

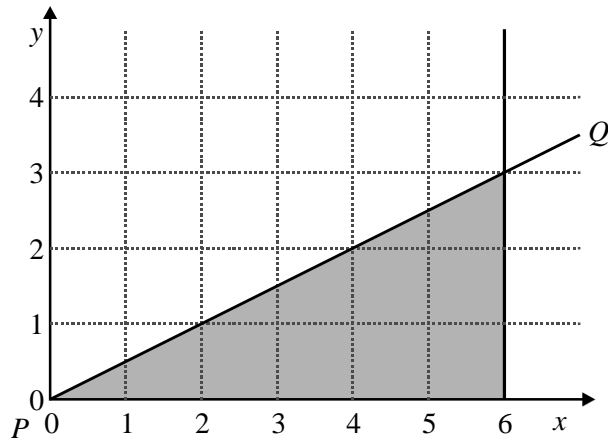
1. (a) List the integer values of n such that $3 \leq 3n < 18$

.....

Answer

(3)

- (b)



- (i) Find the equation of the line PQ .

.....

Answer

(1)

- (ii) Write down **three** inequalities which together describe the shaded area.

.....

Answer

(3)

(Total 7 marks)

2. On the grid below, indicate clearly the region defined by the three inequalities

$$\begin{aligned}
 x &\geq 1 \\
 y &\geq x - 1 \\
 x + y &\leq 7
 \end{aligned}$$

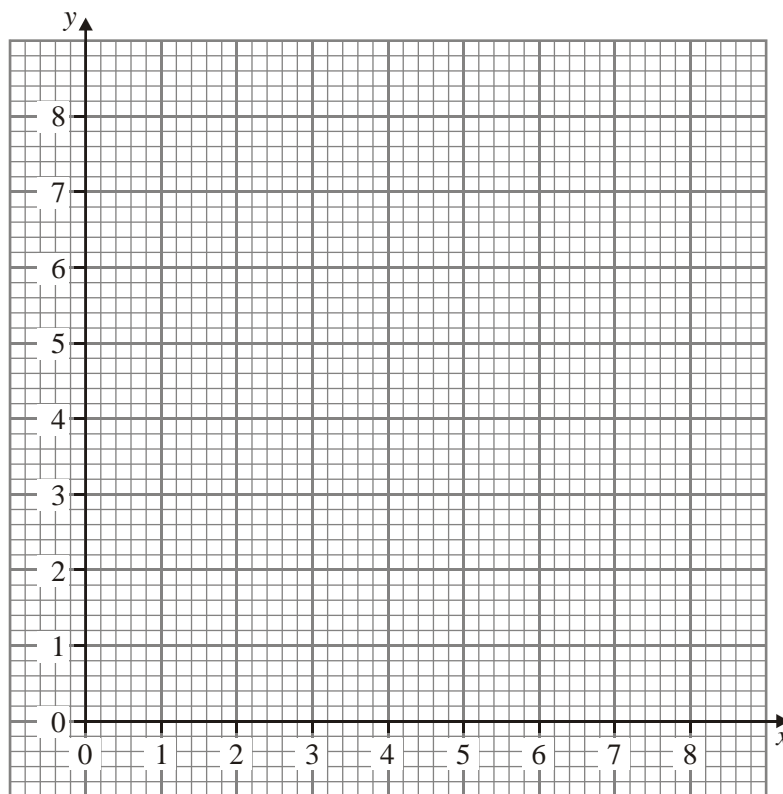
Mark the region with an *R*.

.....

.....

.....

.....



(Total 3 marks)

3. (a) Solve the inequality $3x - 5 \leq 5 - 2x$

.....

.....

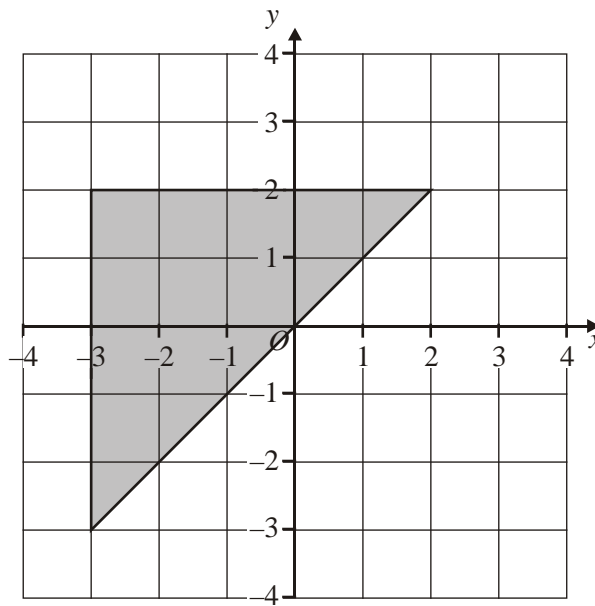
.....

.....

Answer

(2)

(b) The region R is shown shaded below.



Write down **three** inequalities which together describe the shaded region.

.....

.....

.....

Answer

.....

.....

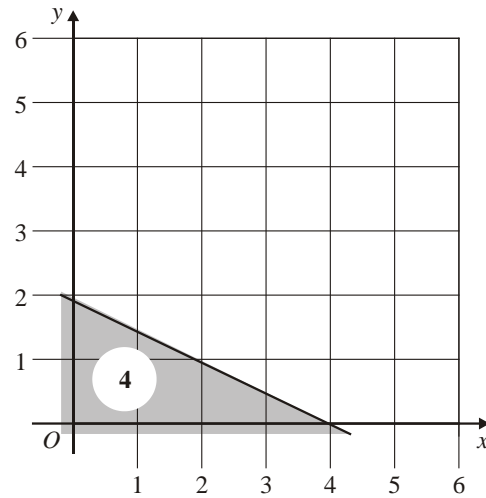
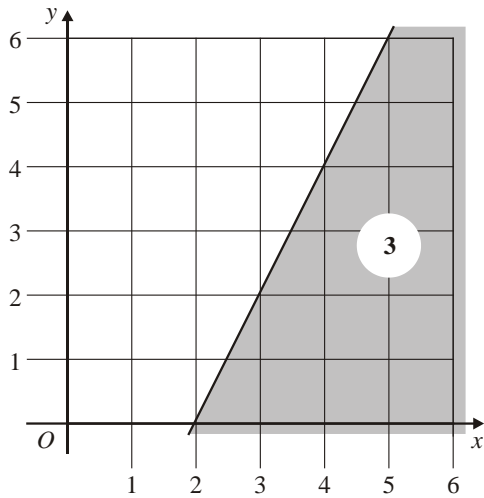
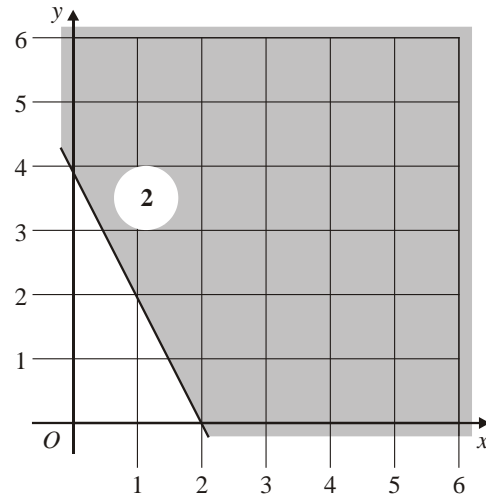
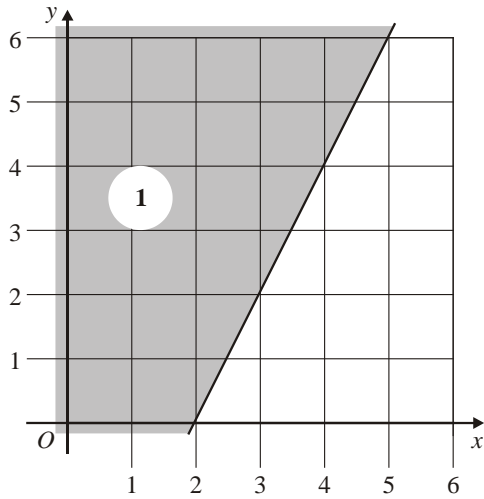
(3)
(Total 5 marks)

4. Match each of the shaded regions to one of these inequalities.

A $y \leq -\frac{1}{2}x + 2$ **D** $y \geq 2x - 4$

B $y \leq \frac{1}{2}x + 2$ **E** $y \leq 2x - 4$

C $y \geq -2x + 4$



Region 1

Region 2

Region 3

Region 4

(Total 4 marks)

5. On the grid below, indicate clearly the region defined by the three inequalities

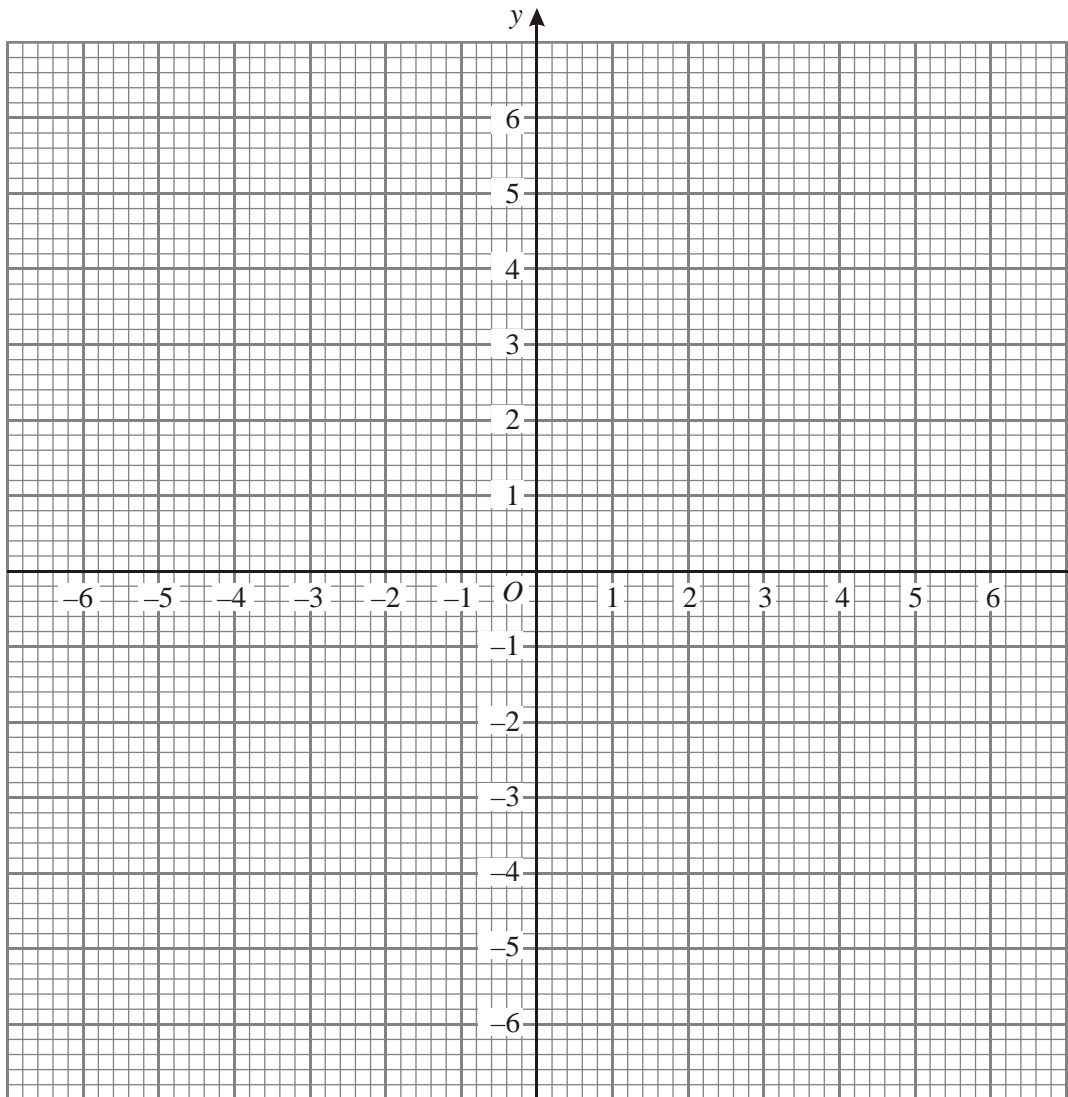
$$y \leq 4$$

$$x \geq -3$$

$$y \geq x + 2$$

Mark the region with an *R*.

.....



(Total 3 marks)

6. (a) Work out the integer values of n that satisfy this inequality.

$$7 < 4n \leq 20$$

.....

.....

.....

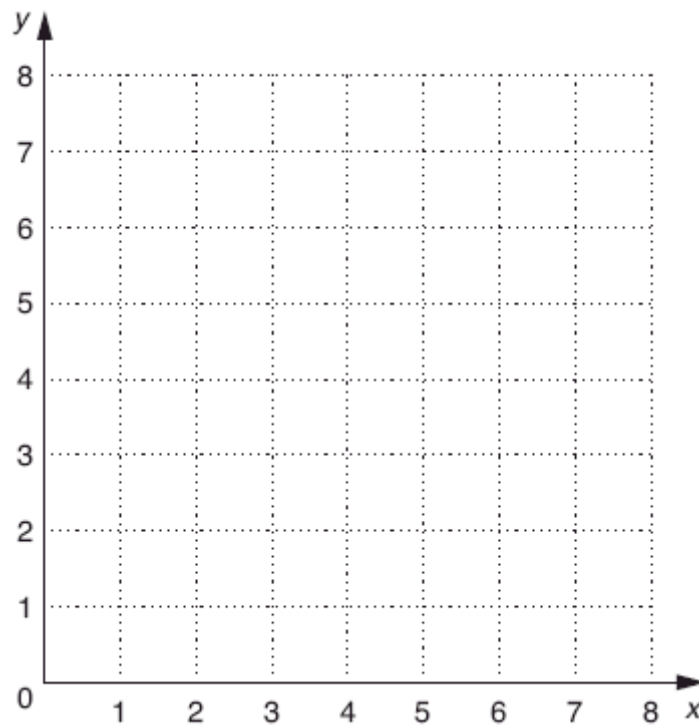
[3]

- (b) On the grid, indicate clearly the region that satisfies all these inequalities.

$$x \geq 2$$

$$y \geq 3$$

$$x + y \geq 7$$



[3]

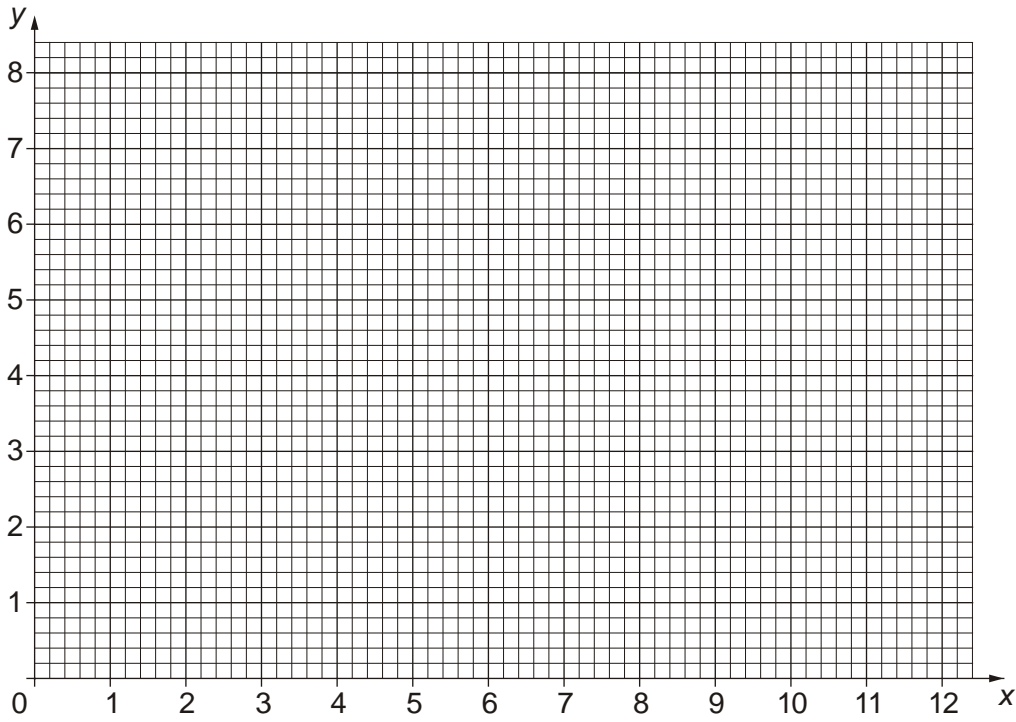
7. On the grid below shade the region which satisfies these inequalities.

$$x \geq 2$$

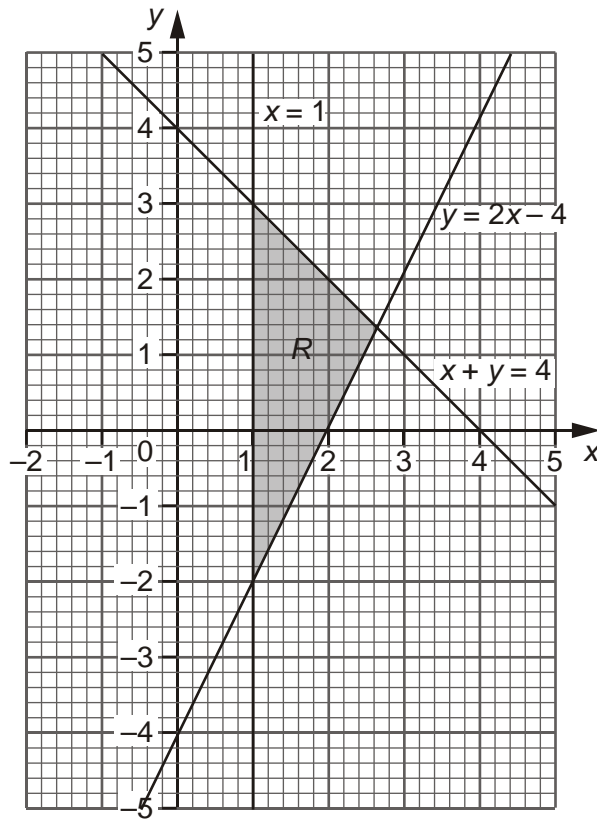
$$y \geq x$$

$$x + 2y \leq 12$$

[3]



8.



- (a) Write down the three inequalities which define the shaded region R shown on the grid above.

.....

[3]

- (b) The boundaries are included in the region.
 Find the minimum value of $x + y$ in the shaded region R .

.....

[2]