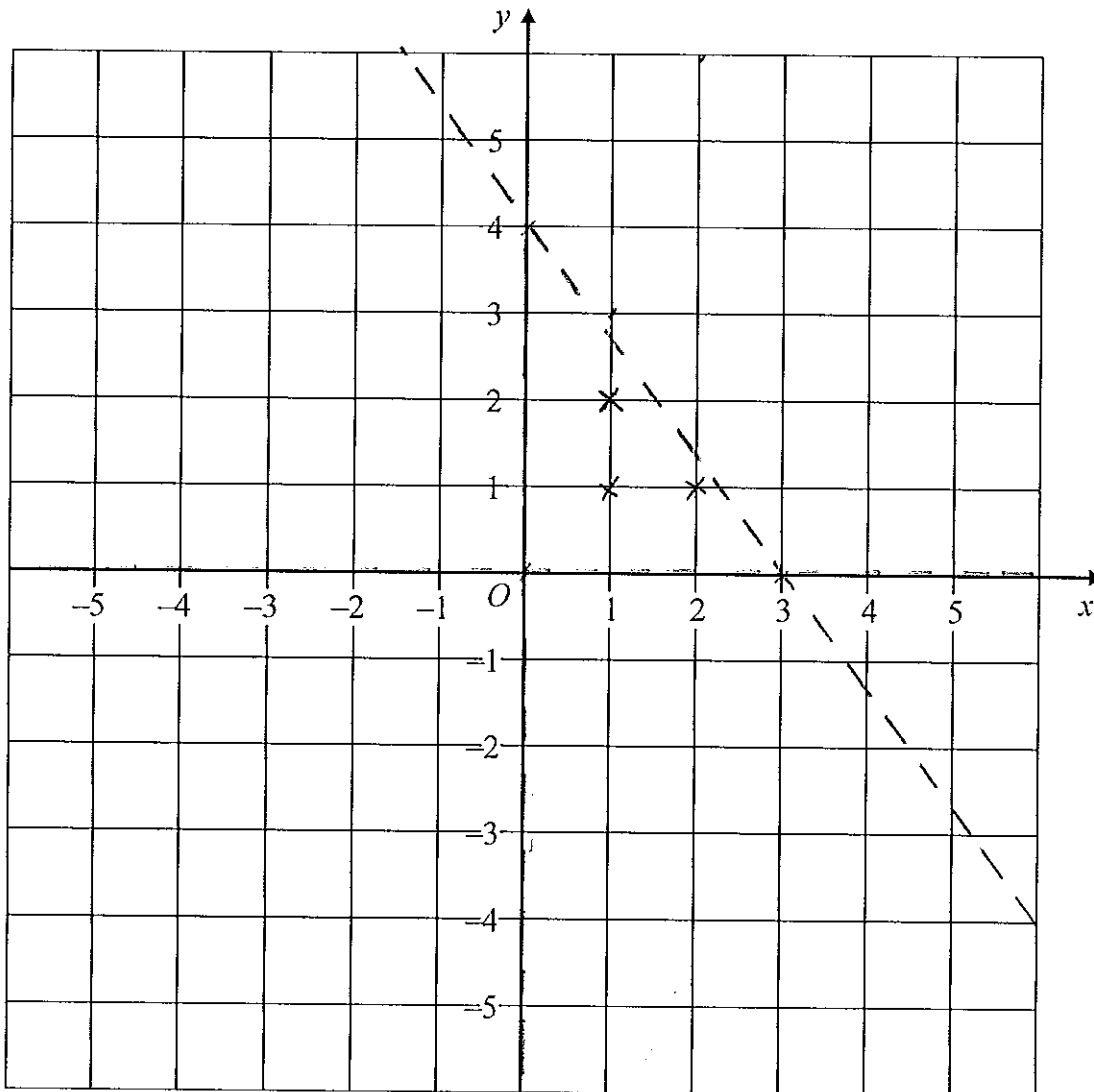(2,2) (2,3) (2,4) (3,3)

(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 (×), each of the **three** points which satisfy **all** these four inequalities.

(3)
(Total 5 marks)