MATHEMATICS · GRADES 7-9

Plotting Points

Difficulty level: Intermediate

Mathematics: Grades 7-9

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Overview of the concept

This is how you turn numbers into a picture, like plotting your weekly running distances on a graph to see your progress. A runner who plots each week can see at a glance whether the distances are climbing, and a saver who plots each month can see the savings grow. A picture shows a trend that a list of numbers hides, like a slow climb or a sudden drop. That is why coaches, teachers, and businesses all turn their numbers into graphs.



Rule

In an ordered pair (x, y), the first number tells how far across and the second tells how far up.

Start at the origin, move across first, then up. A negative x means left, and a negative y means down.

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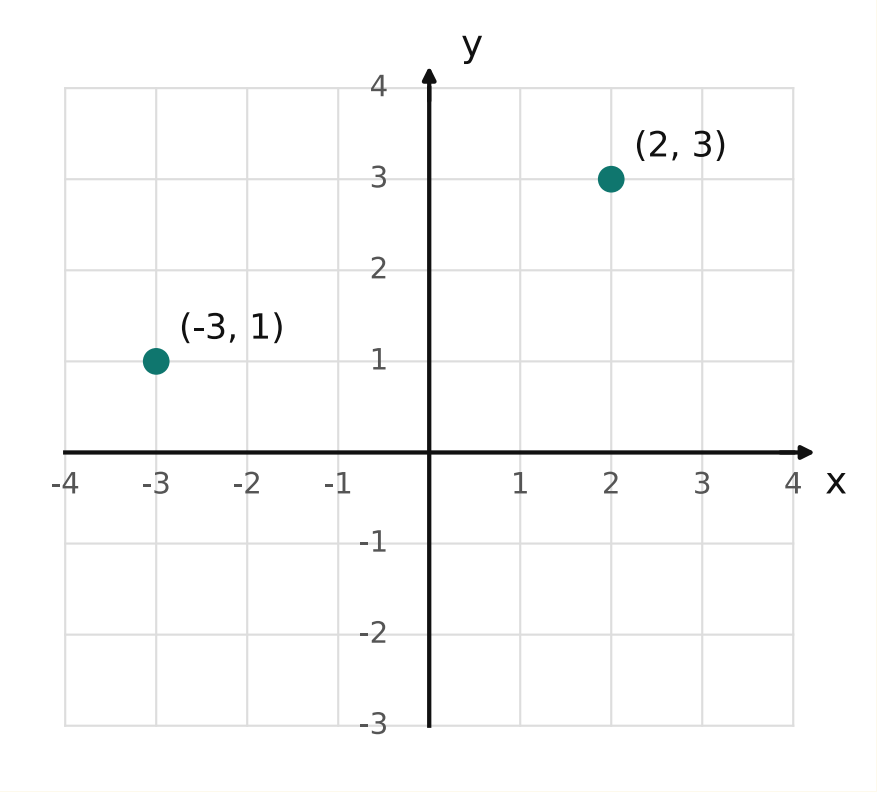
Worked examples

EXAMPLE 1

Q Plot (2, 3)



SOLUTION

Start at the origin, where the axes cross.

Move 2 units right along the x-axis, then 3 units up.

Mark a dot there and label it (2, 3).

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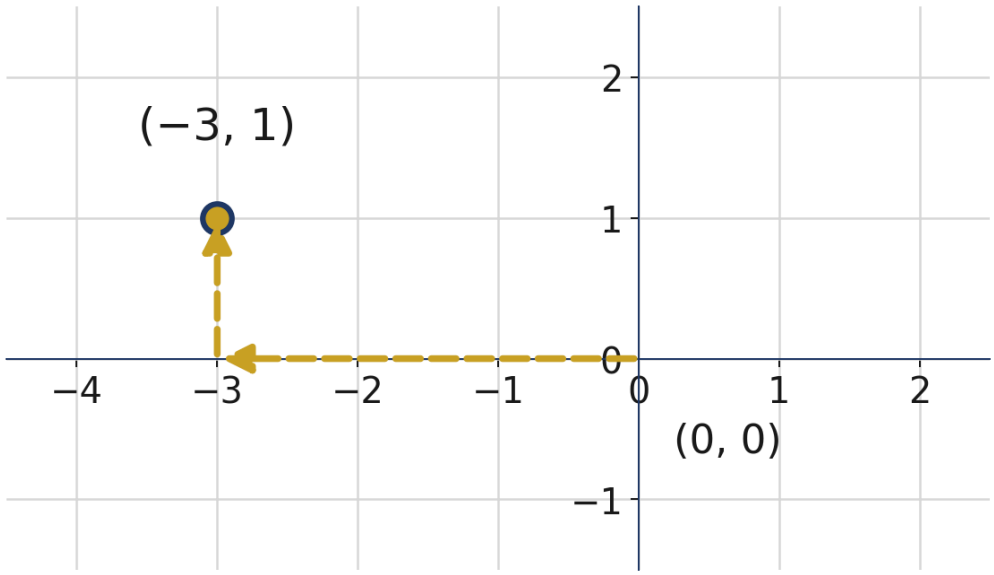
EXAMPLE 2

Q Plot (- 3, 1)



SOLUTION

Start at the origin.

Move 3 units left, because the x-coordinate is negative, then 1 unit up.

Mark a dot there and label it (- 3, 1).

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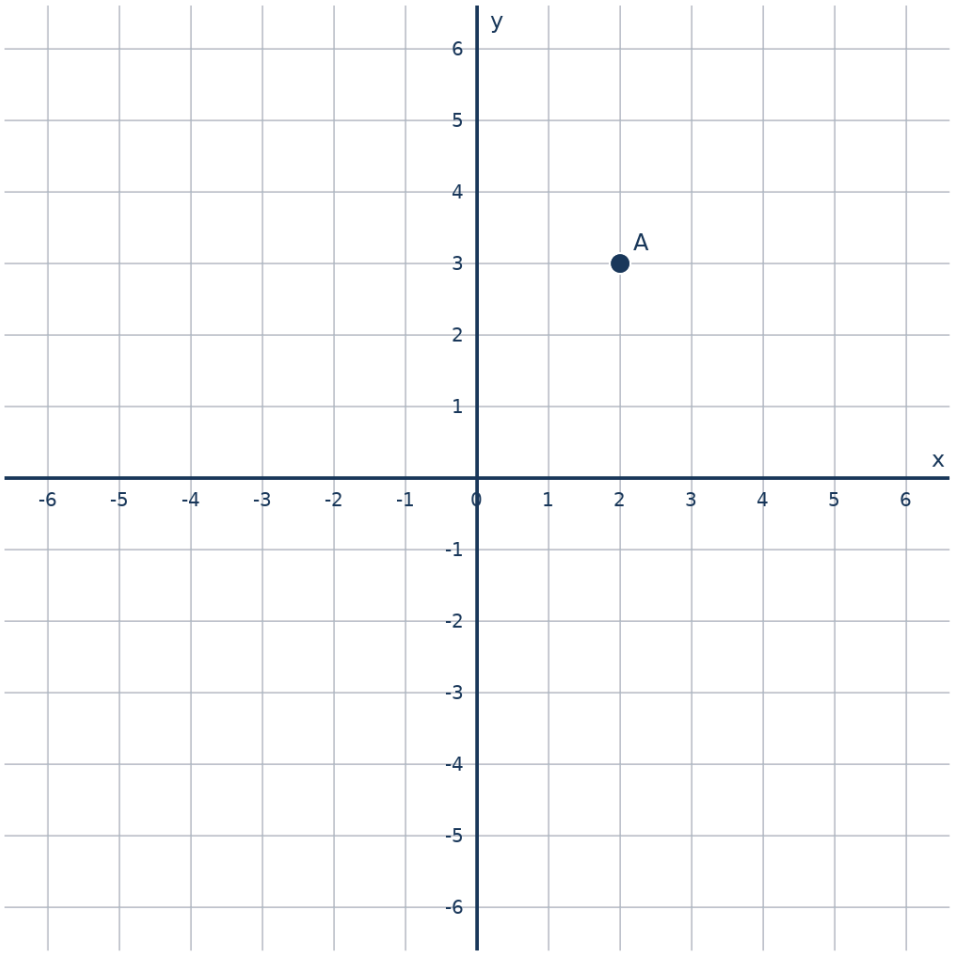
Practice questions

1 Point A is plotted on the grid. How far right and how far up do you move from the origin to reach point A?



A 2 right and 3 up

B 3 right and 2 up

C 2 right and 3 down

D 3 right and 2 down

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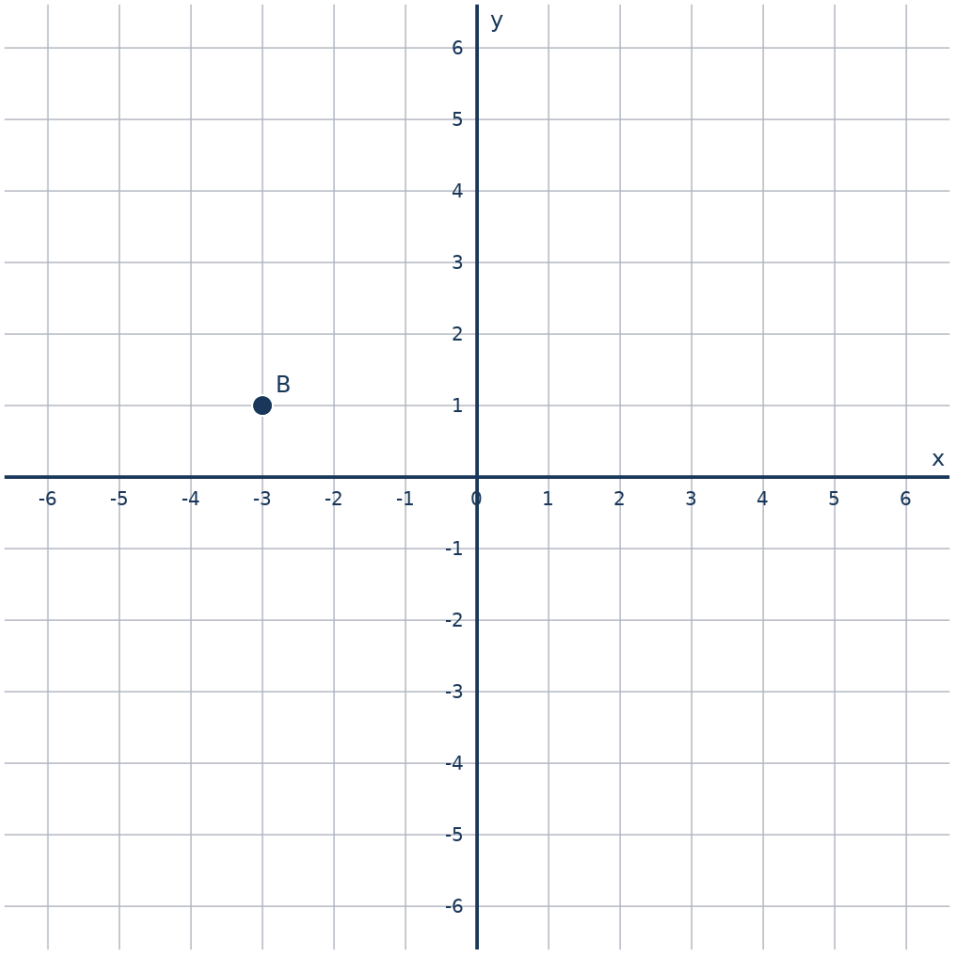
2 Point B is plotted on the grid. How far left and how far up do you move from the origin to reach point B?



A 3 left and 1 up

B 1 left and 3 up

C 3 left and 1 down

D 3 right and 1 up

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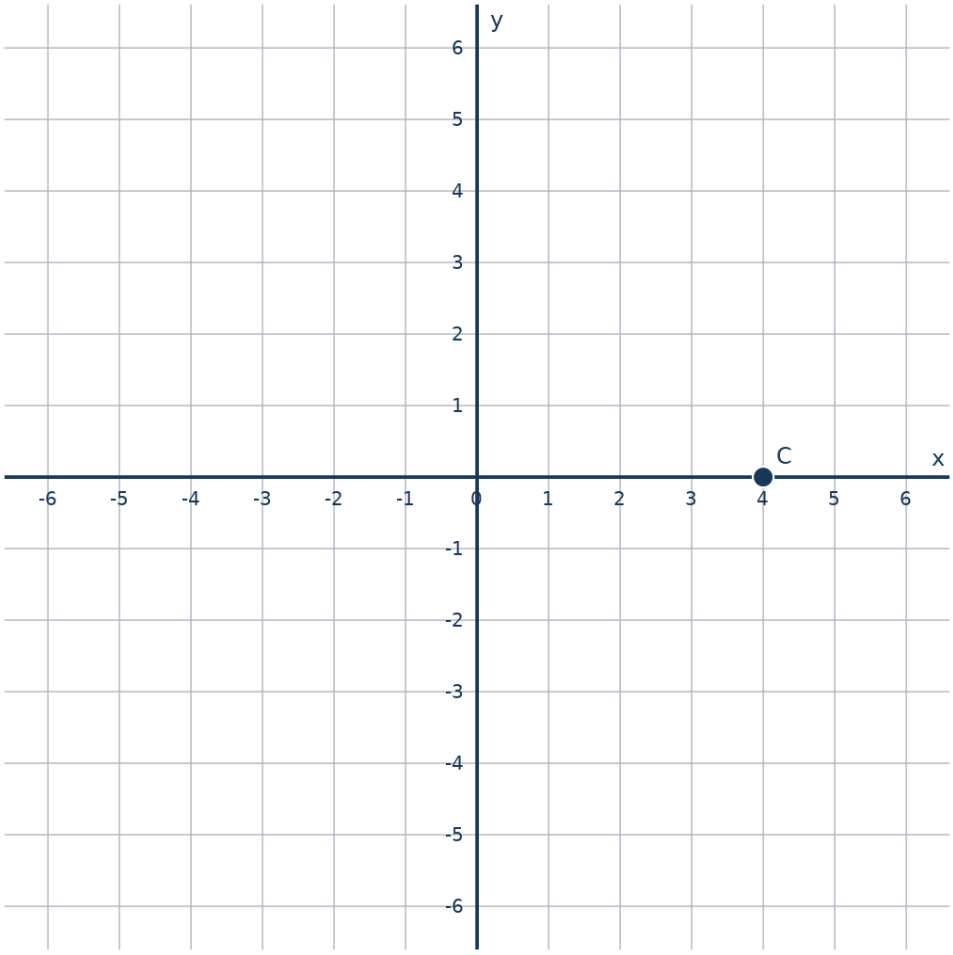
3

Point C is plotted on the grid. On which axis does point C lie?



A The x-axis

B The y-axis

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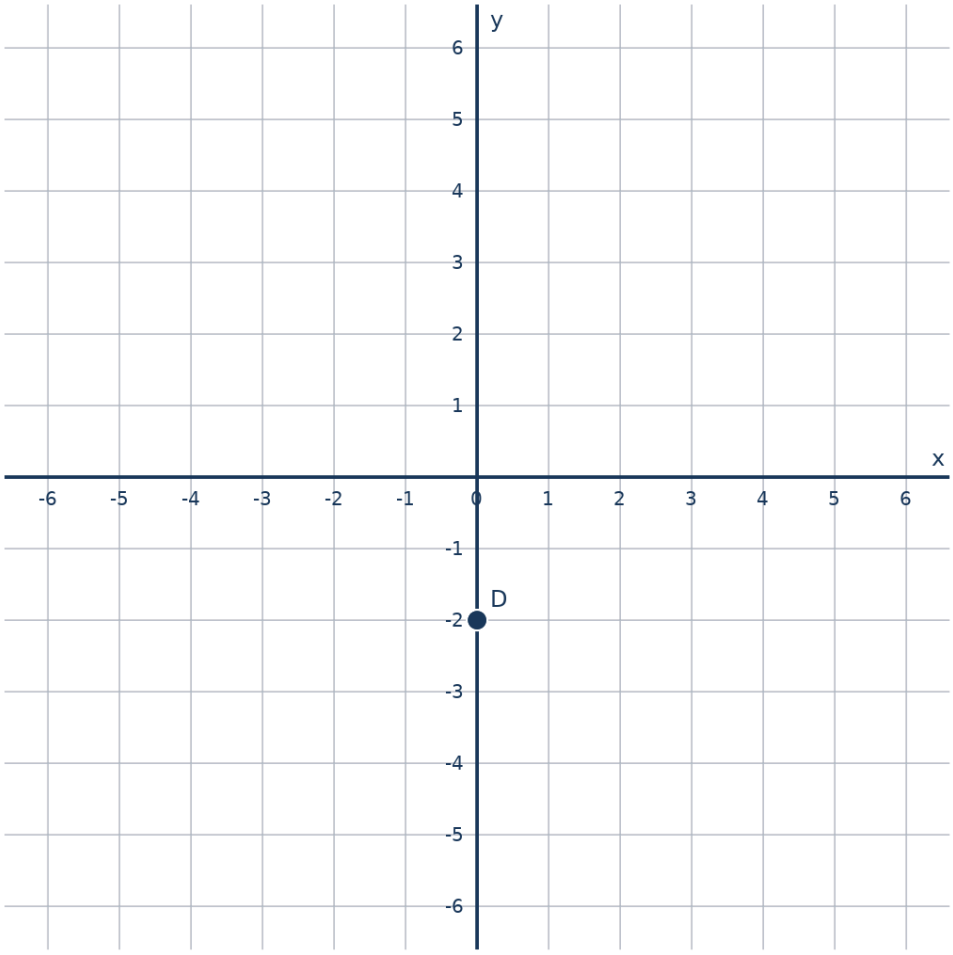
4 Point D is plotted on the grid. On which axis does point D lie?



A The x-axis

B The y-axis

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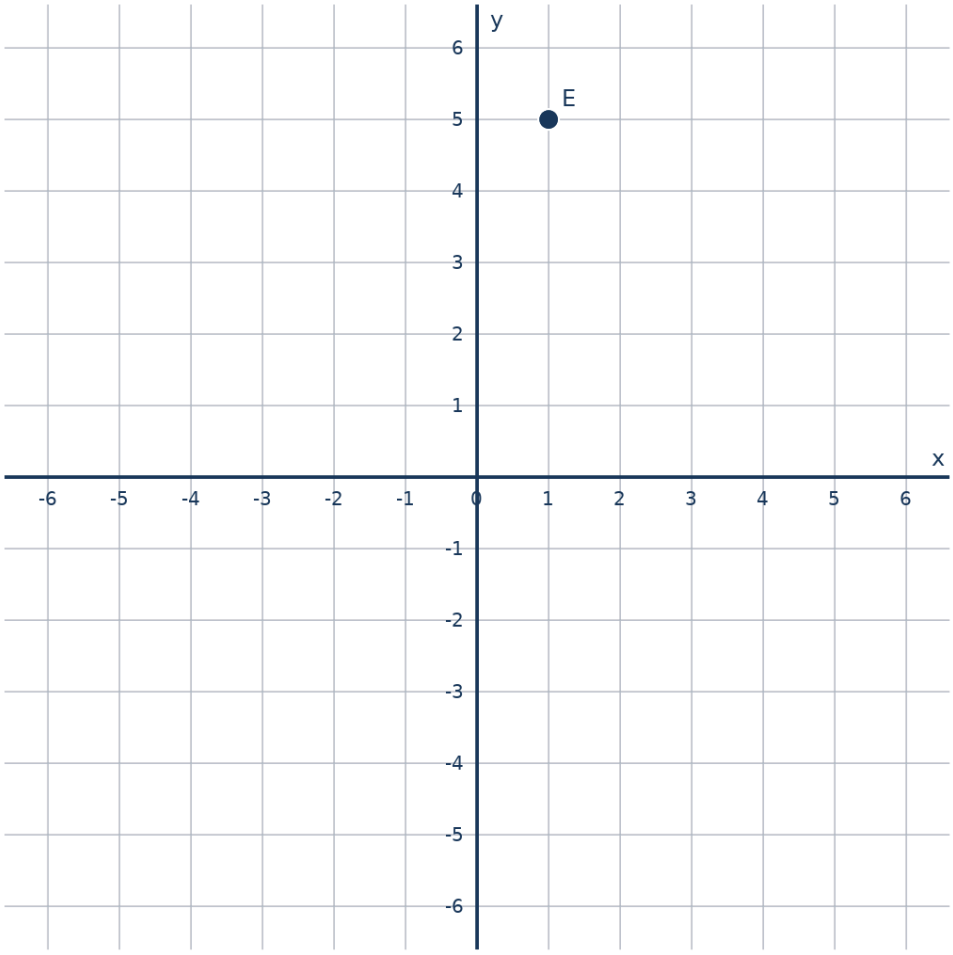
5 Point E marks a balloon on the grid. What is its y-coordinate?



A -5

B -1

C 5

D 1

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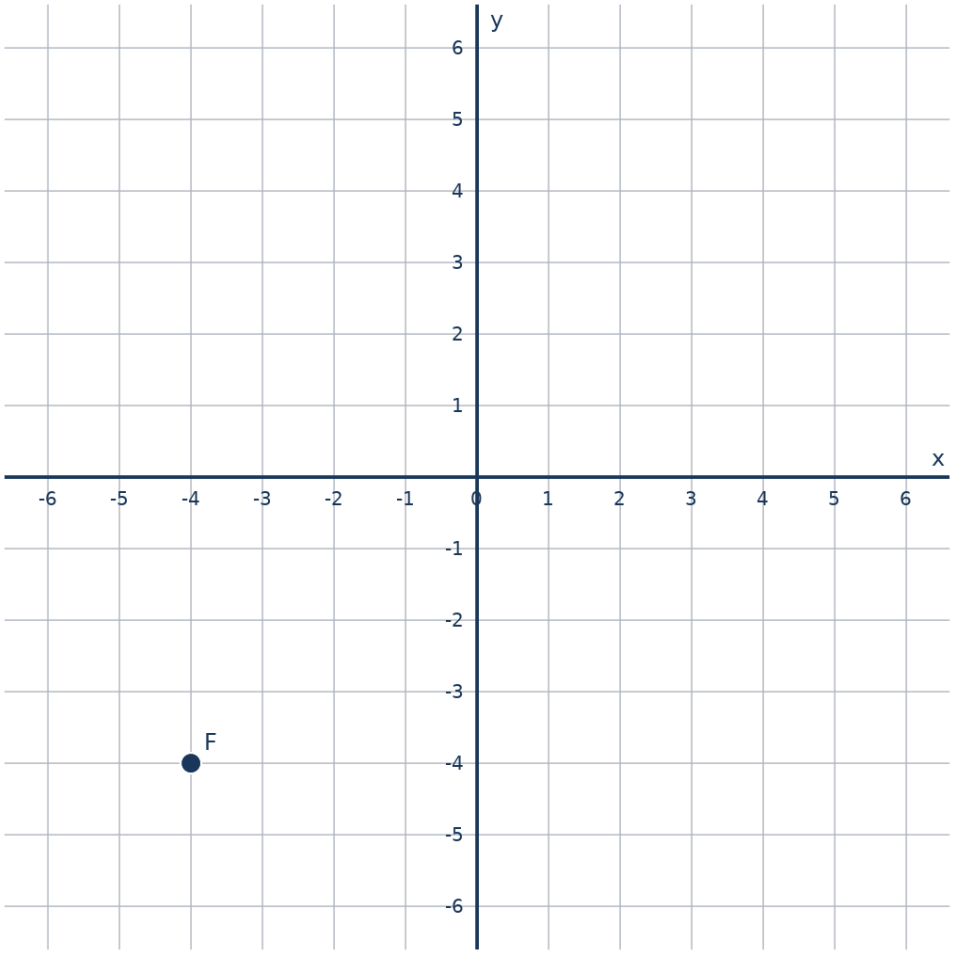
6 Point F is plotted on the grid. How far left and how far down do you move from the origin to reach point F?



A 4 left and 4 down

B 4 right and 4 down

C 4 left and 4 up

D 4 right and 4 up

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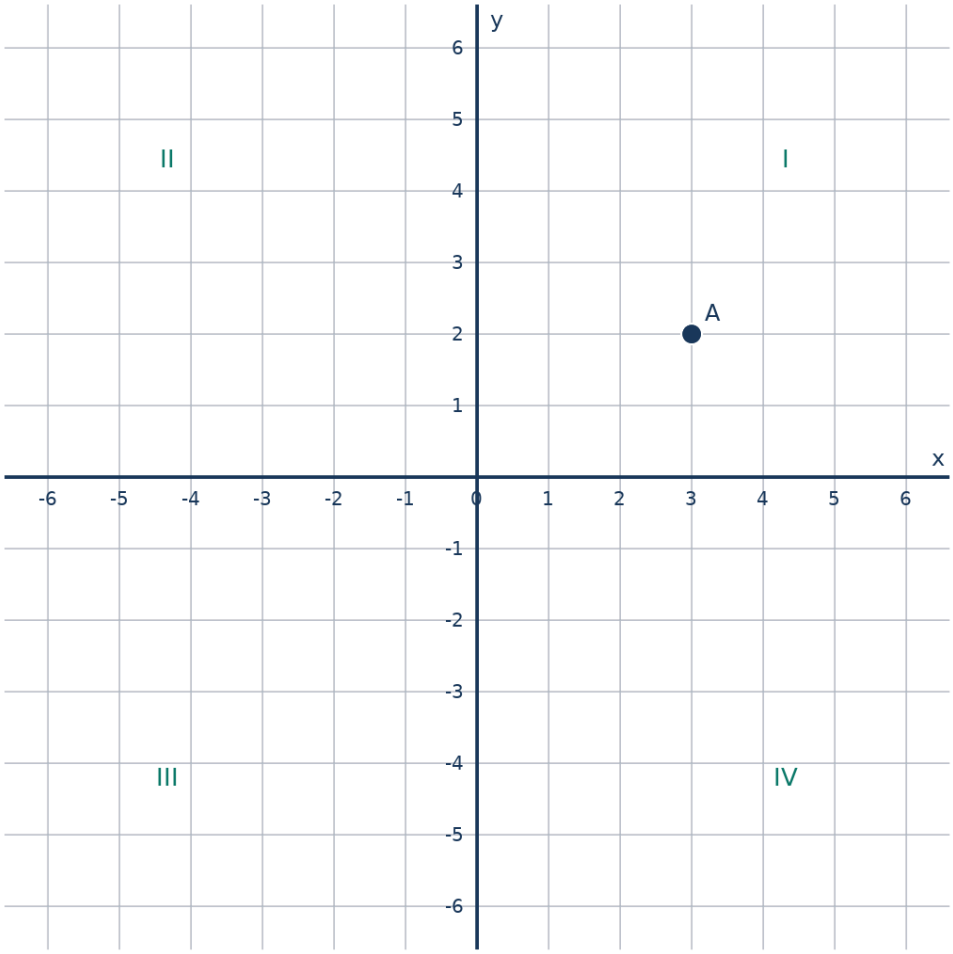
7 **Point A is plotted on the grid, and the quadrants are labelled. Which quadrant holds point A?**



A Quadrant I

B Quadrant II

C Quadrant III

D Quadrant IV

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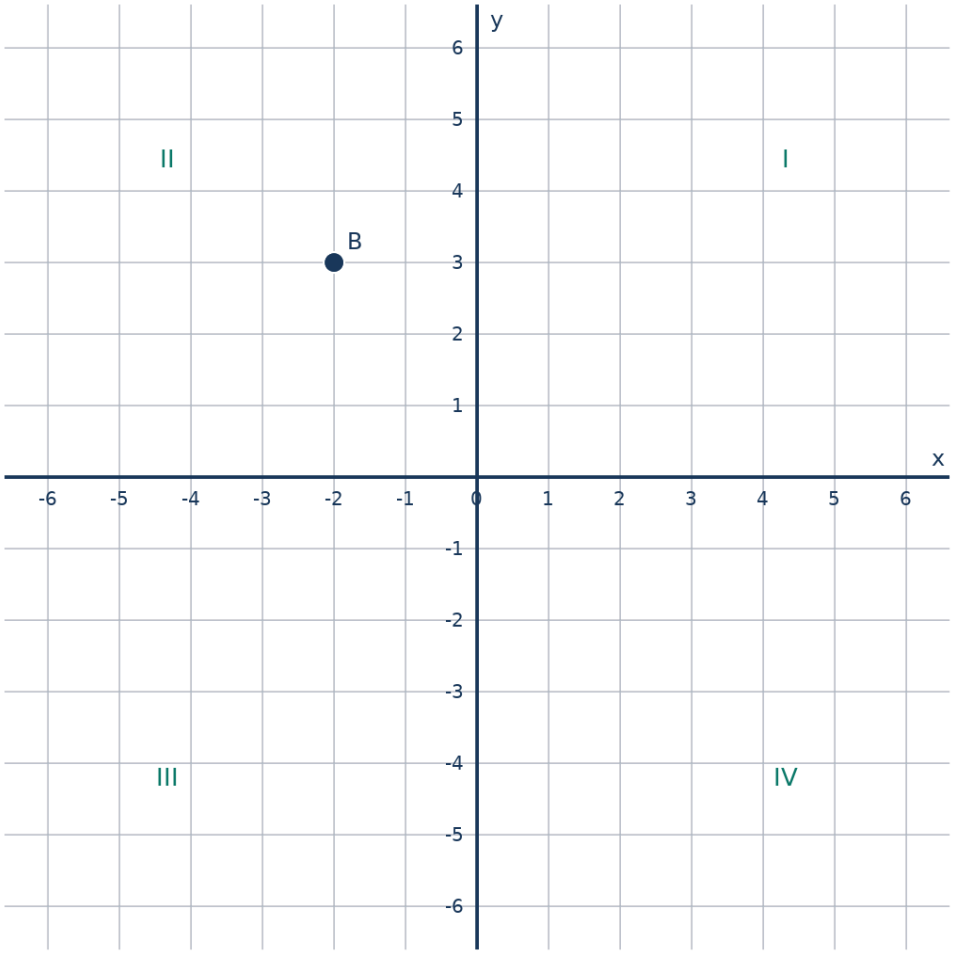
8 **Point B is plotted on the grid, and the quadrants are labelled. Which quadrant holds point B?**



A Quadrant I

B Quadrant II

C Quadrant III

D Quadrant IV

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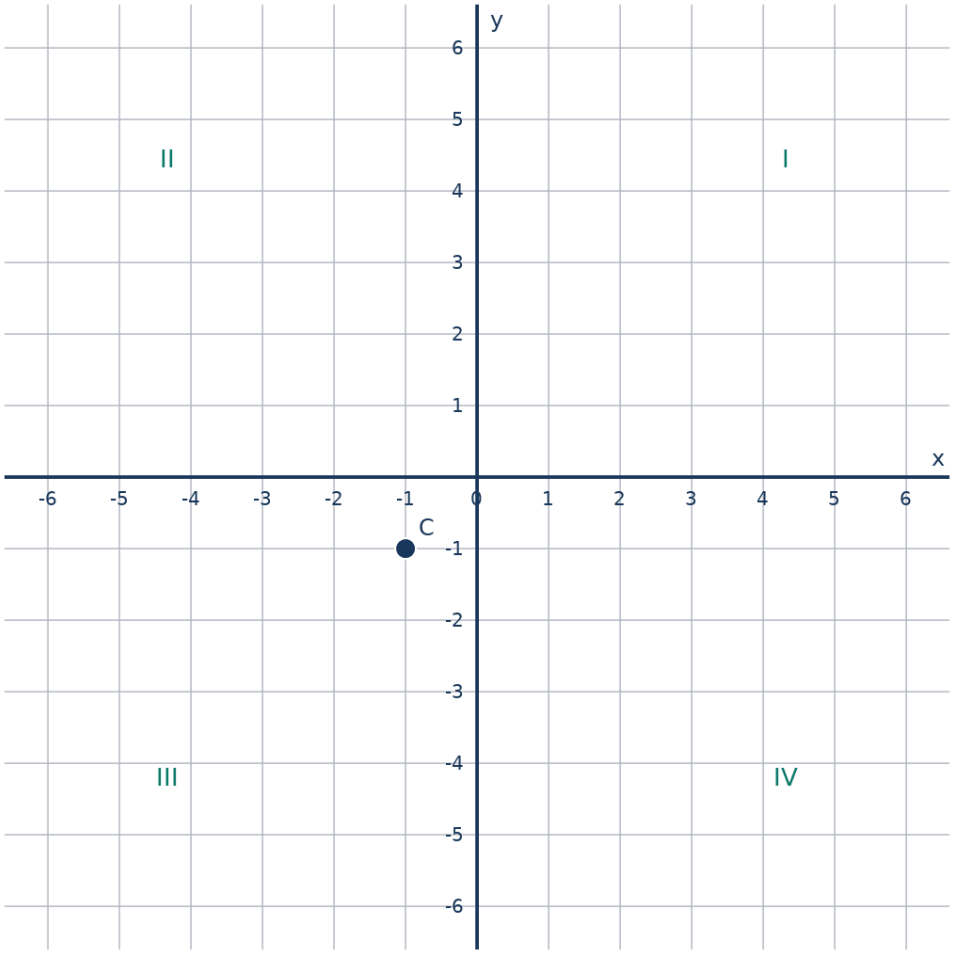
9 **Point C is plotted on the grid, and the quadrants are labelled. Which quadrant holds point C?**



A Quadrant I

B Quadrant II

C Quadrant III

D Quadrant IV

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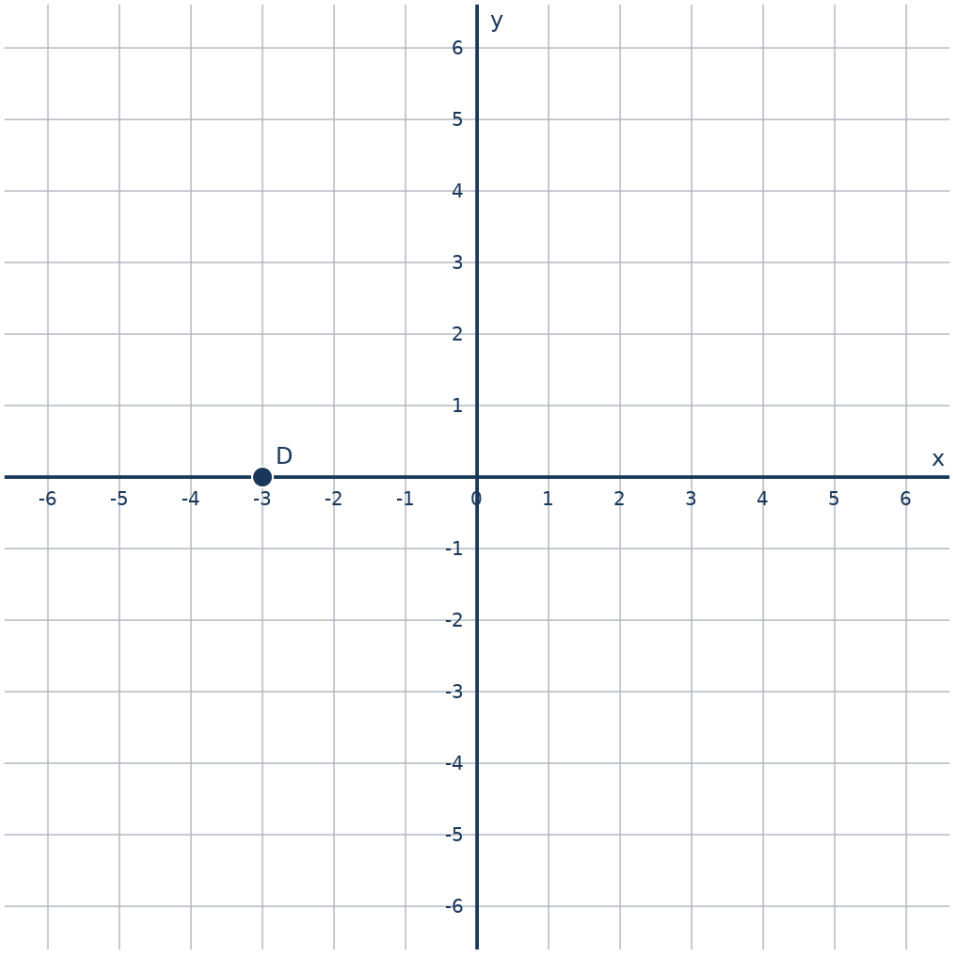
10 Point D is plotted on the grid. Give the coordinates of point D.



A (-3, 0)

B (0, -3)

C (3, 0)

D (-3, 3)

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ANSWER KEY

1. 2 right and 3 up

2. 3 left and 1 up

3. The x-axis

4. The y-axis

5. 5

6. 4 left and 4 down

7. Quadrant I

8. Quadrant II

9. Quadrant III

10. (-3, 0)

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