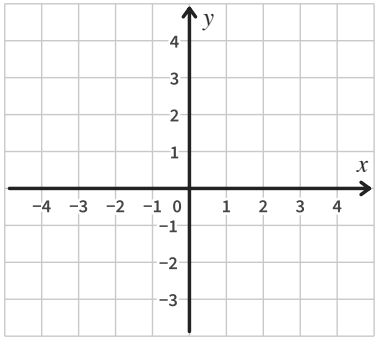
Inequalities on a Graph: Shading Regions

1

Show $x \geq -1$ on the grid.
Shade the region.

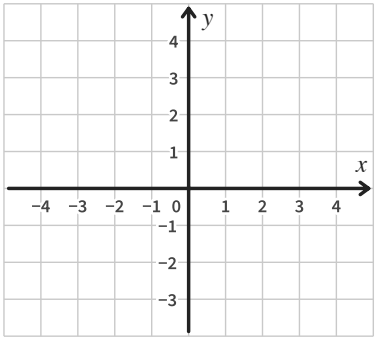


line: $x = -1$, solid

shade: the right

2

Show $y < 2$ on the grid. Shade the region.

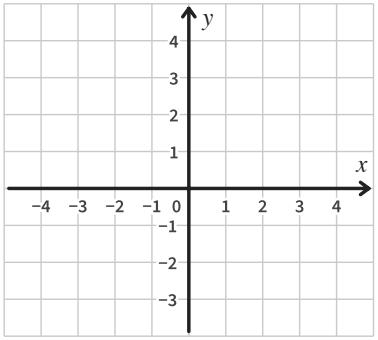


line: $y = 2$, dashed

shade:

3

Show $y \geq x + 1$ on the grid.
Shade the region.

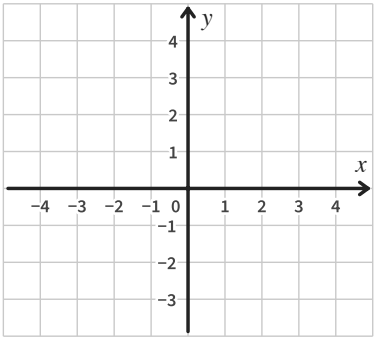


line:

test (0, 0):

4

Show $y < 2x - 1$ on the grid.
Shade the region.

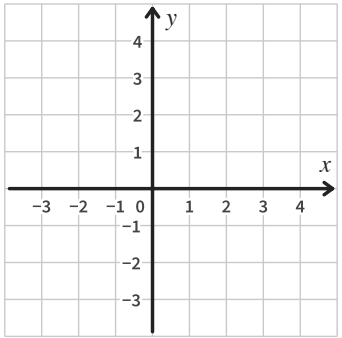


line:

test:

5

Shade the region R where $x > -2$, $y \leq 3$ and $y \geq x$.



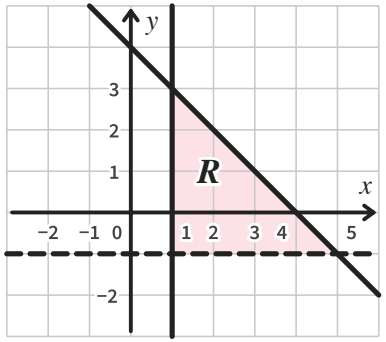
$x = -2$:

$y = 3$:

$y = x$:

6

Write down the three inequalities that describe the shaded region R.



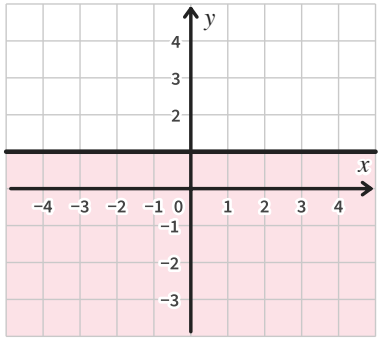
$x = 1$:

$y = -1$:

$x + y = 4$:

7

Ben shows $y > 1$ like this.
Explain his two mistakes.



1:

2:

8

Which of the points (1, 3), (2, 2) and (3, 6) are in the region $y > 2x - 1$?

(1, 3):

(2, 2):

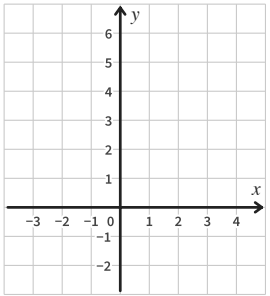
(3, 6):

Answer

Inequalities on a Graph: Shading Regions *further practice*

9

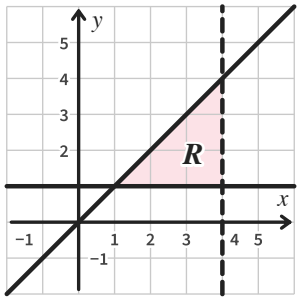
Shade the region R where $y \leq 2x + 1$, $x < 2$ and $y > -1$.



Answer _____

10

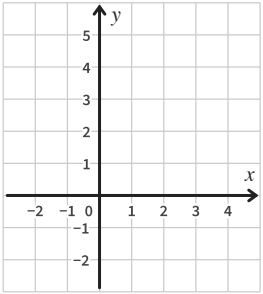
Write down the three inequalities that describe the shaded region R.



Answer _____

11

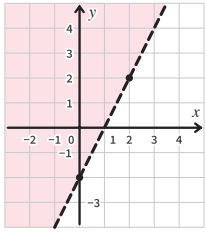
Shade the region R where $x + y \leq 4$, $y \geq x$ and $x \geq -1$.



Answer _____

12

The dashed line goes through (0, −2) and (2, 2). Write down the inequality that describes the shaded region.



Answer _____

13

R is the region where $x > 0$, $y > 0$ and $x + y < 4$. List the points in R with whole number coordinates.

Answer _____

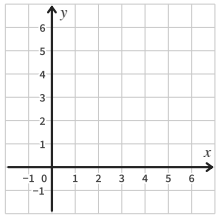
14

Is the point (3, 4) in the region where $y < 2x - 1$ and $x + y \leq 7$?
Show how you know.

Answer _____

15

A café sells x cakes and y cookies an hour, where $x \geq 2$, $y \geq 1$ and $x + y \leq 6$. Shade the region. Can it sell 3 cakes and 4 cookies?



Answer _____

16

Explain why no point fits both $y > x + 2$ and $y < x - 1$.

Answer _____