



Name: _____

Date: _____

Score: _____ / 59

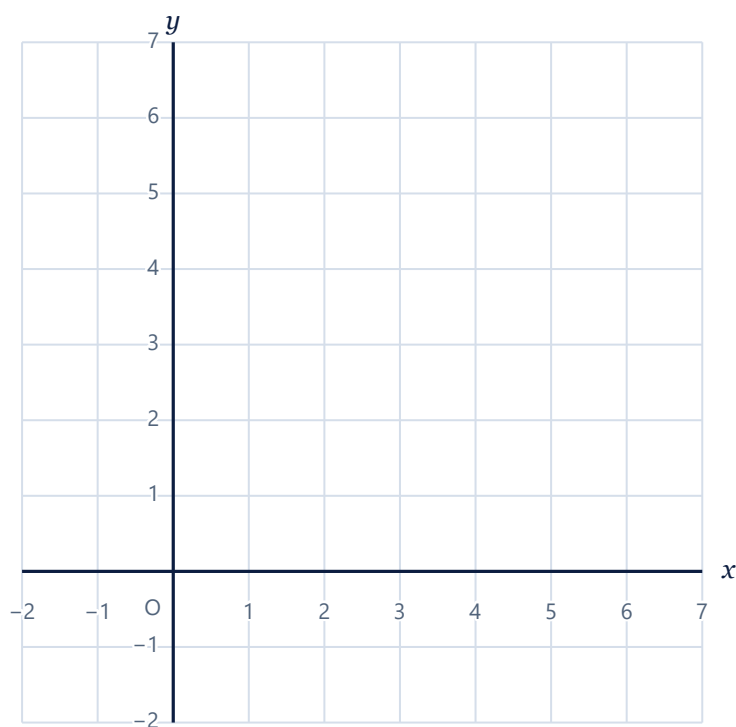
1 On the grid, shade the region that satisfies all three of these inequalities.

$$x \geq 1$$

$$y > 2$$

$$x + y < 6$$

Label the region R.



(3 marks)

Answer _____

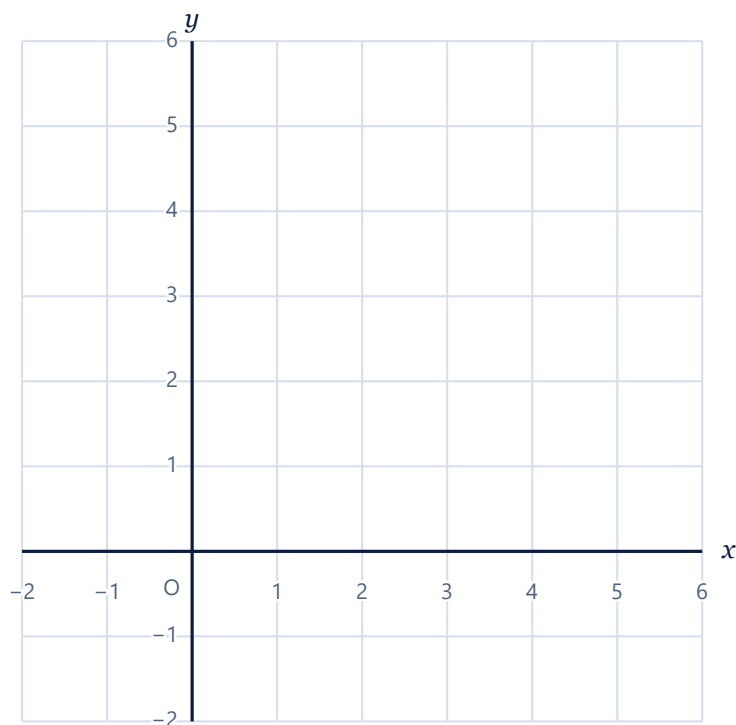
- 2 On the grid, shade the region that satisfies all three of these inequalities.

$$y \leq 3$$

$$y \geq x - 1$$

$$x > 0$$

Label the region R.



(3 marks)

Answer _____

- 3 When a region is shaded on a graph, the boundary line for each inequality is drawn either solid or dashed.

Write "solid" or "dashed" for the boundary line of each inequality.

a. $y > 1$

b. $x \leq 5$

c. $y \geq x + 2$

d. $x + y < 6$

(2 marks)

Answer _____

4 The region R satisfies all three of these inequalities.

$$x \geq 1$$

$$y \geq 2$$

$$x + y \leq 5$$

Find all the points in R whose coordinates are both integers.

(3 marks)

Answer

5 The region R satisfies all three of these inequalities.

$$y > x$$

$$x \geq 0$$

$$y \leq 4$$

Amy says the point (2, 2) is in R.

Is Amy correct? You must explain your answer.

(3 marks)

Answer

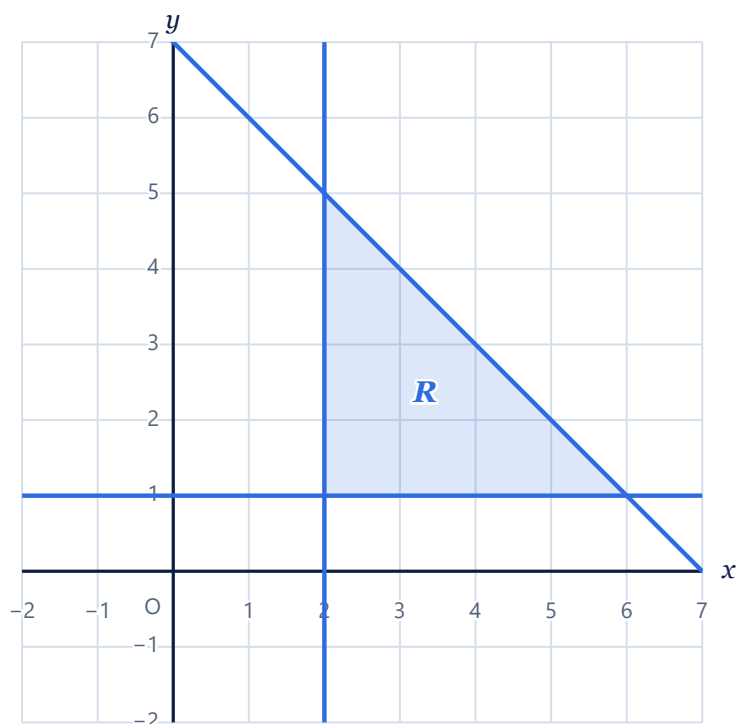
6

A region R is drawn on a coordinate grid.

R is the triangle with vertices $(2, 1)$, $(6, 1)$ and $(2, 5)$, including its boundary.

The three sides of the triangle lie on the lines $x = 2$, $y = 1$ and $x + y = 7$

Find the three inequalities that define R .



(4 marks)

Answer _____

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

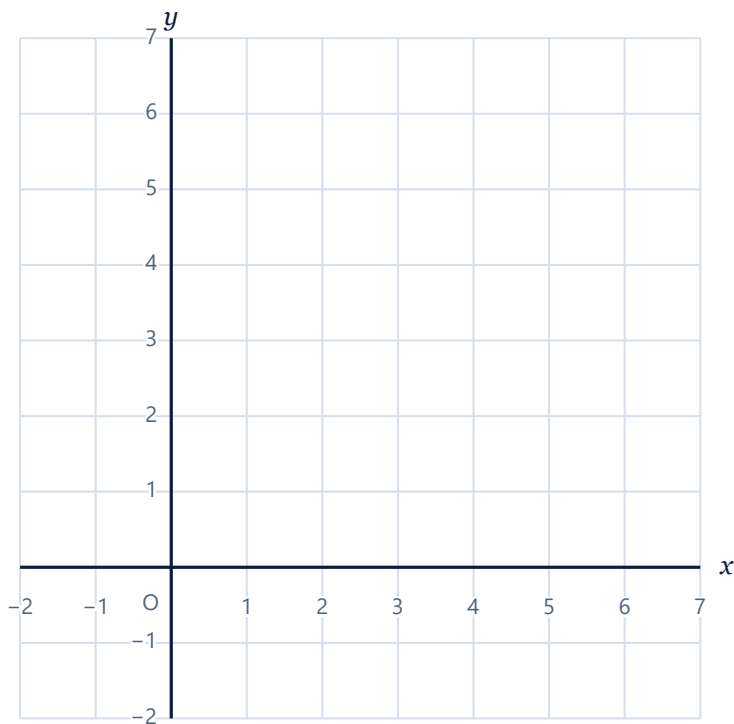
$$x > 0$$

$$y > 1$$

$$y < 2x$$

$$x + y < 6$$

Label the region R.



(4 marks)

Answer _____

8 The region R satisfies all three of these inequalities.

$$x > 0$$

$$y \geq 1$$

$$x + y < 5$$

Write down the coordinates of all the points in R with whole number coordinates.

(3 marks)

Answer _____

9 The region R satisfies all three of these inequalities.

$$x + 2y \leq 10$$

$$x \geq 0$$

$$y > 1$$

Which of these points are in R?

P(4, 3) Q(6, 2) S(2, 1) T(0, 5)

(3 marks)

Answer _____

10 The region R is bounded by three lines: $x = 1$, $y = 2$ and $x + y = 8$.

R is to the right of $x = 1$, above $y = 2$ and below $x + y = 8$.

The lines $x = 1$ and $x + y = 8$ are solid. The line $y = 2$ is dashed.

Write down the three inequalities that define R.

(3 marks)

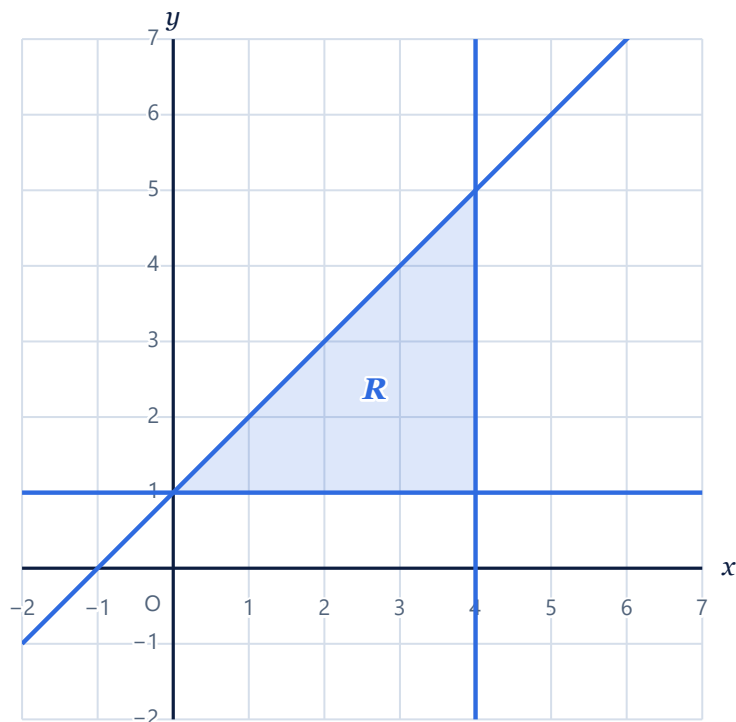
Answer _____

11

A region R is drawn on a coordinate grid.

R is the triangle with vertices $(0, 1)$, $(4, 1)$ and $(4, 5)$, including its boundary.

Find the three inequalities that define R .



(4 marks)

Answer _____

12

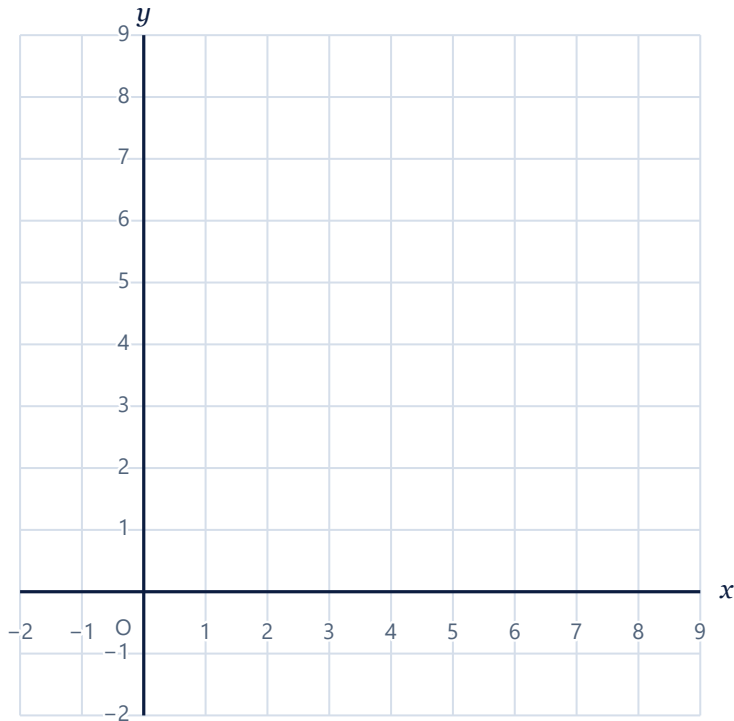
a. On the grid, shade the region R that satisfies all three of these inequalities.

$$y \geq 1$$

$$x + y \leq 8$$

$$y \leq 3x - 1$$

b. Priya says the point (3, 8) is in R. Explain why Priya is wrong.



(5 marks)

Answer _____

13

A straight line passes through (0, 1) and (4, 3).

The region R is on or above this line, on or below the line $y = 3$, and on or to the right of the y -axis.

Write down the three inequalities that define R.

(4 marks)

Answer _____

14 The region R satisfies all four of these inequalities.

$$x \geq 0$$

$$y \geq 0$$

$$2x + y \leq 10$$

$$y \leq x + 2$$

The point (x, y) is in R and both coordinates are integers.

Find the greatest possible value of $x + y$

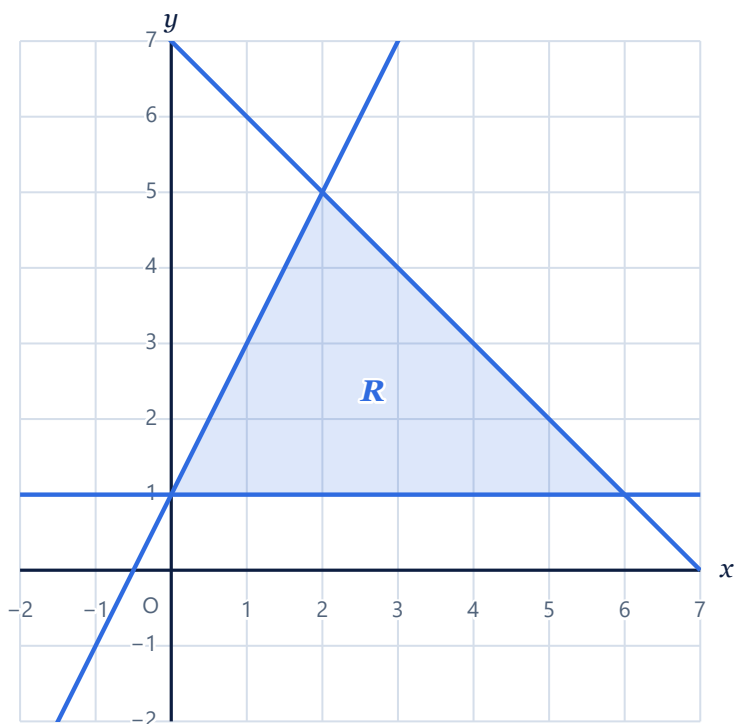
(5 marks)

Answer _____

15 A region R is drawn on a coordinate grid.

R is the triangle with vertices $(0, 1)$, $(6, 1)$ and $(2, 5)$, including its boundary.

Find the three inequalities that define R.



(5 marks)

Answer _____

16 The region R satisfies all three of these inequalities.

$$x \geq 1$$

$$y > 2$$

$$x + y \leq 8$$

- Work out how many points in R have whole number coordinates.
- Work out the greatest value of $2x + y$ for points in R with whole number coordinates.

(5 marks)

Answer _____

End of questions | Total 59 marks