

# Graph on the Coordinate Plane Flagship

Lesson 9-1-flagship

**Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Class:** \_\_\_\_\_

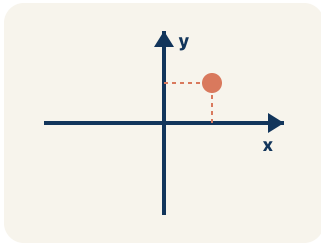
## LOST COVE MISSION

### **Captain Vega's Coordinates**

You are the navigator on Captain Vega's expedition. Instead of 'X marks the spot,' she hid the treasure route as ordered pairs scrawled across a four-quadrant chart. Plot every point in the right order and the lost cove treasure is yours.

# Key Vocabulary Level 2 Standard

Picture first, then the word, then a plain-language meaning. Say each word out loud.



*A grid with a horizontal line (x-axis) crossing a vertical line (y-axis), making four sections*

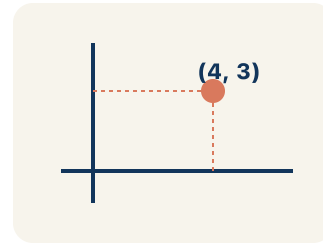
## Coordinate plane

Write the definition:

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*(3, 5) means move right 3 from the origin, then up 5*

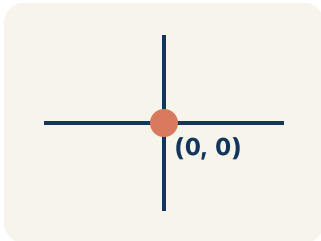
## Ordered pair

Write the definition:

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*The starting point at the center where both axes cross — (0, 0)*

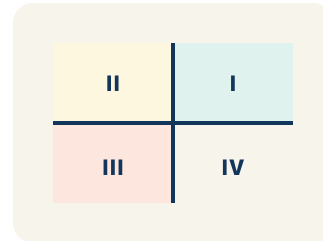
## Origin

Write the definition:

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*I (+,+) top-right, II (-,+) top-left, III (-,-) bottom-left, IV (+,-) bottom-right*

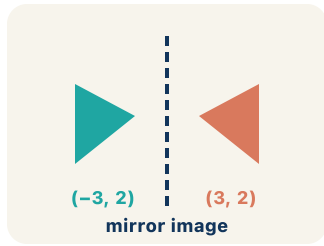
## Quadrant

Write the definition:

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$(3, 2)$  reflected over the  $x$ -axis becomes  $(3, -2)$  —  
same  $x$ , opposite  $y$

### Reflection

Write the definition:

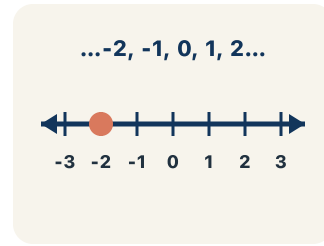
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..., -3, -2, -1, 0, 1, 2, 3, ...

### Integer

Write the definition:

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## Guided Notes Level 2 Standard



### WHAT WE'RE LEARNING TODAY

I can plot and identify points on the coordinate plane using ordered pairs.



Fill in each blank as we go. Use the Word Bank to help you.



### WORD BANK – FILL EACH BLANK WITH THE BEST WORD

Coordinate plane

Ordered pair

Origin

Quadrant

Reflection

Integer



Tap any word to see what it means and a picture.

1 The grid made by a horizontal and a vertical number line is the

2 Two numbers  $(x, y)$  that tell the location of a point are an

3 The point  $(0, 0)$  where the x-axis and y-axis cross is the .

4 One of the four regions of the coordinate plane is a .

5 A flip of a point or shape over an axis is a .

6 A whole number or its opposite, with no fraction part, is an



### Watch & Try – Worked Examples

See the notes in action: watch one worked all the way through, then try the next with the same steps.

 **I do – watch**

Follow each step as your teacher solves it.

**Problem:** Which ordered pair names a point 3 units right and 7 units up from the origin?

- A. (3, 7)
- B. (7, 3)
- C. (3, 3)
- D. (0, 7)

**Step 1** The first coordinate is horizontal (right 3), the second is vertical (up 7).

**Step 2** So (3, 7).


 **Answer:** A. (3, 7)

 **Try – put the steps in order**

Drag the cards (or use the ▲ ▼ buttons) to put the solution steps in the right order, then press **Check**.

So (3, 7).

The first coordinate is horizontal (right 3), the second is vertical (up 7).

 **We do – together**

Solve this one with your class using the same steps.

**Problem:** What are the coordinates of the origin?

- A. (0, 0)
- B. (1, 1)
- C. (0, 1)
- D. (1, 0)

**Step 1** \_\_\_\_\_

**Step 2** \_\_\_\_\_

**Answer:** \_\_\_\_\_



**You do — your turn**

Now try one on your own. Show every step.

**Problem:** A point is at  $(6, 2)$ . What does the 6 tell you?

- A. Move 6 units to the right
- B. Move 6 units up
- C. Move 6 units to the left
- D. The point is in Quadrant 6

Show your work:

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## Try It

Solve on your own. Check the answer key when you are done.

**1. Stage 2 — The next clue points to Skull Rock at  $(-5, 3)$ . Which quadrant is Skull Rock in?**

- A. Quadrant II
- B. Quadrant I
- C. Quadrant III
- D. Quadrant IV

Show your work:

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**2. Stage 5 — Captain Vega marks the final treasure 0 units across and 8 units up from the origin. Where does this point land?**

- A. On the y-axis at  $(0, 8)$
- B. On the x-axis at  $(8, 0)$
- C. In Quadrant I at  $(8, 8)$
- D. At the origin  $(0, 0)$

Show your work:

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## Stretch Your Thinking

Level 2 enrichment

Challenge task — explain your reasoning in full sentences.

**A student says that  $(3, 5)$  and  $(5, 3)$  are the same point because they use the same numbers. Is the student correct? Explain why or why not, and describe where each point is located on the coordinate plane.**

*Sentence starter: The student is \_\_\_ because  $(3, 5)$  means \_\_\_ while  $(5, 3)$  means \_\_\_. The ORDER matters because \_\_\_.*

Show your work:

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## Reflect — Exit Ticket

**Point P is located 6 units right and 3 units up from the origin. What ordered pair names point P?**

- A.  $(6, 3)$
- B.  $(3, 6)$
- C.  $(6, 0)$
- D.  $(0, 3)$

Your answer:

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