MATHEMATICS · GRADES 4-6

Cartesian coordinate plane basics

Difficulty level: Intermediate

Mathematics: Grades 4-6

This document was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

Overview of the concept

This is how you read a grid, like a map, a seating chart, or a graph in a video game. Every spot has an across position and an up-and-down position, and together they pin down exactly where something is. Once you can read coordinates, you can find anything on a grid without guessing.



Rule

A point is named (x, y): across first, then up.

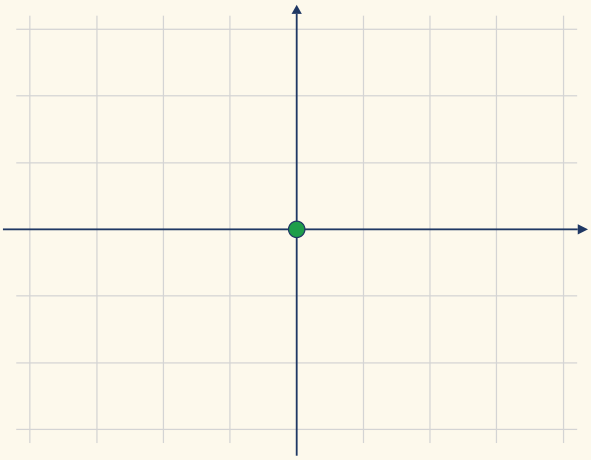
The first number, x, tells you how far across from the origin to go, and the second number, y, tells you how far up or down to go. The origin, where the axes cross, is (0, 0).

© 2026 Brett Robbins. All Rights Reserved.

Worked examples

EXAMPLE 1

Q A point sits where the two axes cross. What are its coordinates?



SOLUTION

The axis running left to right is the x-axis. The axis running up and down is the y-axis.

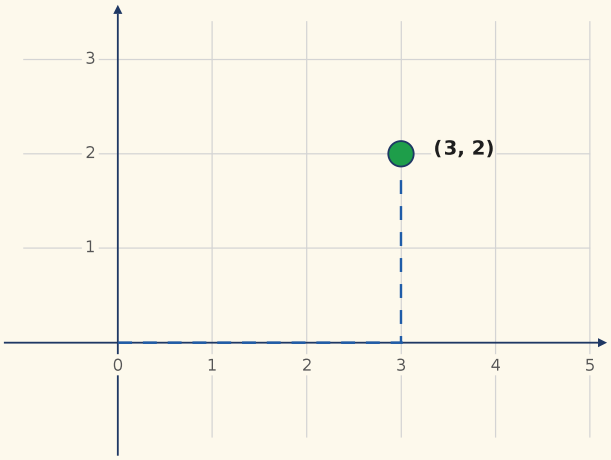
At the crossing, you have gone 0 across and 0 up.

So the point is (0, 0), the origin.

© 2026 Brett Robbins. All Rights Reserved.

EXAMPLE 2

Q Plot the point (3, 2). Where do you go?



SOLUTION

This is a plotting question, and the one rule is across first, then up.

Start at the origin and move across first, along the x-axis: 3 to the right.

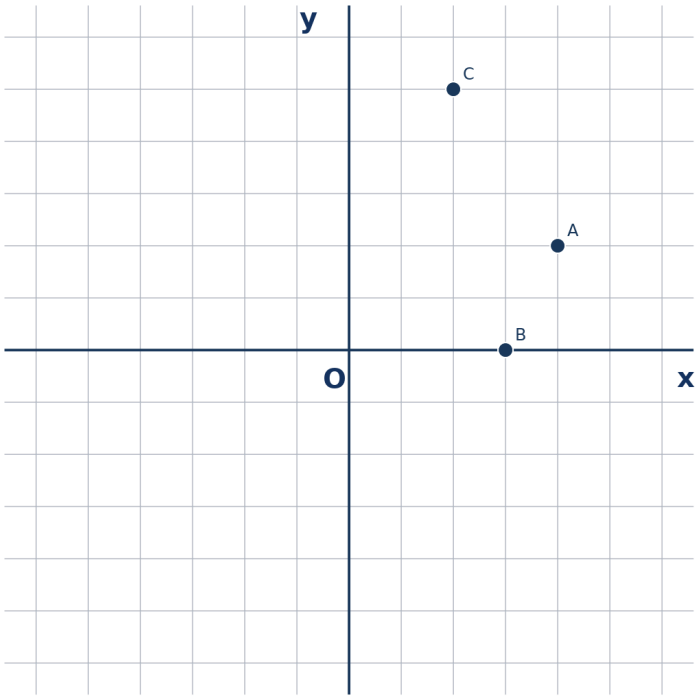
Then move up, along the y-axis: 2 up. You land on (3, 2).

Up first would land you somewhere else entirely: the order is the answer.

© 2026 Brett Robbins. All Rights Reserved.

Practice questions

1 On the grid, count across from the origin first, then up. What are the coordinates of point A?



A (2, 4)

B (4, 2)

C (4, 3)

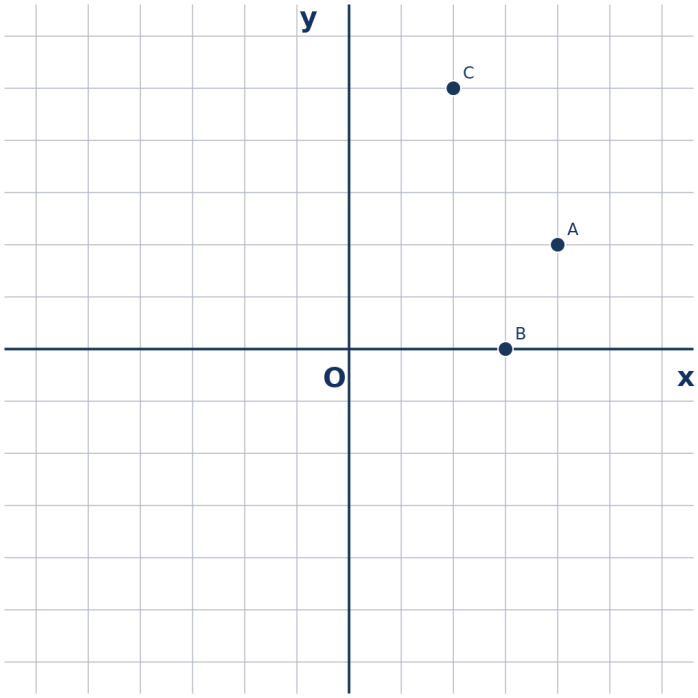
D (3, 2)

Understand It with Pulse

Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

2 Point C is on the same grid. Read its coordinates from the grid.

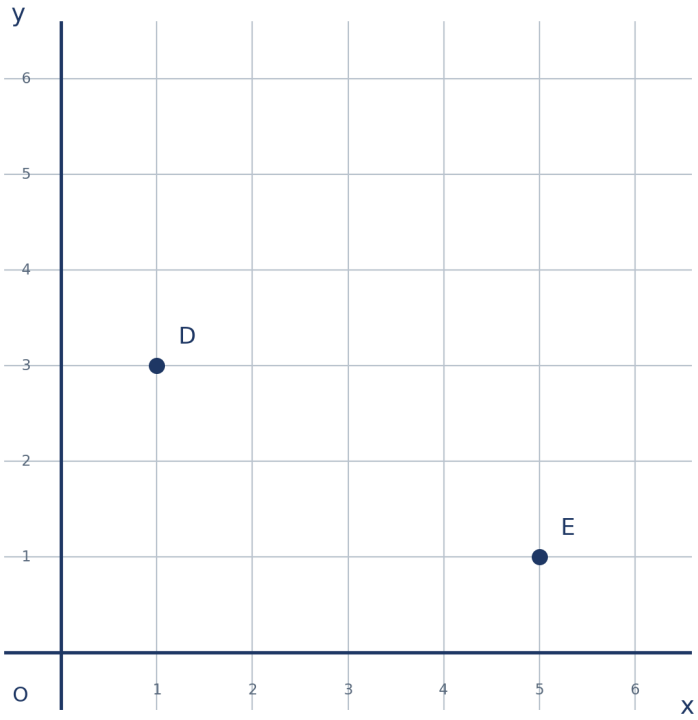


- **A** (5, 2)
- **B** (2, 4)
- **C** (2, 5)
- **D** (3, 5)

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

3 What are the coordinates of point D?



A (3, 1)

B (1, 4)

C (2, 3)

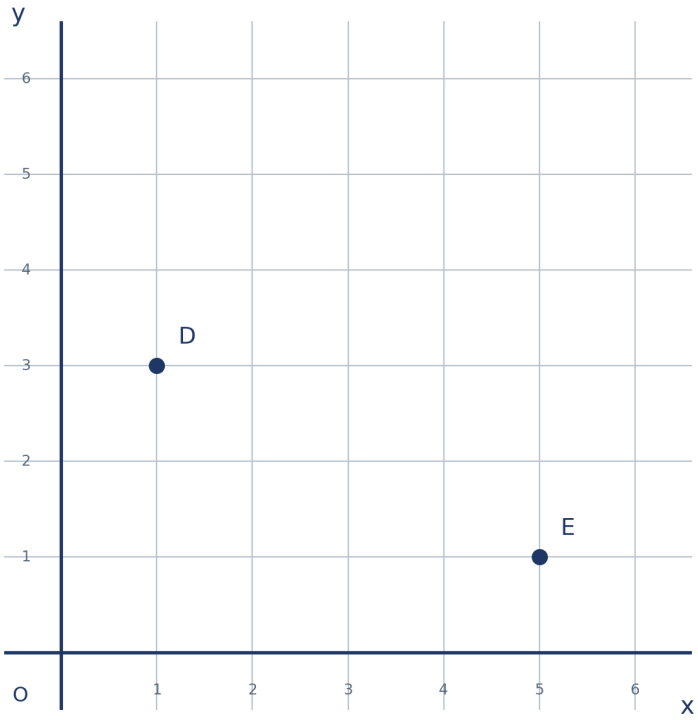
D (1, 3)

Understand It with Pulse

Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

4 What are the coordinates of point E?



A (1, 5)

B (5, 1)

C (5, 2)

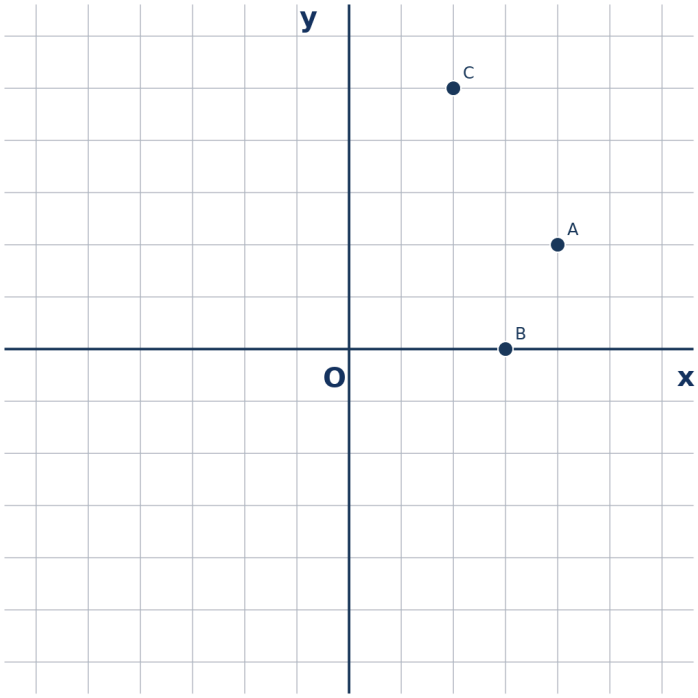
D (4, 1)

Understand It with Pulse

Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

5 Point B sits on the horizontal line through the origin. Write its coordinates.



A (0, 3)

B (3, 1)

C (3, 0)

D (4, 0)

Understand It with Pulse

Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

6 Start at the origin. Move 4 units right and 7 units up. Write the ordered pair for where you land.

- **A** (4, 7)
- **B** (7, 4)
- **C** (4, 6)
- **D** (5, 7)

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

7 **Point P is 9 units right and 2 units up from the origin. Point Q is 2 units right and 9 units up. Why are they different points?**

- **A** The order does not matter; (9, 2) and (2, 9) are the same point.
- **B** The order matters: the first number is across, the second is up.
- **C** The first number is up, and the second is across.
- **D** Points are named by their letters, not their numbers.

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

8 **Ana plots the point 3 across and 4 up as (4, 3). What is Ana's mistake?**

- **A** She swapped the numbers; it should be (3, 4).
- **B** She plotted it correctly; (4, 3) is right.
- **C** She forgot to count the origin, so the point is (4, 4).
- **D** She mixed up the axes, so the point is (3, 3).

Understand It with Pulse | Flag a mistake

9 **In the pair (6, 1), which number tells you how far up to go?**

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

10 A point is written as (5, 0). Which axis does it sit on?

A The y-axis

B Both axes

C The x-axis

D Neither axis

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

ANSWER KEY

1. (4, 2)

2. (2, 5)

3. (1, 3)

4. (5, 1)

5. (3, 0)

6. (4, 7)

7. The order matters: the first number is across, the second is up.

8. She swapped the numbers; it should be (3, 4).

9. 1

10. The x-axis

© 2026 Brett Robbins. All Rights Reserved.