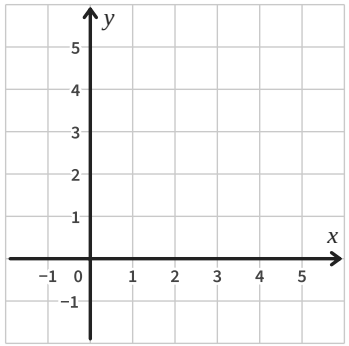
Inequalities and regions: lines like x + 2y = 8

1

Draw the boundary line of $x + y < 4$.

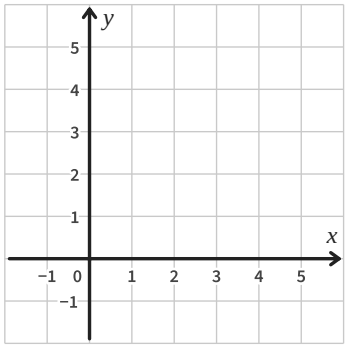


x = 0: y = 4, so (0, 4)

y = 0: x = 4, so (4, 0)

2

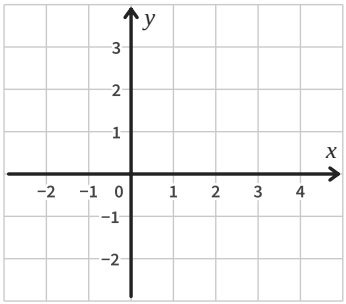
Draw the boundary line of $4x + 3y \geq 12$.



x = 0: 3y = 12, y = 4, so (0, 4)

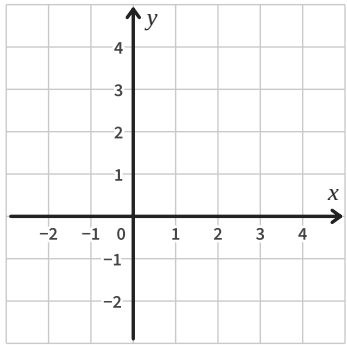
3

Draw the boundary line of $x + 3y \leq 3$.



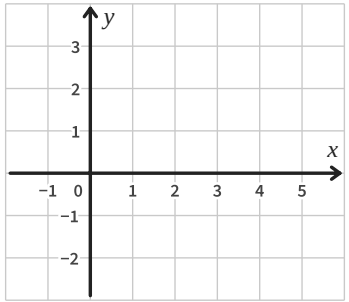
4

Draw the boundary line of $3x + 2y > 6$.



5

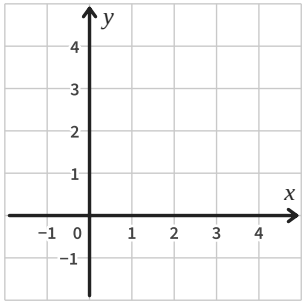
Show $x + 2y \leq 4$ on the grid.



(0, 2) and (4, 0), solid

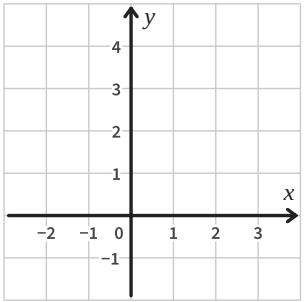
6

Show $2x + 3y > 6$ on the grid.



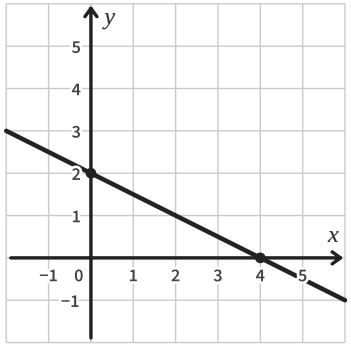
7

Show $4x + y < 4$ on the grid.



8

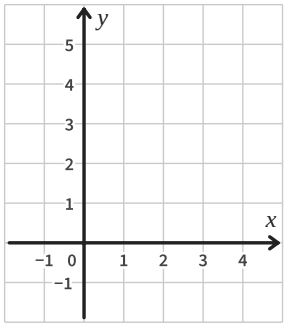
Zoe draws the line $2x + y = 4$ through (0, 2) and (4, 0). Explain her mistake.



Inequalities and regions: lines like x + 2y = 8 *further practice*

9

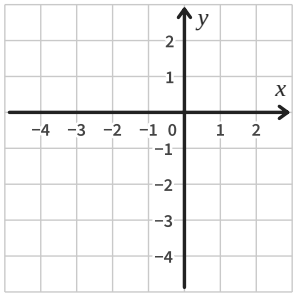
Draw the boundary line of $5x + 2y \leq 10$.



Answer _____

10

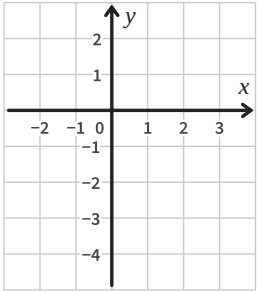
Show $x + y > -2$ on the grid.



Answer _____

11

Show $3x - y < 3$ on the grid.



Answer _____

12

Where does the line $4x + 5y = 20$ cross each axis?

Answer _____

13

Which of these points are in the region $2x + y < 6$: (1, 1), (2, 2), (3, 0), (0, 3)?

Answer _____

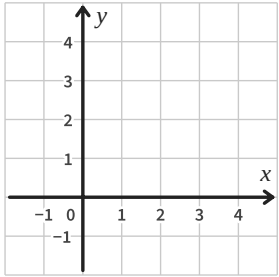
14

The line $ax + by = 12$ crosses the axes at (0, 3) and (4, 0). Find a and b.

Answer _____

15

Ama tests the point (2, 0) to show $3x + 2y \geq 6$. Why can she not use it? Shade the region.



Answer _____

16

The line $2x + 3y = 9$ crosses the x axis at 4.5. Find two points on it with whole number coordinates.

Answer _____