

A286 Inequality regions

Q1.

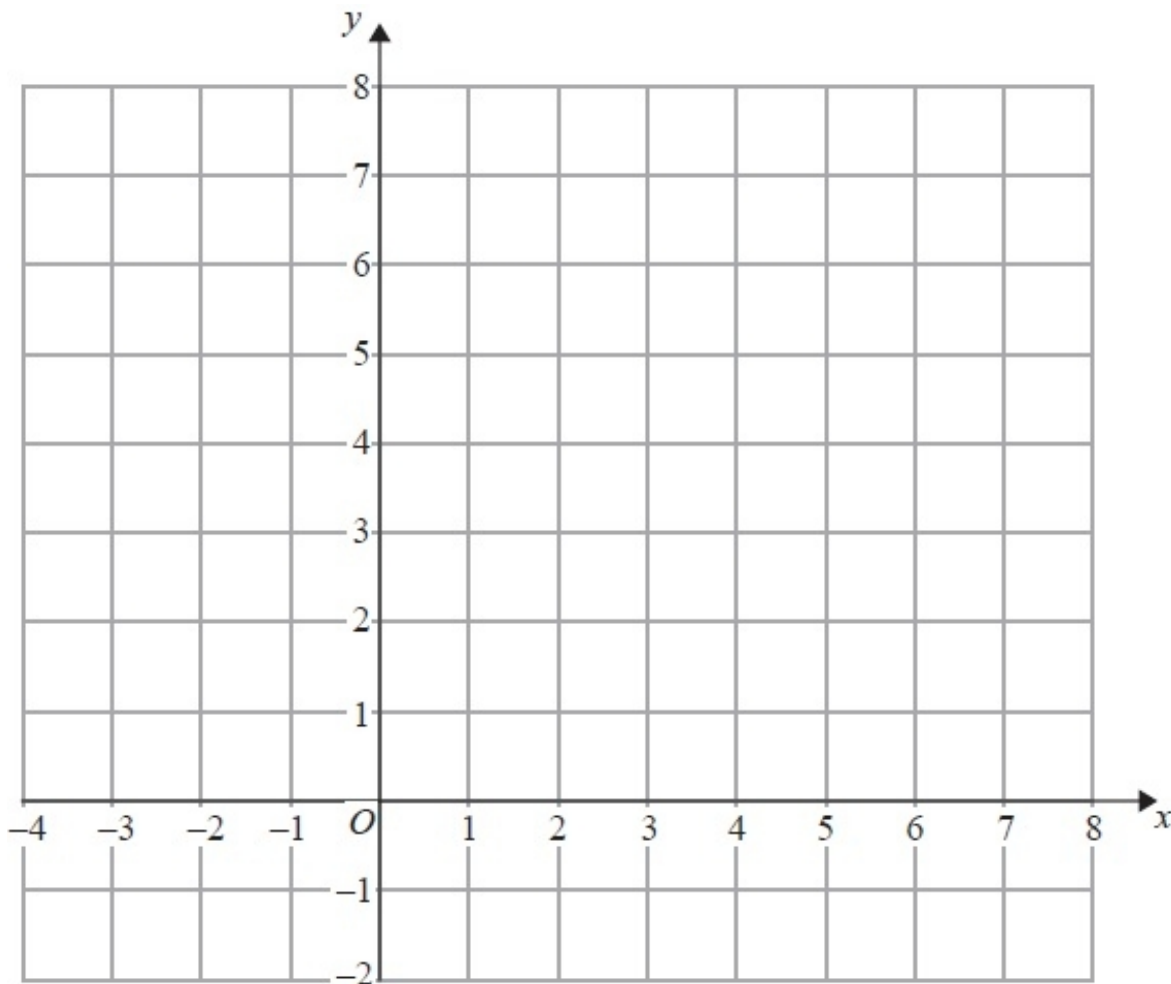
On the grid below, show by shading, the region defined by the inequalities

$$x + y < 6$$

$$x > -1$$

$$y > 2$$

Mark this region with the letter R.



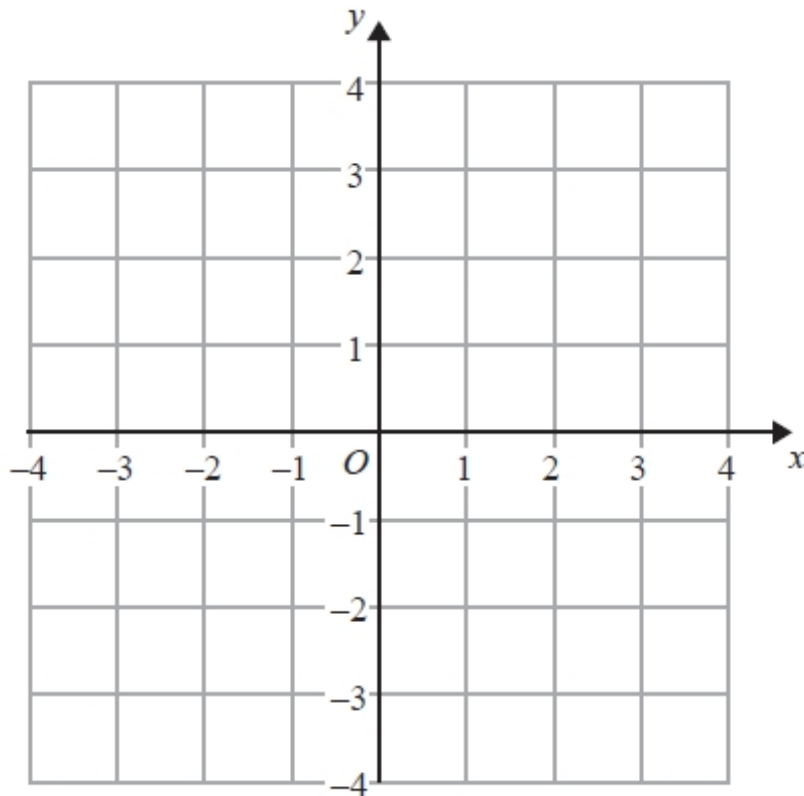
(Total for Question is 4 marks)

Q2.

(a) Solve the inequality $5e + 3 > e + 12$

.....
(2)

(b) On the grid, shade the region defined by the inequality $x + y > 1$



(2)

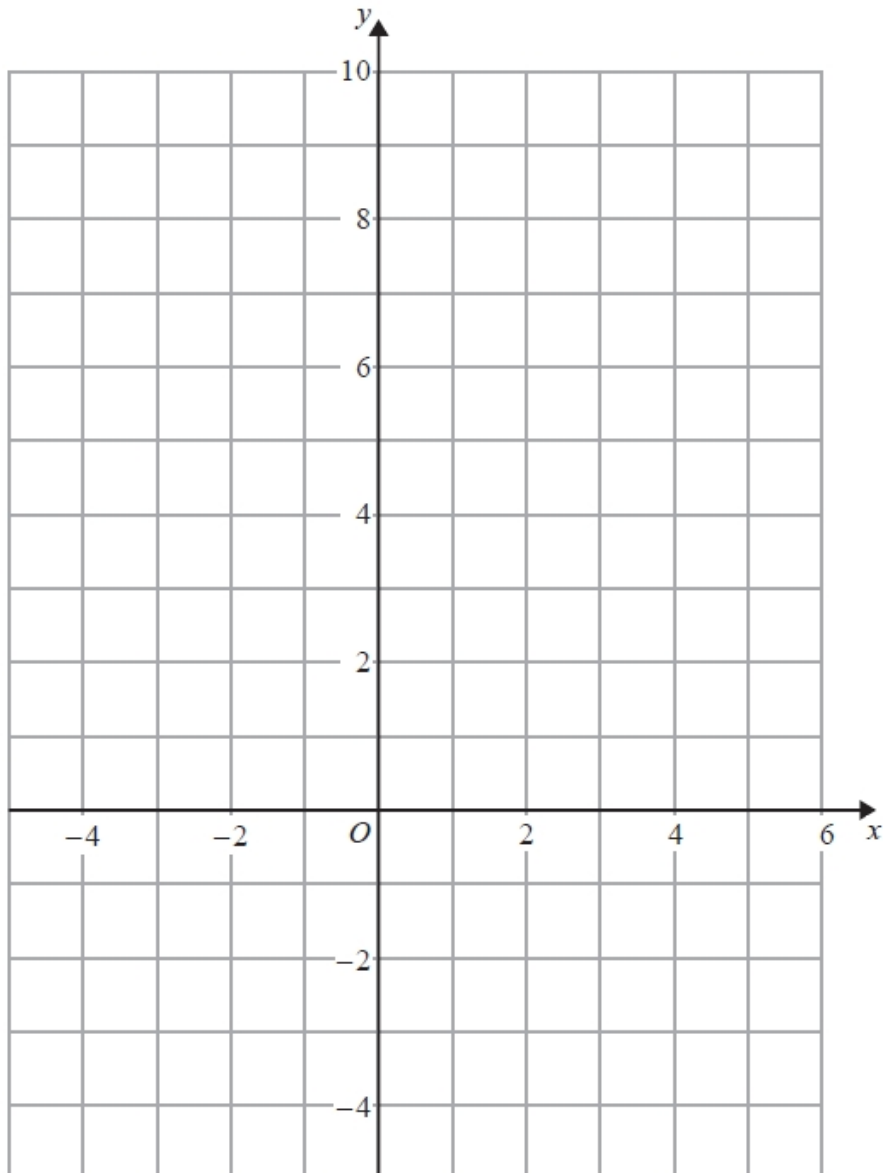
(Total for Question is 4 marks)

Q3.

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

$$x + y < 4 \quad y > x - 1 \quad y < 3x$$

Label the region **R**.



(Total for question is 4 marks)

Q4.

(a) Given that x and y are integers such that

$$\begin{aligned} 3 < x < 7 \\ 4 < y < 9 \\ \text{and } x + y = 13 \end{aligned}$$

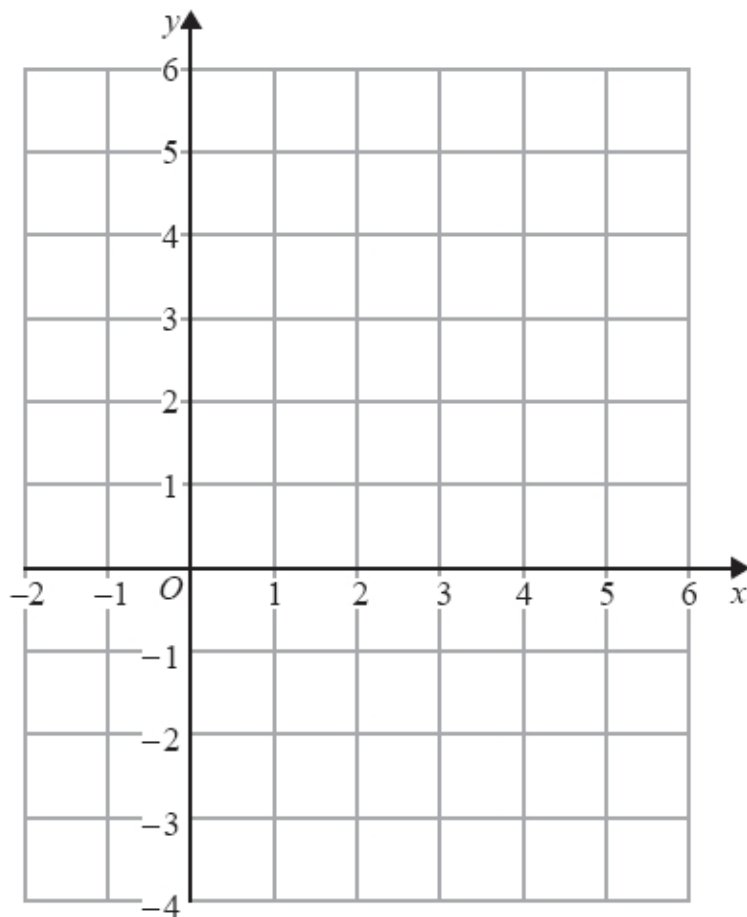
find all the possible values of x .

.....
(2)

(b) On the grid below show, by shading, the region defined by the inequalities

$$y \geq -1 \quad y \leq 4 - x \quad y \leq 3x - 1$$

Mark this region with the letter R.



(4)

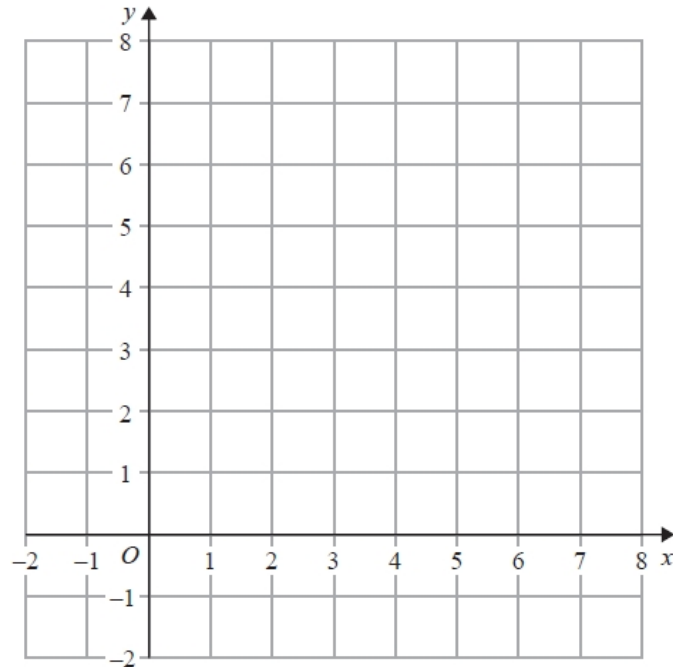
(Total for question = 6 marks)

Q5.

On the grid show, by shading, the region defined by the inequalities

$$x < 4 \quad 2x + y > 6 \quad y > \frac{1}{3}x$$

Label the region **R**.



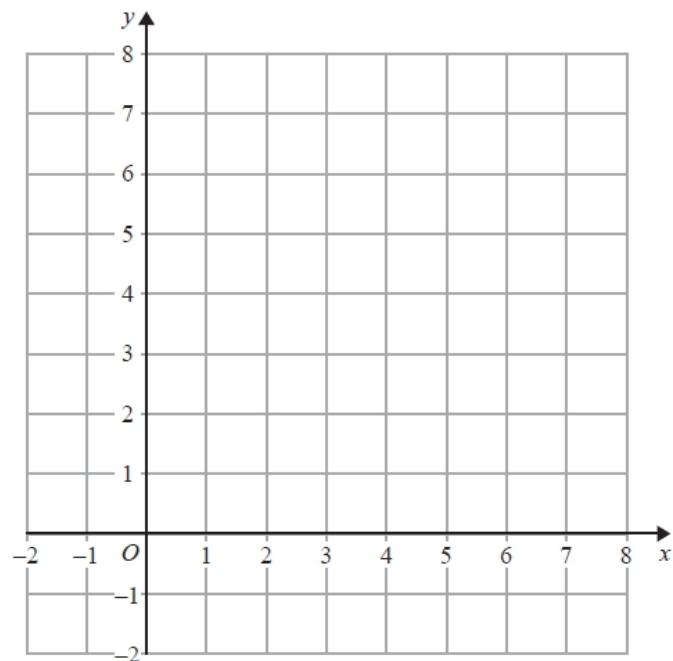
(Total for question = 3 marks)

Q6.

On the grid show, by shading, the region that satisfies all three of the inequalities

$$x + y < 7 \quad y < 2x \quad y > 3$$

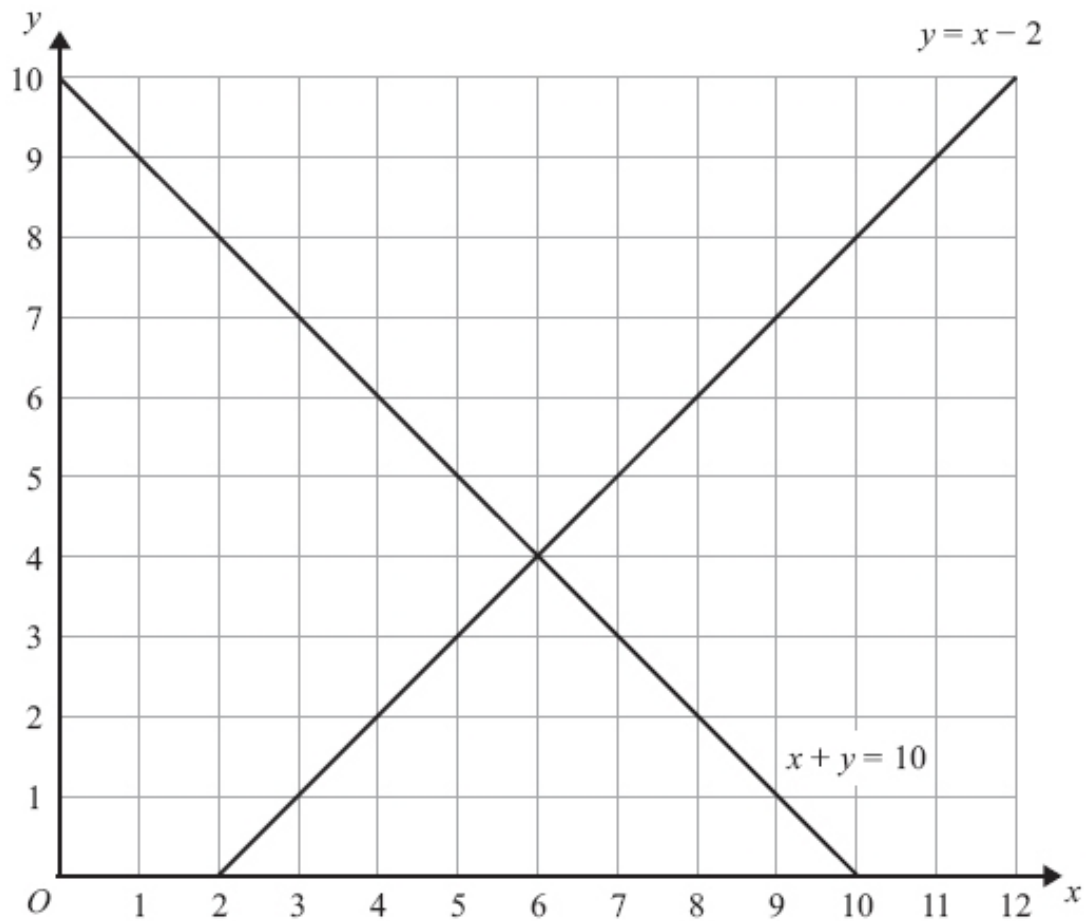
Label the region **R**.



(Total for question = 4 marks)

Q7.

The lines $y = x - 2$ and $x + y = 10$ are drawn on the grid.

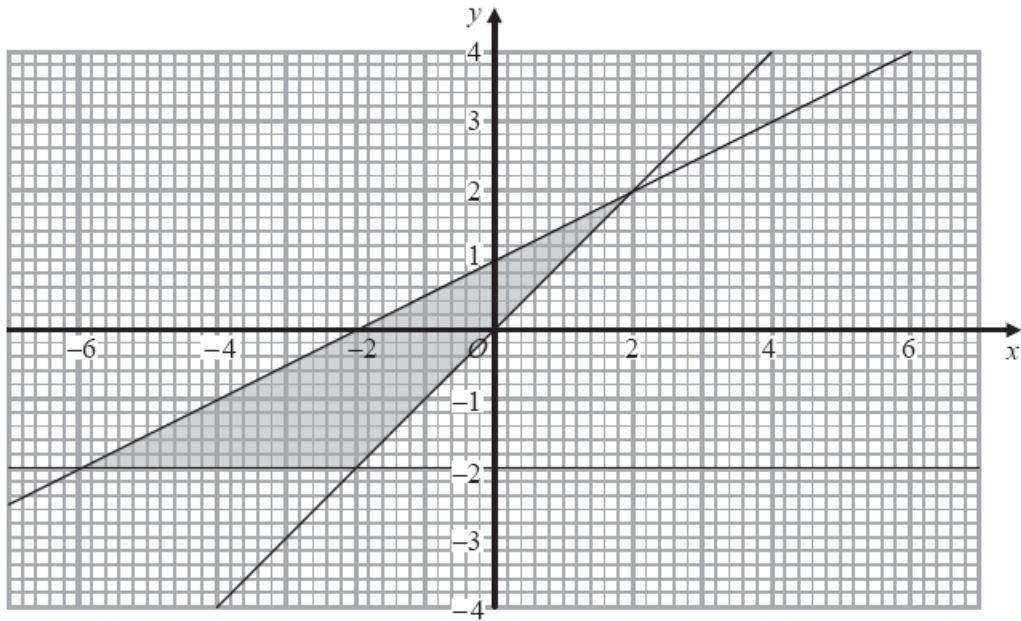


On the grid, mark with a cross (✕) each of the points with integer coordinates that are in the region defined by

$$\begin{aligned} y &> x - 2 \\ x + y &< 10 \\ x &> 3 \end{aligned}$$

(Total for Question is 3 marks)

Q8.



Write down the three inequalities that define the shaded region.

.....
.....
.....

(Total for question = 4 marks)

Q9.

For her maths homework, Helen answered the following question.

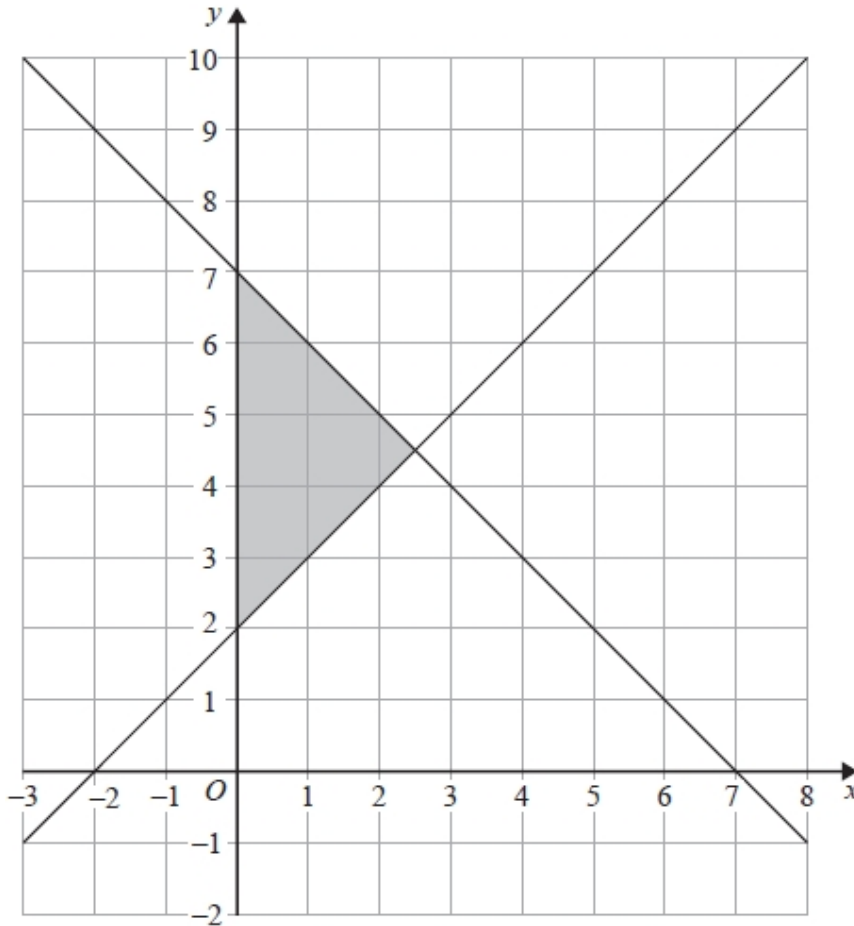
Shade the region that is defined by all these inequalities.

$$x + y \leq 6$$

$$y \geq 0$$

$$y \leq x + 2$$

Here is Helen's answer.



Helen made some mistakes when she answered the question.

Write down two mistakes Helen made.

1

2

(Total for question = 2 marks)