UNIT 9 · STANDARD 6.NS.8

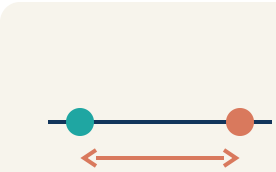
Distance on the Coordinate Plane

Lesson 9-6

Name: Type your name **Date:** Today's date **Class:** Class period

Key Vocabulary Level 2 Standard

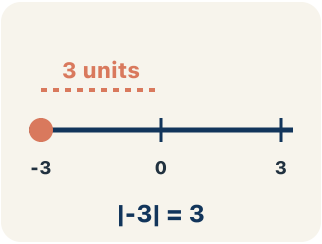
Picture first, then the word, then a plain-language meaning. Say each word out loud.



The distance from -3 to 4 on a number line is |-3| + |4| = 3 + 4 = 7 units

Distance

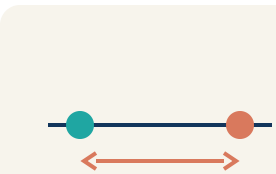
Write the definition:



|-3| = 3 and |4| = 4; to find distance: |4 - (-3)| = 7

Absolute value

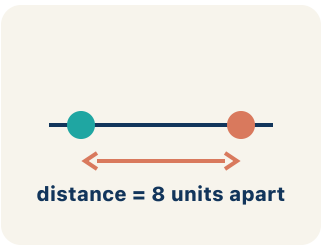
Write the definition:



From (-2, 3) to (5, 3): count from -2 to 5 = 7 units across

Horizontal distance

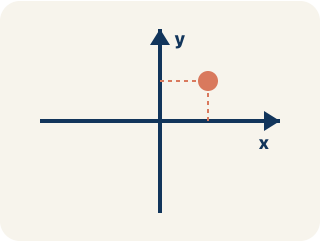
Write the definition:



From (4, -1) to (4, 6): count from -1 to 6 = 7 units up

Vertical distance

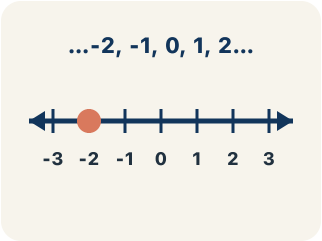
Write the definition:



Two number lines crossing at (0, 0), creating four quadrants

Coordinate plane

Write the definition:



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

Integer

Write the definition:

Guided Notes Level 2 Standard

🎯 **WHAT WE'RE LEARNING TODAY**

I can find the distance between two points on the coordinate plane using absolute value.

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

📚 **WORD BANK — FILL EACH BLANK WITH THE BEST WORD**

Distance | Absolute value | Horizontal distance | Vertical distance | Coordinate plane | Integer

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

1. How far apart two points are on the coordinate plane is the _____.

2. The distance of a number from zero, used to find distance between points, is its _____.

3. The distance between two points along the x-direction is the _____.

4. The distance between two points along the y-direction is the _____.

5. The grid made by the x-axis and y-axis is the _____.

6. A whole number or its opposite 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: What is the distance between (-4, 3) and (2, 3)?

A. 2 units

B. 4 units

C. 6 units

D. 8 units

Step 1 Both points have y = 3, so this is a horizontal distance.

Step 2 |2 - (-4)| = |2 + 4| = 6 units.

✅ **Answer:** C. 6 units

🧩 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**.

|2 - (-4)| = |2 + 4| = 6 units.

Both points have y = 3, so this is a horizontal distance.

🤝 We do — together

Solve this one with your class using the same steps.

Problem: What is the distance between (5, -2) and (5, 4)?

A. 2 units

B. 4 units

C. 6 units

D. 10 units

Step 1 _____

Step 2 _____

Answer: _____

✏️ **You do — your turn**

Now try one on your own. Show every step.

Problem: A rectangle has vertices at (1, 1), (5, 1), (5, 4), (1, 4). What is its perimeter?

A. 14 units

B. 12 units

C. 20 units

D. 8 units

Show your work:

Try It

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

1. The Park is at (-4, 5) and City Hall is at (3, 5). How many blocks apart are they?

A. 1 block

B. 7 blocks

C. 12 blocks

D. 5 blocks

Show your work:

2. The Café is at (-2, 1) and the Gym is at (-2, -4). How many blocks apart are they?

A. 3 blocks

B. 5 blocks

C. 6 blocks

D. 2 blocks

Show your work:

Stretch Your Thinking

Level 2 enrichment

Challenge task — explain your reasoning in full sentences.

A rectangle has vertices at (-4, -2), (3, -2), (3, 5), and (-4, 5). Find the length, width, perimeter, and area of the rectangle. Show your work using absolute value.

Sentence starter: The width is |____ - (____)| = ____ units. The height is |____ - (____)| = ____ units. The perimeter is 2(____ + ____) = ____ units. The area is ____ × ____ = ____ square units.

Show your work:

Reflect — Exit Ticket

What is the distance between the points (3, -2) and (3, 5)?

A. 3 units

B. 5 units

C. 7 units

D. 9 units

Your answer: