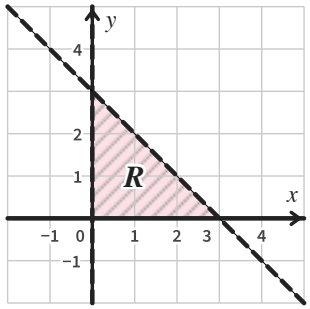
Inequalities and regions: describing a region

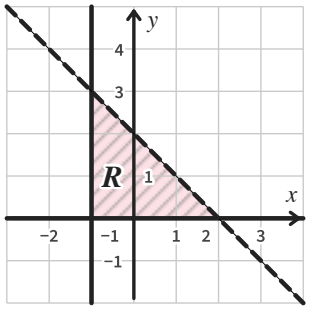
1

List the points with integer coordinates in R.



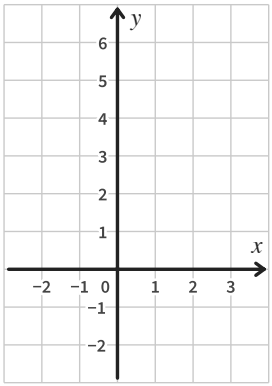
2

List the points with integer coordinates in R.



3

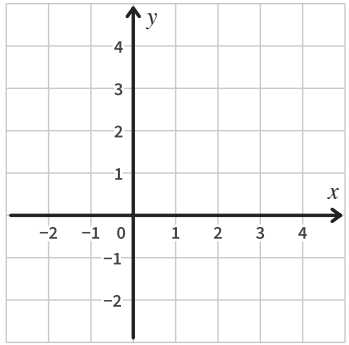
R is the region where $x > -1$, $y > -1$ and $2x + y \leq 4$. How many points with integer coordinates are in R?



Answer

4

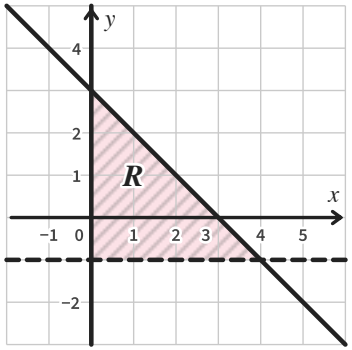
R is the region where $y > x$, $y \leq 3$ and $x \geq -1$. How many points with integer coordinates are in R?



Answer

5

Write down the three inequalities that describe R.



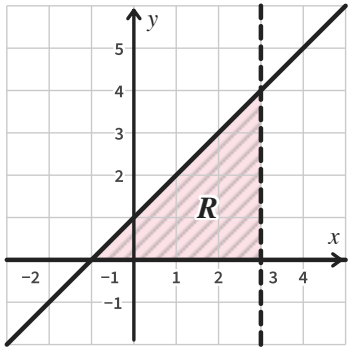
$x = 0$:

$y = -1$:

$x + y = 3$:

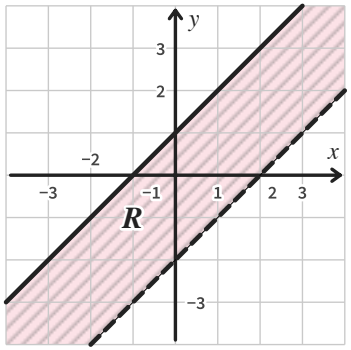
6

Write down the three inequalities that describe R.



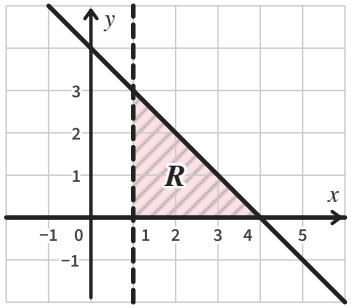
7

Write down the two inequalities that describe R.



8

Mo says R is the region where $x < 1$, $y \geq 0$ and $x + y \leq 4$. Explain his mistake.



Inequalities and regions: describing a region *further practice*

9

A garden centre packs x large pots and y small pots in a box, where $x \geq 1$, $y \geq 2$ and $3x + y \leq 9$. x and y are integers. How many different boxes can it pack?

Answer

10

List the points with integer coordinates in the region where $x > -2$, $y > x$ and $y < 2$.

Answer

11

Priya lists the points with integer coordinates in the region where $x > 0$, $y > 0$ and $x + y \leq 4$: (1, 1), (1, 2), (2, 1), (2, 2), (0, 2). Which point is wrong, and which has she missed?

Answer

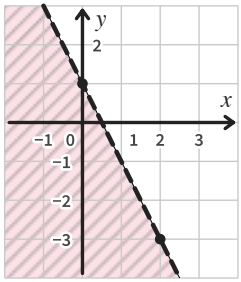
12

R is the region where $x > 2$, $y > 0$ and $x + y < k$, where k is an integer. The only point with integer coordinates in R is (3, 1). Find k.

Answer

13

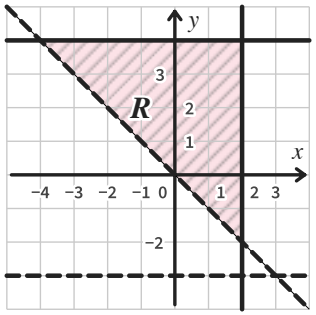
The dashed line goes through (0, 1) and (2, −3). The region below it is shaded. Write down the inequality.



Answer

14

Write down the three inequalities that describe R.



Answer

15

R is the triangle with corners (0, 0), (4, 0) and (0, 4). Its edges on the axes are solid and its third edge is dashed. Write down the three inequalities.

Answer

16

Ben says the region below the dashed line $y = 2x - 1$ is $y > 2x - 1$. Explain his mistake and write the right inequality.

Answer