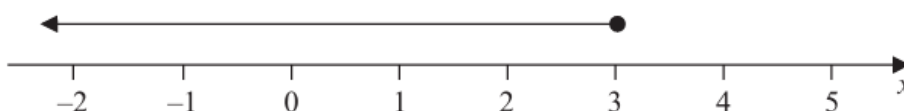


You must write down all the stages in your working.

### Q1

Write down the inequality shown on the number line



.....  
(1)

Solve the inequality  $7w + 6 > 12w + 14$

.....  
(3)

---

### Q2

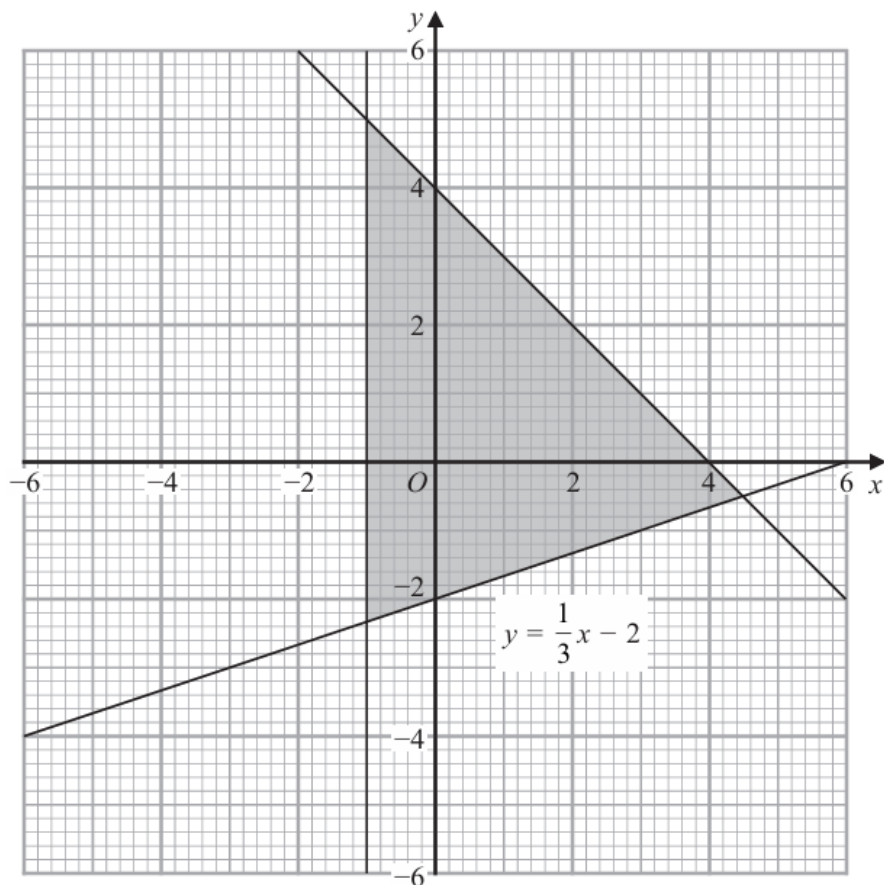
) Solve the inequality  $3y + 5 > 7y - 10$

Show clear algebraic working.

(3)

## Q3

The shaded region in the diagram is bounded by three lines.  
The equation of one of the lines is given.

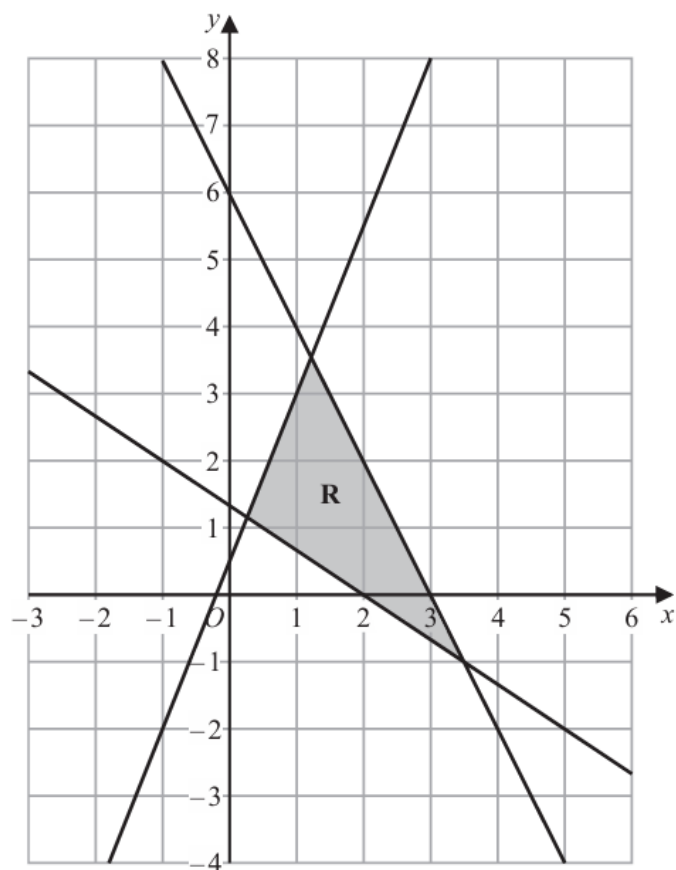


Write down the three inequalities that define the shaded region.

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

[3]

Q4



The region **R**, shown shaded in the diagram, is bounded by the straight lines with equations

$$2x + y = 6$$

$$2y = 5x + 1$$

$$3y + 2x = 4$$

Write down the three inequalities that define **R**

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

**(3)**

**Q5**

Solve the inequality  $2x^2 + x - 28 > 0$   
Show clear algebraic working.

---

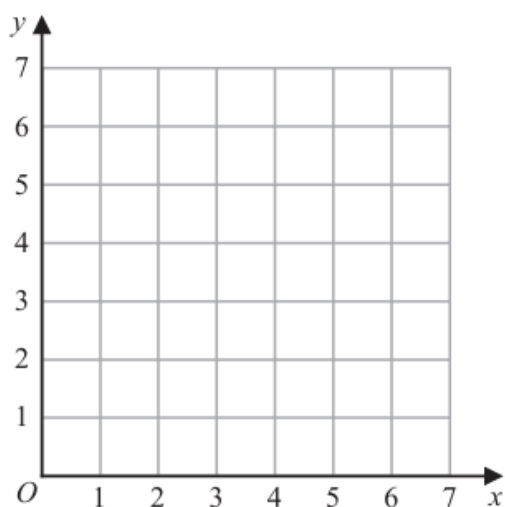
(4)

**Q6**

Solve the inequality  $6x^2 + 37x \leq 35$   
Show clear algebraic working.

(3)

Q7



(a) On the grid, draw and **label** the straight line with equation

(i)  $x = 1.5$

(ii)  $y = x$

(iii)  $x + y = 6$

(3)

(b) Show, by shading on the grid, the region that satisfies **all three** of the inequalities

$$x \geq 1.5 \quad y \geq x \quad x + y \leq 6$$

Label the region **R**.

(1)

Q8

Here is a rectangle.

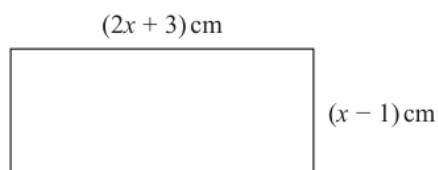


Diagram **NOT**  
accurately drawn

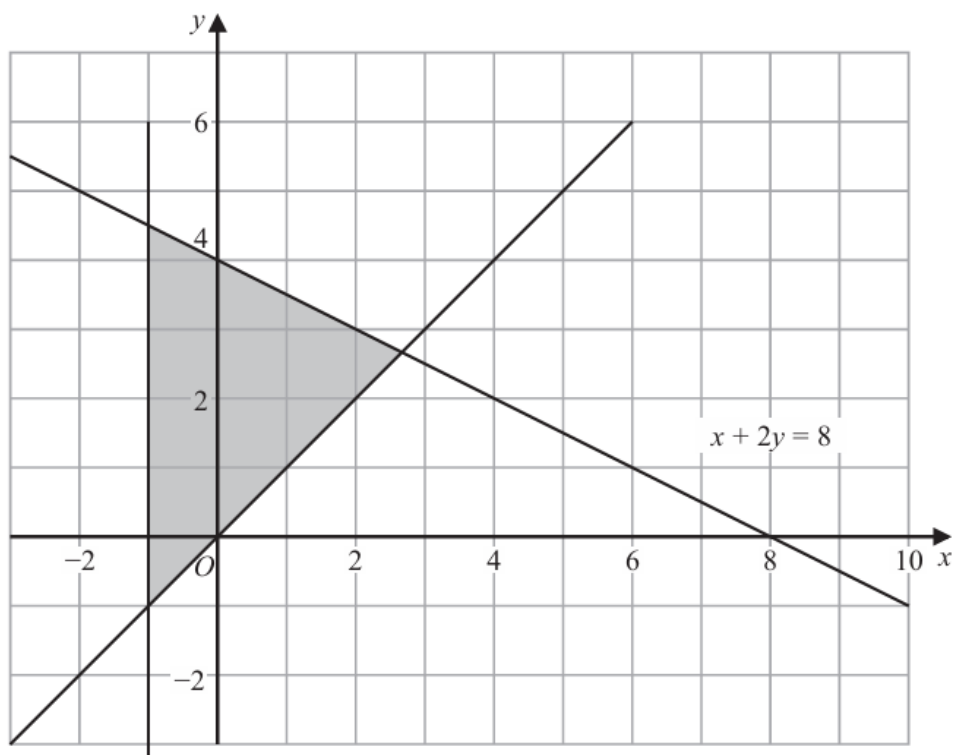
Given that the area of the rectangle is less than  $75 \text{ cm}^2$

find the range of possible values of  $x$

(5)

## Q8

The shaded region in the diagram is bounded by three lines.  
The equation of one of the lines is given.



Write down three inequalities that define the shaded region.

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

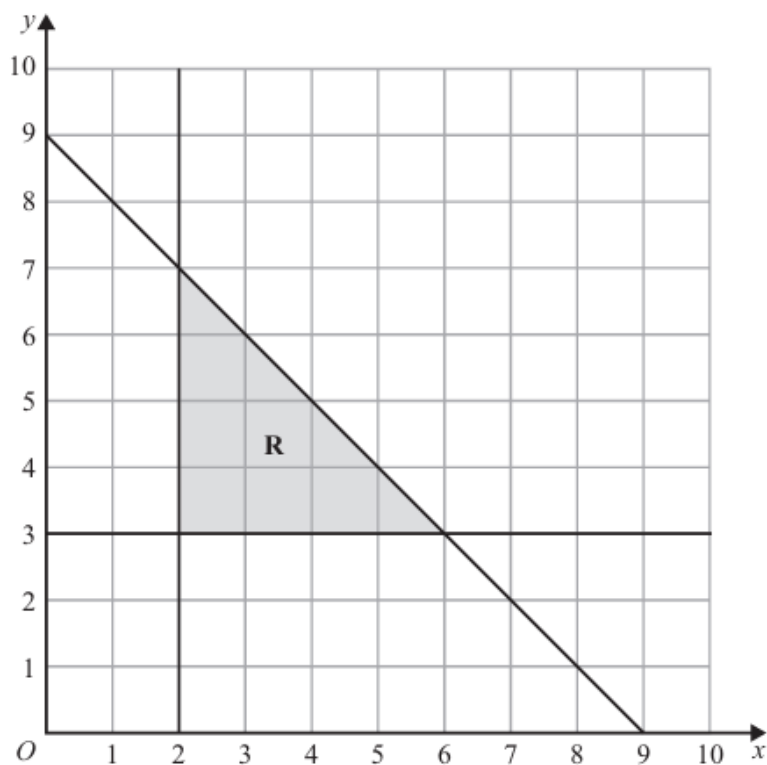
**(3)**

## Q9

Solve the inequality  $7 - 3t < 2t + 15$

**(2)**

The region **R**, shown shaded in the diagram, is bounded by three straight lines.



(b) Write down three inequalities that define the region **R**

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

(3)

### Q10

Solve the inequality  $4x^2 + 4x - 15 < 0$   
 Show clear algebraic working.

(3)

## Q11

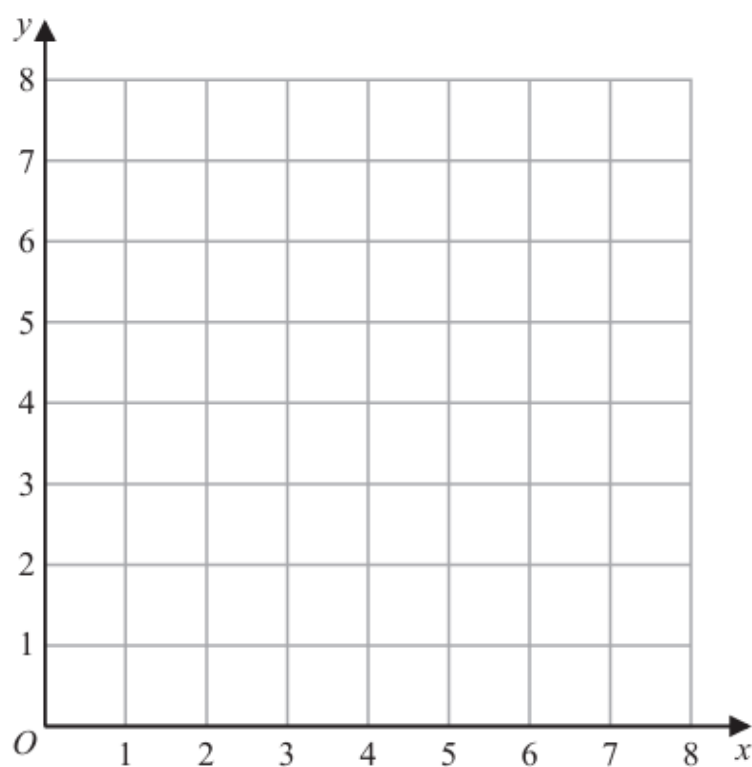
(a) On the grid, draw the straight line with equation

(i)  $y = 2$

(ii)  $x = 6$

(iii)  $y = x + 1$

Label each line with its equation.



(3)

(b) Show, by shading on the grid, the region that satisfies all three of the inequalities

$$y \geq 2$$

$$x \leq 6$$

$$y \leq x + 1$$

Label the region **R**

(1)

**Q12**

Solve the inequality  $3y^2 + 4y - 32 > 0$   
Show your working clearly.

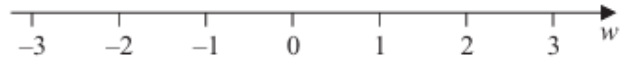
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(3)

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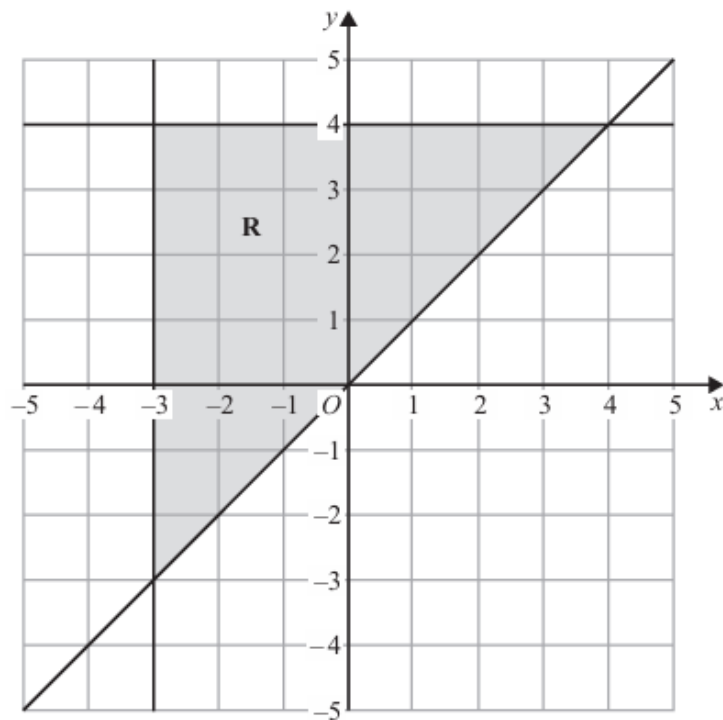
## Q13

(a) On the number line, represent the inequality  $w < 1$



(1)

The region **R**, shown shaded in the diagram, is bounded by three straight lines.



(b) Write down the three inequalities that define the region **R**

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

(3)