Unit 9 · Coordinate Planes and Graphing Cheat Sheet

Unit 9 focus: the coordinate system, plotting and reading points

1 Big Idea

An ordered pair (x, y) gives directions from the origin: move x units right, then y units up.

2 Important Vocabulary

origin	The point (0, 0) where the axes meet.	start here to plot
x-axis	The horizontal number line on a coordinate plane.	goes left to right
y-axis	The vertical number line on a coordinate plane.	goes up and down
ordered pair	Two numbers (x, y) that tell where a point is.	(4, 7)

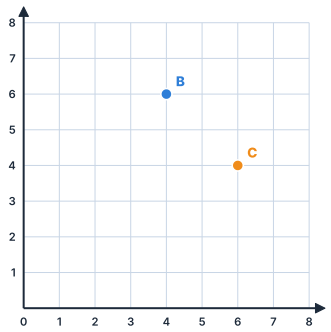
3 How It Works

Plot point B at (4, 6).

Example: Start at (0, 0).
Right: 4 units
Up: 6 units

Answer: B is at (4, 6)

4 Visual Model



B (4, 6) and C (6, 4) are different points.

5 ★ Remember This · Watch Out!

★ Remember this

- The origin is (0, 0).
- Points on the x-axis have y = 0; points on the y-axis have x = 0.

⚠ Watch out!

- **Swapping the numbers:** (4, 6) is not (6, 4)
- **Counting boxes:** count grid LINES from 0

6 Try It!

1. Start at (2, 3). Move 4 right and 1 up.
   Answer: (6, 4)
2. Distance from (1, 5) to (7, 5)?
   Answer: 6 units

Answers are printed upside down. Turn the page to check!

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More practice: real-world graphs and graphing patterns

1 Big Idea

Graphs show how two quantities are related. Read the axis labels to know what each coordinate means.

2 Important Vocabulary

coordinate plane	A grid made by two perpendicular number lines.	used to locate points
x-coordinate	The first number: how far to move right.	4 in (4, 7)
y-coordinate	The second number: how far to move up.	7 in (4, 7)
perpendicular	Lines that meet to form right angles.	the x-axis and y-axis

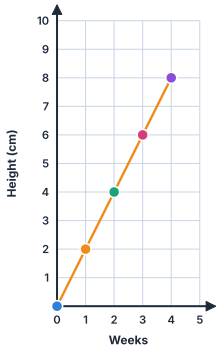
3 How It Works

A plant grows 2 cm each week (start at 0).

Example: Make ordered pairs (week, height).
Pairs: (0, 0), (1, 2), (2, 4), (3, 6)

Answer: After 3 weeks: 6 cm

4 Visual Model



The points make a straight-line pattern.

5 ★ Remember This · Watch Out!

★ Remember this

- x often shows time or the first pattern; y shows the amount.
- Use a pattern rule to predict the next point.

⚠ Watch out!

- **Ignoring the scale:** some graphs count by 2s, 5s or 10s
- **Reading the wrong axis:** x is across, y is up

6 Try It!

1. (x, y) with y = 3 × x. Find y when x = 5.
   Answer: 15
2. Walk (1, 1) → (5, 1) → (5, 4). Blocks?
   Answer: 7 blocks

Answers are printed upside down. Turn the page to check!