

Welcome

Scottsdale *Unified*
SCHOOL DISTRICT



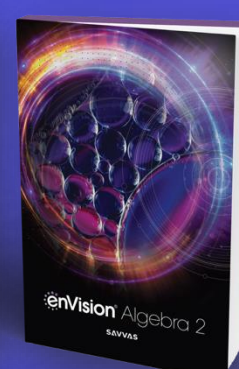


Real-World Math. Real-World Ready.

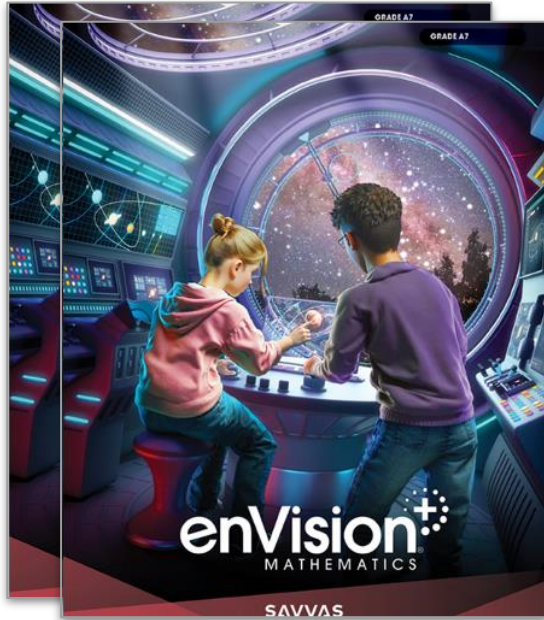
English and Spanish



Accelerated 7th



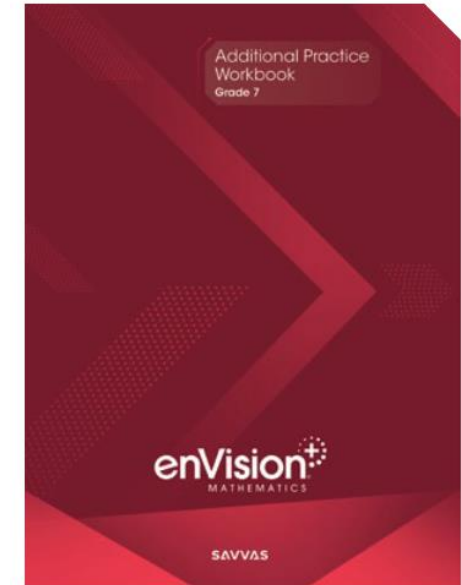
Student Components



**2 Volume Student
Edition**
Consumable

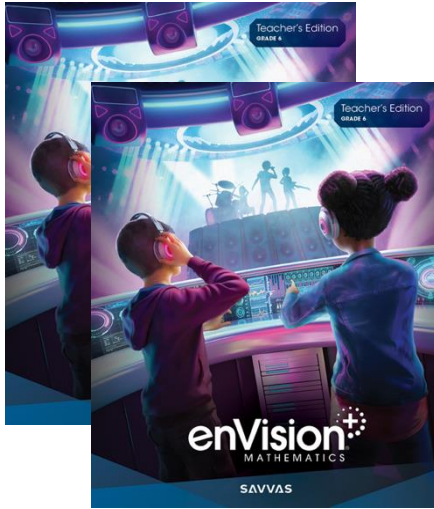


Savvas Realize



**Additional
Practice
Workbook**

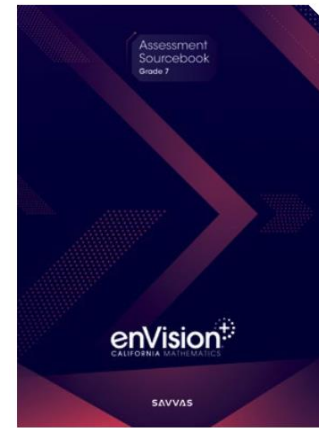
Teacher Components



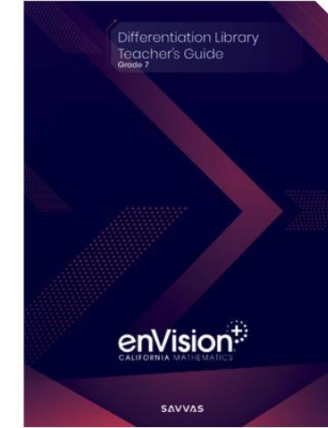
2 Volume Teacher's Edition



Program Overview



Assessment Sourcebook



Differentiation Library



Game Boards

TAB

TAB

TAB

SAVVAS
realize®

Rostering
Tools

Student
Information System

Productivity
Tools

Learning
Management System

SAVVAS
realize™

MATH WALK

talk**STEM**

Integers and the Coordinate Plane

Topic
2

Topic Essential Question

What are integers and rational numbers?
How are points graphed on a coordinate plane?



Math Walk

Highs and Lows

Where are the highest and lowest places you have visited?
Let's explore some elevations.



3 Types of Lessons

Let's Investigate

Represent Locations on the Coordinate Plane

I can ... investigate locations on the coordinate plane.

Let's Investigate

Lesson 2-5

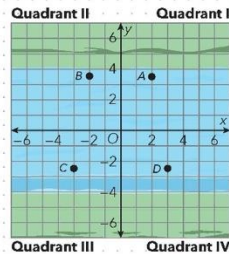
People depend on clean water, which is essential to human life. Many communities rely on rivers and waterways for their economies and cultures to function. Cities and towns take action when water sources become polluted.

River Refresh



A Clean Water organization is removing trash from a river. They divide a map of the river into four quadrants on a coordinate plane. On the first day, volunteers clean the trash from the given locations on the map recorded at coordinates A, B, C, and D.

Identify the quadrant for each trash location.



The next day, volunteers will work on corresponding locations on the opposite side of the river. Reflect each point across the x-axis. Plot the new coordinates on the map. What do you notice about the coordinates of the reflected points?

Let's Build

Find Distances on the Coordinate Plane

I can ... use absolute value to find distance and side lengths of a polygon on a coordinate plane.

Let's Build

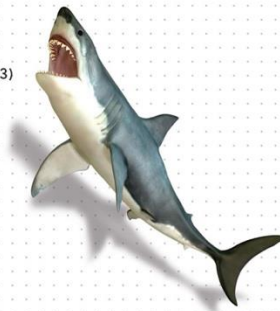
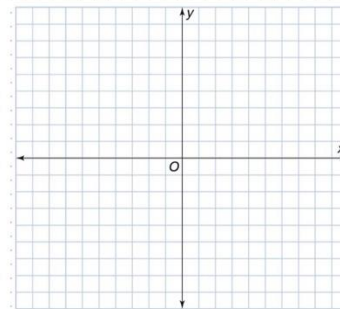
Lesson 2-6

Explore and Share



Graph the points on the coordinate plane.

$(3, 3)$, $(0, 0)$, $(-4, -4)$, $(-9, 0)$, $(-4, 4)$, $(0, 0)$, $(3, -3)$, $(3, 3)$



Use Structure How can you use the structure of the grid to find a pair of points that are the same distance from the x-axis?

A. What picture do you make when you connect the points in order?

B. Name a pair of points that are the same distance from the x-axis. Explain your choice.

Use Structure How can you use the coordinate plane to find the total length of the picture you graphed?

Let's Model in 3 Acts

Powering Down

I can ... use mathematical modeling to solve problems.

Let's Model in 3 Acts

Lesson 2-6



ACT 1

- After watching the video, what is the first question that comes to mind?
- Write the Main Question you will answer.
- Construct Arguments** Predict an answer to this Main Question. Explain your prediction.
- On the number line shown, write a time that is too early to be the answer. Write a time that is too late.
Too early  Too late
- Plot your prediction on the same number line.

Let's Investigate

Represent Locations on the Coordinate Plane

Let's Investigate

Lesson 2-5

I can ... investigate locations on the coordinate plane.

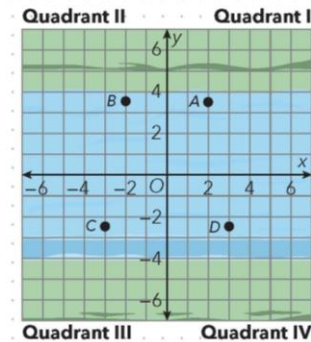
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Identify the quadrant for each trash location.

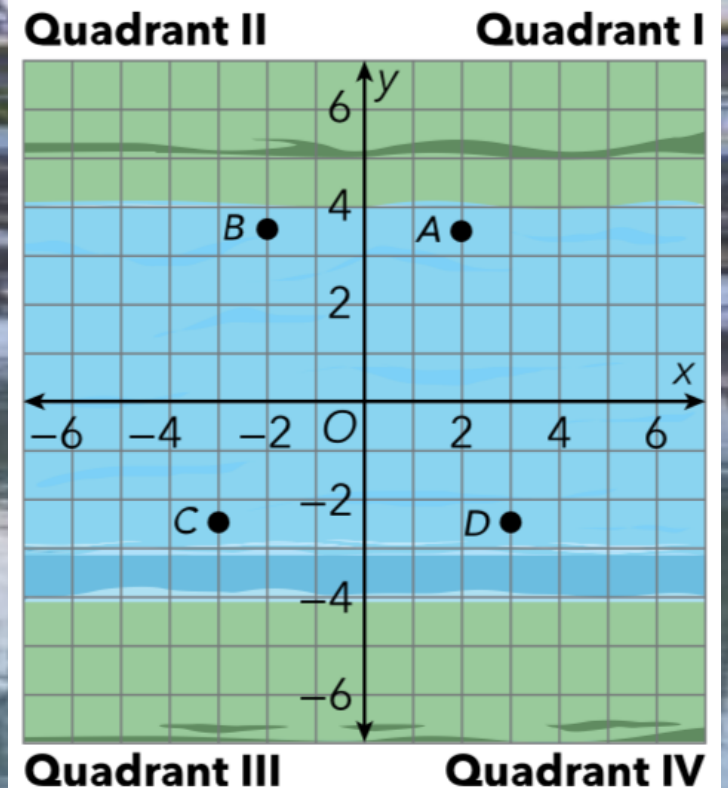


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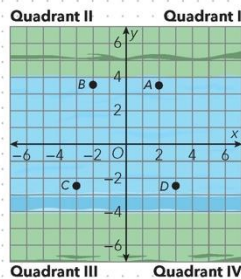
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Use Structure When graphing a point, how do you know whether the point is to the left or right of the y-axis? How do you know whether the point is above or below the x-axis?

If a point has two negative coordinates, which quadrant is it in? How do you know?

Generalize If a and b are integers, how can you determine where the point (a, b) is located in the coordinate plane?

Build G.R.I.T. Self-Efficacy
When you use variables to make a generalization, boost your confidence by trying some specific numbers and looking for a pattern.



"Great thinking! Applying what you learned **before** to **new** learning helps develop a growth mindset."

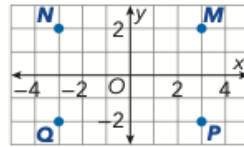
Choose a Problem

- A** Graph each point and identify where it is located.
 $Q(2, -3)$, $R(-1, 1)$, $S(0, 2)$

- C** Choose 4 landmarks and represent each location with coordinates.



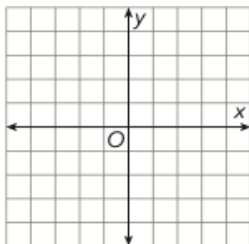
- B** Choose a pair of horizontal or vertical points.



Are the points a reflection across an axis?
 How are the coordinates related?

- D** Point G has coordinates (a, b) and is in Quadrant I.
- Reflect G across the x-axis to H.
 - Reflect H across the y-axis to J.
 - Reflect J across the x-axis to K.
 - Reflect K across the y-axis to L.

If you connect points G, H, J, K, and L in order, what is the resulting shape?



Make Sense and Persevere How was the strategy you used in *Choose a Problem* the same as your strategy in *River Refresh*? How were your strategies different?

- 2. Generalize** How do the signs of the x- and y-coordinates in an ordered pair (positive or negative) indicate the quadrant in which a point is located?

Coordinates (x, y)	Quadrant
x positive, y positive	
x negative, y positive	
x negative, y negative	
x positive, y negative	

- 3. Make Sense and Persevere** If two ordered pairs differ only by the signs of their coordinates, how are their points related on the coordinate plane? Provide an example.

Key Concept



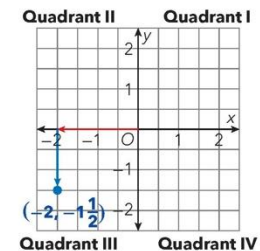
A **coordinate plane** is a grid that contains number lines that intersect at right angles and divide the plane into four **quadrants**. The horizontal number line is called the **x-axis**, and the vertical number line is called the **y-axis**.

The location of a point on a coordinate plane is written as an **ordered pair** (x, y) .

You can use the signs of the coordinates to determine which quadrant a point is in, or if the point is on an axis.

For any point (x, y) on the coordinate plane

- $(-x, y)$ is a reflection of (x, y) across the y-axis. i.e. $(-2, 3)$ and $(2, 3)$
- $(x, -y)$ is a reflection of (x, y) across the x-axis. i.e. $(2, -3)$ and $(2, 3)$



Talk About Math Ideas

Point R has non-zero rational number coordinates. How can you locate points E, C, and T so that RECT is a rectangle?



brainiac



A collection of various mathematical manipulatives including base ten blocks, a clock, money, a ruler, a multiplication chart, geometric solids, and coins.



Algebra Tiles



Base Ten
Blocks



Clock



Color Tiles



Cuisenaire®
Rods



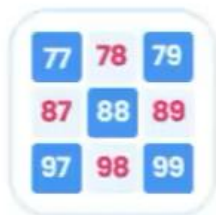
Fraction Circles



Fraction Tiles



Geoboard



Hundred Board



Linking Cubes



Money



Number Lines



Pattern Blocks



Place Value
Disks



Rekenreks



Two-Color
Counters



XY Coordinate
Board

High
Quality
Tasks
aligned to
every
Topic

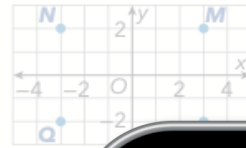
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Connect

1. Make Sense and Persevere How was the strategy you used in *Choose a Problem* the same as your strategy in *River Refresh*? How were your strategies different?

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Teacher's Edition: Grade 6 Lesson 2-5

Interactive Student Edition: Grade 6 Lesson 2-5

Student Edition eBook: Grade 6 Lesson 2-5

2-5: enVision on the Go

2-5: Family Engagement

Step 1: Investigate

2-5: Slow Reveal Slides

2-5: Investigate

Step 2: Connect

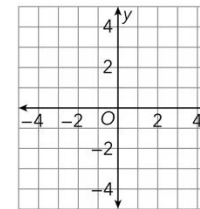
2-5: Choose a Problem

2-5: Connect

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Brainingcamp Activity

Enter Response

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Let's Investigate

Lesson 2-5

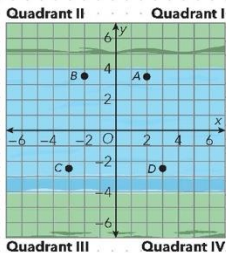
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Find Distances on the Coordinate Plane

I can ... use absolute value to find distance and side lengths of a polygon on a coordinate plane.

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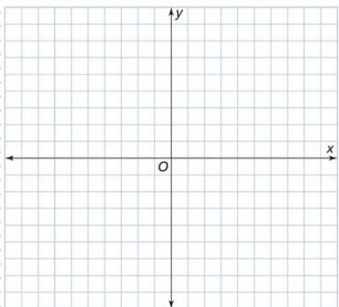
Lesson 2-6

Explore and Share



Graph the points on the coordinate plane.

$(3, 3)$, $(0, 0)$, $(-4, -4)$, $(-9, 0)$, $(-4, 4)$, $(0, 0)$, $(3, -3)$, $(3, 3)$



Use Structure How can you use the structure of the grid to find a pair of points that are the same distance from the x-axis?

A. What picture do you make when you connect the points in order?

B. Name a pair of points that are the same distance from the x-axis. Explain your choice.

Use Structure How can you use the coordinate plane to find the total length of the picture you graphed?

Explore & Share

2

3

4



Use Structure How can you use the structure of the grid to find a pair of points that are the same distance from the x-axis?

A. What picture do you make when you connect the points in order?

Enter Response ▼

B. Name a pair of points that are the same distance from the x-axis.
Explain your choice.

Enter Response ▼

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Let's Build

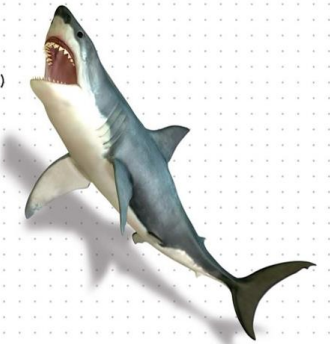
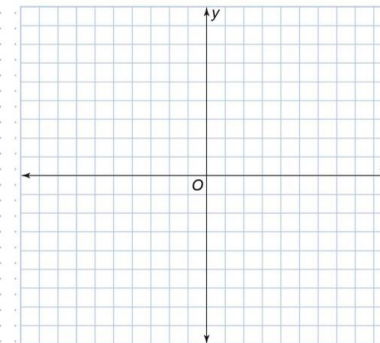
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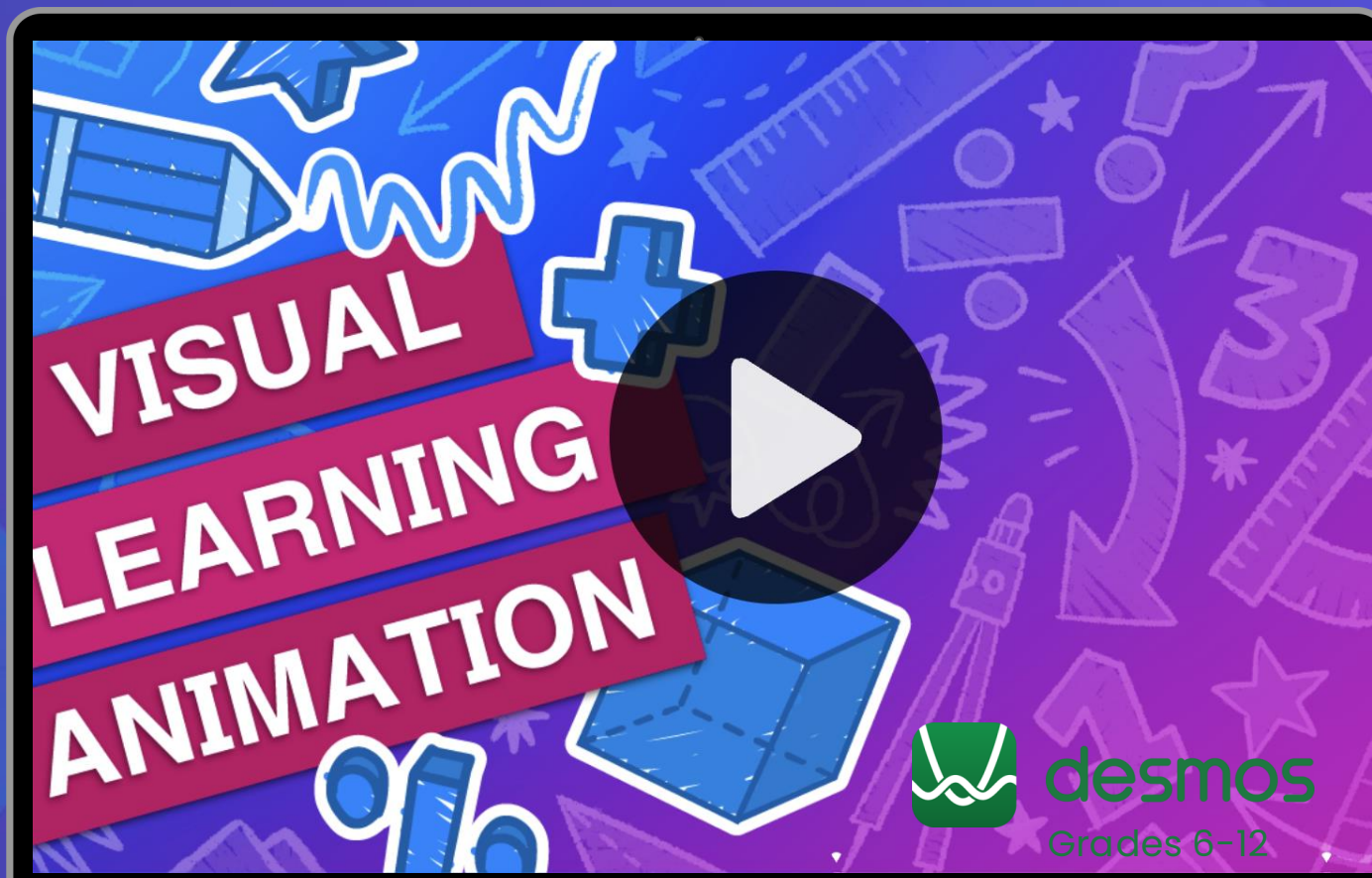


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**Essential Question**

How is distance used to solve problems about polygons in a coordinate plane?

Animation

**Visual Learning****Example 1 Find Vertical and Horizontal Distances**

powered by
desmos

Li wants to conserve energy in a video game. Each step requires 1 energy unit.

Li's avatar is at Home. She must go to the Store to get seeds and then to the Greenhouse to plant the seeds to grow food. How much energy will the trip take?

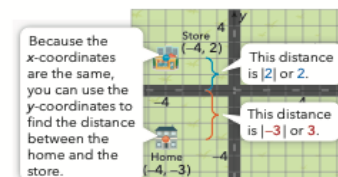


Reasoning How can you use absolute values to find the distances?

STEP 1

Find the distance from Home to Store.

The absolute values of the y-coordinates tell the distance between each point and the x-axis.

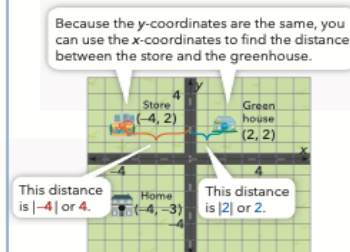


The distance from Home to the Store is $|2| + |-3| = 2 + 3 = 5$ energy units.

STEP 2

Find the distance from Store to Greenhouse.

The absolute values of the x-coordinates tell the distance between each point and the y-axis.



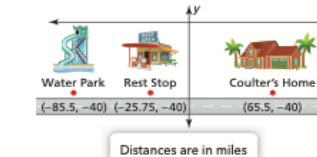
The distance from Store to Greenhouse is $|2| + |-4| = 2 + 4 = 6$ energy units.

The trip will take $5 + 6$ or 11 energy units.

Try It! The Coulter family starts at their home and stops at a rest stop to eat lunch.

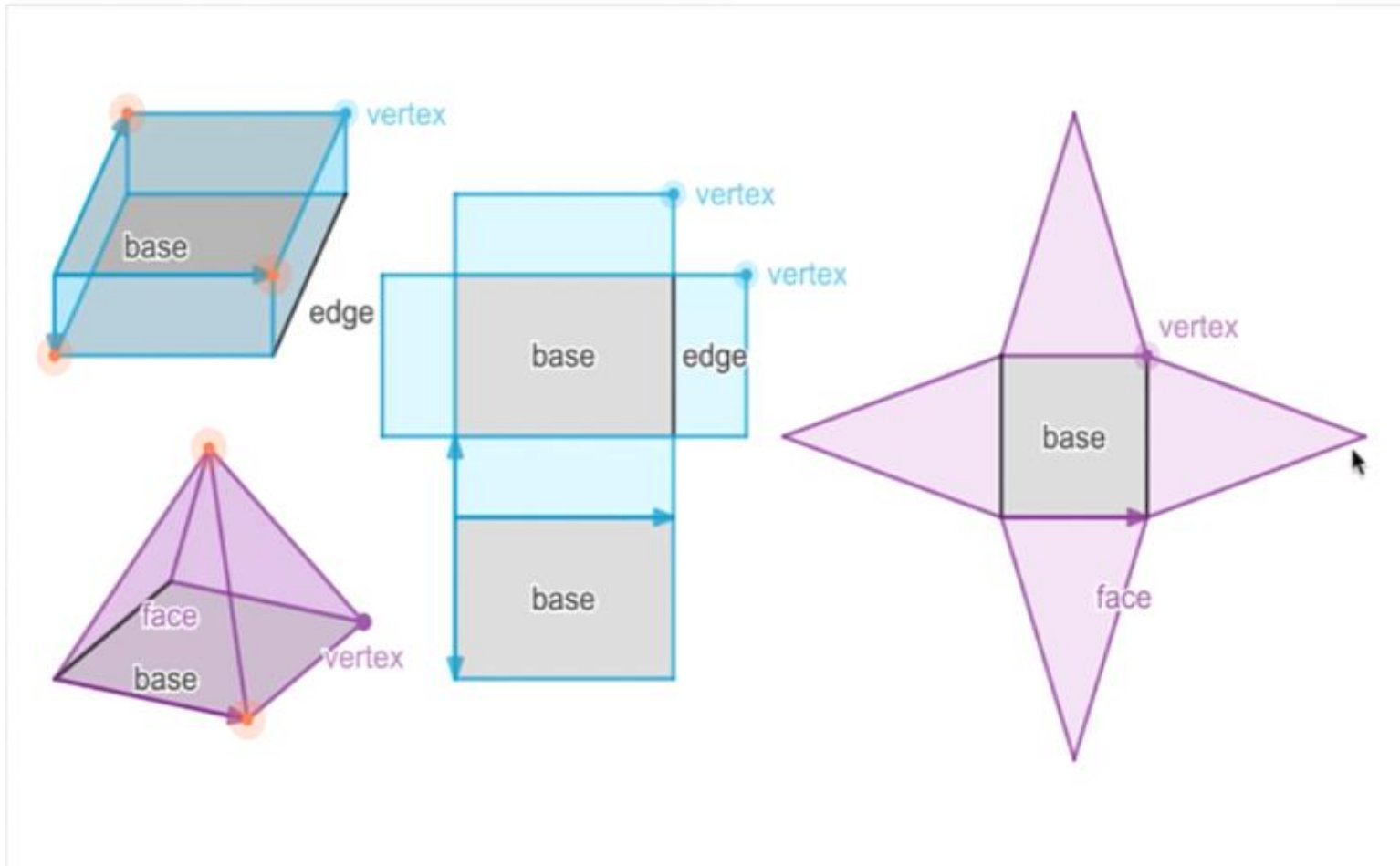
a. How much farther do they need to drive to get to the water park?

b. What is the total distance of the Coulter's return trip after their day at the water park?



 You can use nets to represent solid figures.

Drag the orange vertices to explore how changing the dimensions of a figure changes its net.



LESSON PRESENTATION SLIDES

Access for ALL Learners

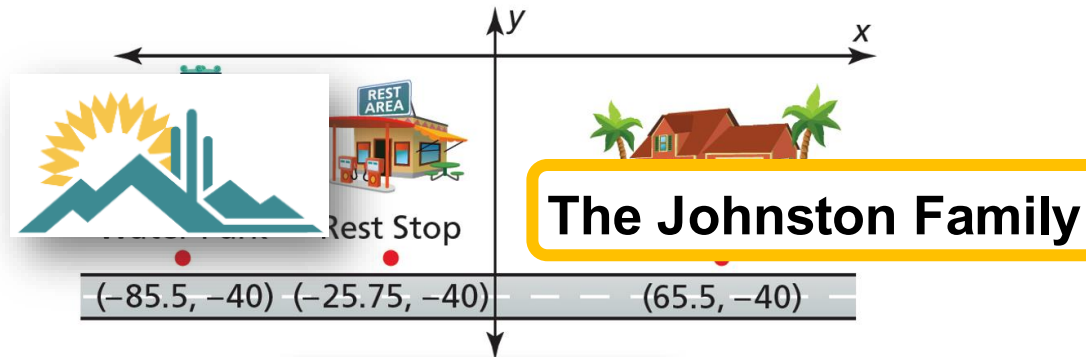


Slide 6 of 15

Example 1 Find Vertical and Horizontal Distances

Try It! **The Johnston Family** and stops at a rest stop to eat lunch.

- How much farther do they need to drive to get to **Scottsdale?**
- What is the total distance of the Coulters' return trip after their day at the water park?



Distances are in miles

Name _____

Practice and Problem Solving

In 9–11, find the distance between each pair of points.

9. $(-5, -3)$ and $(-5, -6)$ 10. $(-5.4, 4.7)$ and $(0.6, 4.7)$ 11. $(7\frac{1}{2}, -5\frac{3}{4})$ and $(7\frac{1}{2}, -1\frac{1}{4})$

In 12 and 13, find the perimeter of each rectangle.

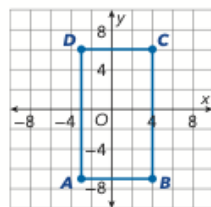
12. Rectangle JKLM: $J(-3, 8)$, $K(-3, -1)$, $L(4, -1)$, $M(4, 8)$

13. Rectangle WXYZ: $W(-3, -2)$, $X(4, -2)$, $Y(4, -5)$, $Z(-3, -5)$

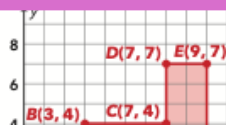
14. Triangle JKL has vertices $J(0, 0)$, $K(5, 0)$, and $L(0, -3)$. Is triangle JKL equilateral? Justify your answer.

15. Polygon WXYZ has vertices $W(-1.5, 1.5)$, $X(6, 1.5)$, $Y(6, -4.5)$, and $Z(-1.5, -4.5)$. Is WXYZ a rectangle? Justify your answer.

16. What are the perimeter and area of rectangle ABCD?



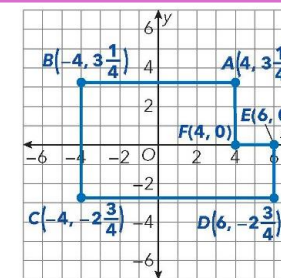
17. Mike used a coordinate plane to design the patio shown. Each unit on the grid represents 1 yard. To buy materials to build the patio, Mike needs to know its perimeter. What is the perimeter of the patio?



4. Izaak's task as part of the conservation team was to build a fenced-in nesting cage where sea turtles hatch. He drew a plan for the nesting cage on a coordinate grid.

- a. If each unit represents one foot, find the distance between each post.

- b. How many feet of fencing is needed to enclose the nesting cage?



25. **Use Structure** Ana drew a plan for a rectangular piece of material that she will use for a quilt. The vertices are $(-1.2, -3.5)$, $(-1.2, 4.4)$, and $(5.5, 4.4)$. What are the coordinates of the fourth vertex?

26. Mr. Janas is building a pool in his backyard. He sketches the rectangular pool on a coordinate plane. The vertices of the pool are $A(-5, 7)$, $B(1, 7)$, $C(1, -1)$, and $D(-5, -1)$. If each unit represents 1 yard, how much area of the backyard is needed for the pool?

27. **Vocabulary** Why is absolute value used to find distances on a coordinate plane?

28. **Higher Order Thinking** A square on a coordinate plane has one vertex at $(-0.5, -2)$ and a perimeter of 10 units. If all of the vertices are located in Quadrant III, what are the coordinates of the other three vertices?

Assessment Practice

29. You are given the following points on a coordinate plane:

$$A(-1\frac{1}{2}, -\frac{1}{2}), B(-1\frac{1}{2}, -3), \text{ and } C(4, -3).$$

PART A

Using absolute value, find the distance (number of units) between points A and B.

PART B

Select all the coordinates that are 8 units from point C.

- ☐ $(12, -3)$
☐ $(12, -11)$
☐ $(4, -3)$
☐ $(-4, -3)$

Name _____

Practice and Problem Solving

In 9–11, find

9. $(-5, -$

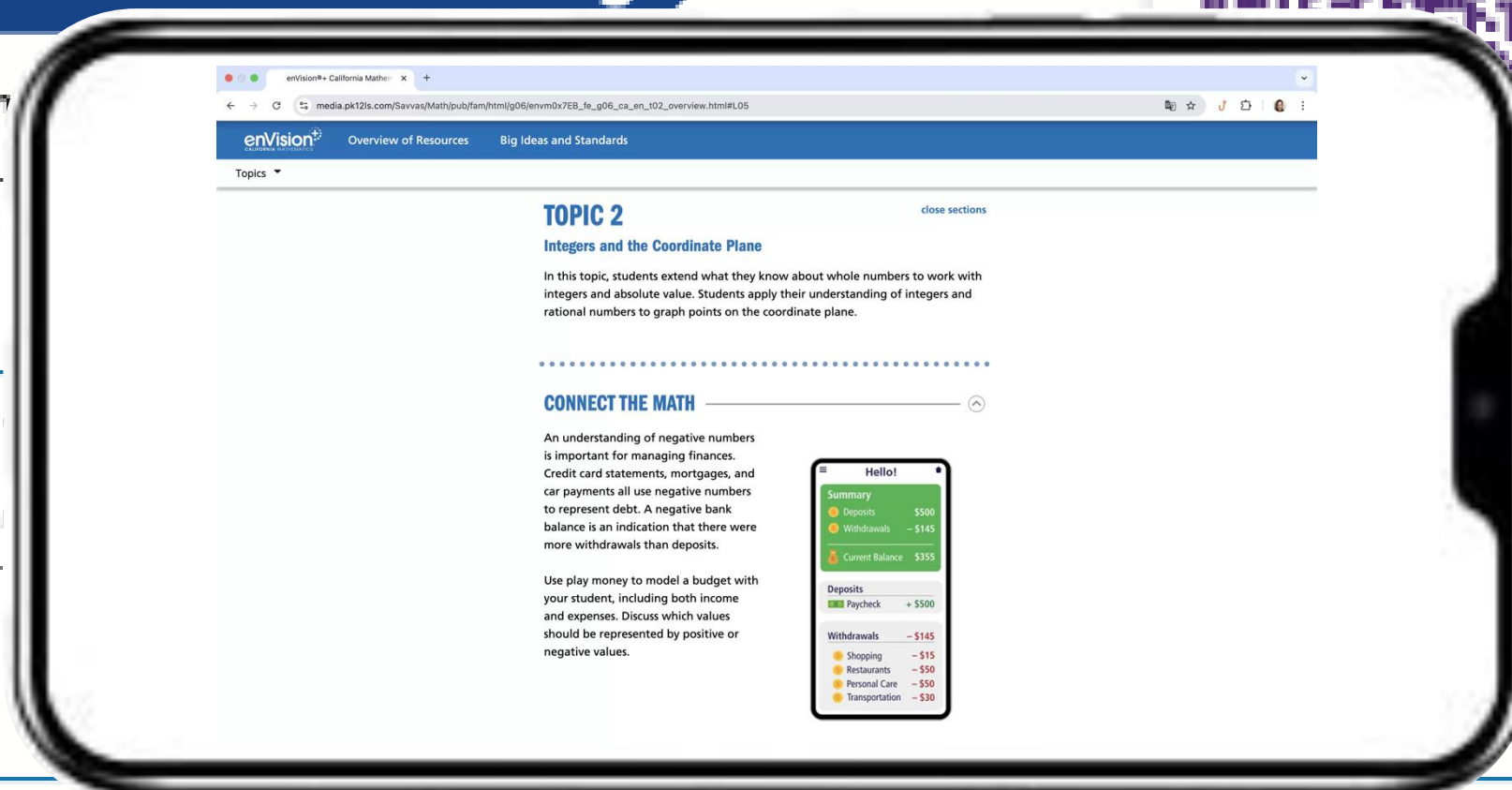
In 12 and

12. Recta
 $L(4, -$

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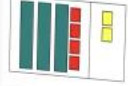
15. Polygon $WXYZ$ has vertices $W(-1.5, 1.5)$, $X(6, 1.5)$, $Y(6, -4.5)$, and $Z(-1.5, -4.5)$. Is $WXYZ$ a rectangle? Justify your answer.

Lesson Help





Use the algebra tiles to help you solve the equation $3x + 4 = 2$.



The solution is
(Type the value of x.)

Help me solve this View an example Get more help -

Clear all

Question 2 of 9

Review Progress

Use the algebra tiles to help you solve the equation $4x - 2 = 10$.



The solution is
(Type the value of x.)

Help me solve this View an example Get more help -

Clear all

Check answer

Question 2 of 9

Back Next

Review Progress

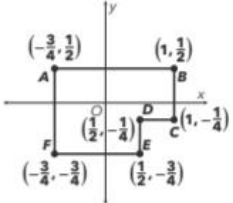
Formative Assessment Options

Quick Check for Understanding

Name _____

Exit Ticket
Lesson 2-6

1. Ibrahim mapped out his jogging trail on a coordinate plane. Each unit of the grid represents one mile. How many miles is the entire trail?



Ⓐ $4\frac{1}{4}$ mi
Ⓑ 6 mi
Ⓒ $6\frac{1}{2}$ mi
Ⓓ 7 mi

Self-Assessment
Select how well you understand what you learned in this lesson.

Math Goal	Got it	Need help	Working on it
I can use absolute value to find distance and side lengths of a polygon on a coordinate plane.	☐	☐	☐

Language Goal	Got it	Need help	Working on it
I can explain, orally and in writing, how to use absolute value to find distance on a coordinate plane.	☐	☐	☐

1 of 1

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2-6: Quick Check

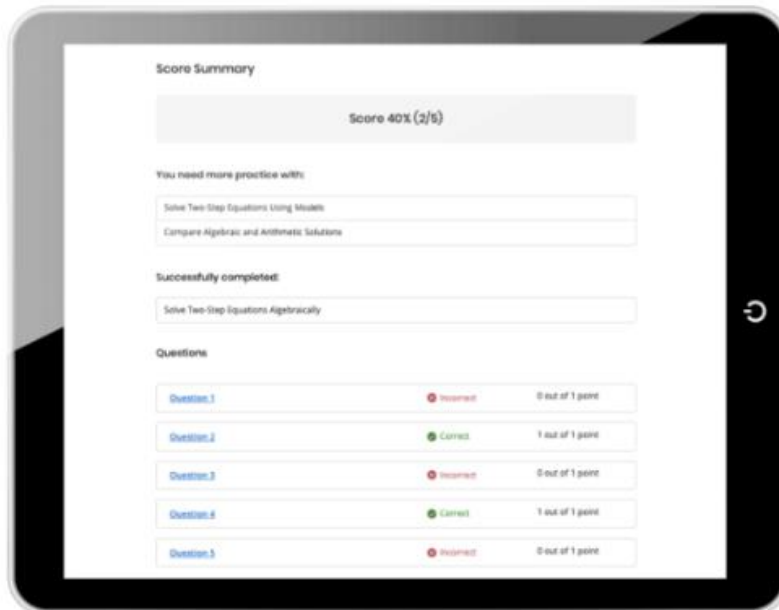
🔊 Listen

Answer each question carefully. After you submit your assignment, you won't be able to change your answers.

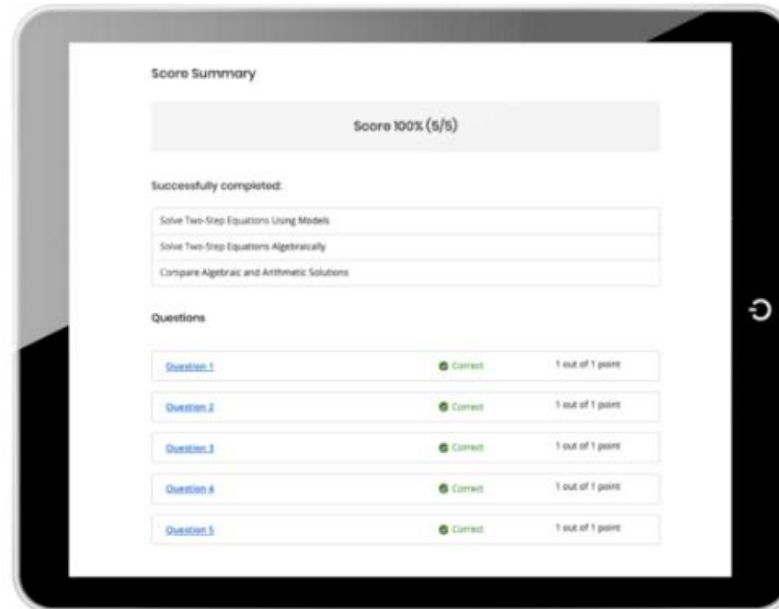
Start ▶

LESSON QUICK CHECK

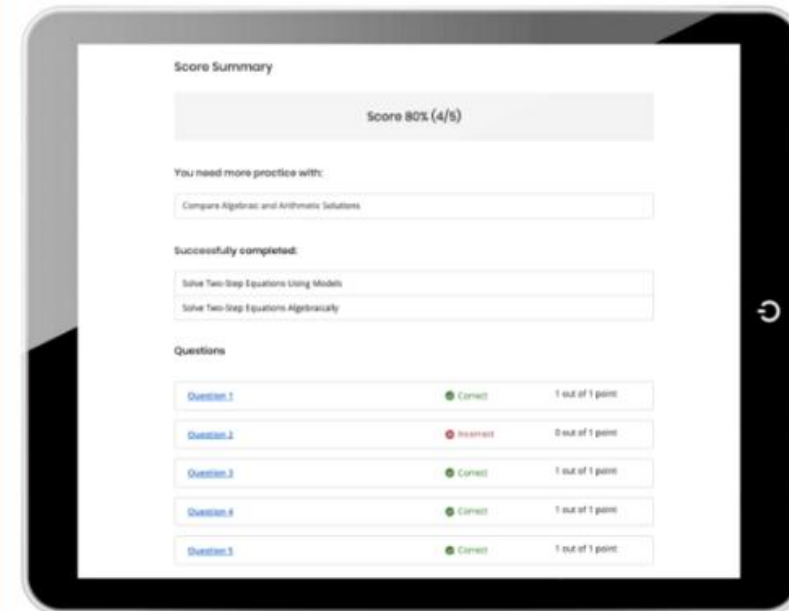
Kaitlin



Alana



Oliver



Student Choice

Project 2C

If you had to escape from a locked room, how would you start?

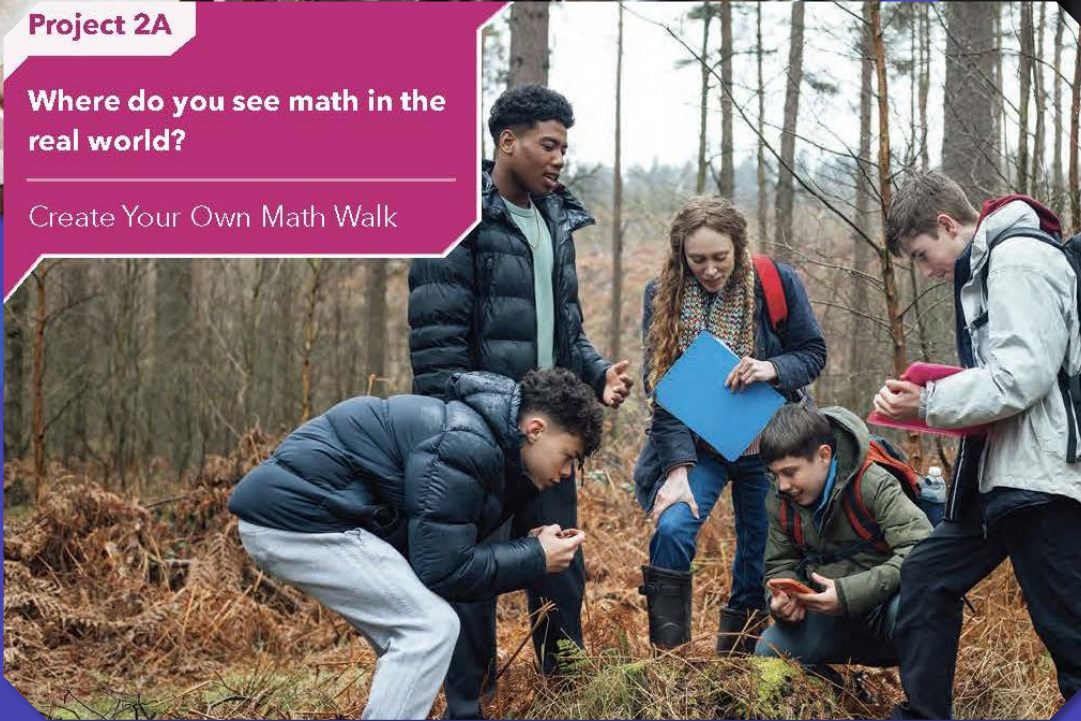
Design an Escape-Room Adventure



Project 2A

Where do you see math in the real world?

Create Your Own Math Walk



Project 2D

If you wrote a play, what would it be about?

Write a Play

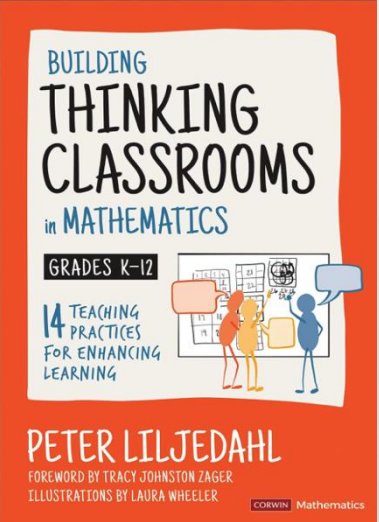


Project 2B

How could you determine the number of people who live in your community?

Modeling Population Growth





Topic 2

Stand Up and Think

Have students work in groups of 3 or 4. Give each group a problem to solve on a vertical erasable surface.

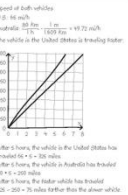
Problem 2A
If needed, ask:
• How could you use an equation to model Lucia's tank? To model Hakeem's tank?
• How could you use a graph of the equations to get more information about the situation?

Problem 2A: Sample Student Work

Use t for the hours.
After t hours, Lucia's tank has $100 - 0.5t$ gallons and Hakeem's tank has $200 - 4t$ gallons.
To find out when the amounts are equal, solve for t .
 $100 - 0.5t = 200 - 4t$
 $300 = 0.5t - 4t$
 $300 = -3.5t$
 $300 \div -3.5 = -85.7$
 $t = 85.7$
The tanks have the same amount of water after 85.7 hours, which is the same as 13 hours and 57 minutes.
After 85.7 hours, Lucia's tank has:
 $100 - 0.5(85.7) = 57.25$ gallons of water.
Since the same amount of water is in both tanks, Hakeem's tank also has 57.25 gallons of water.
Since $4(85.7) = 342.8$, the tanks will not overflow.

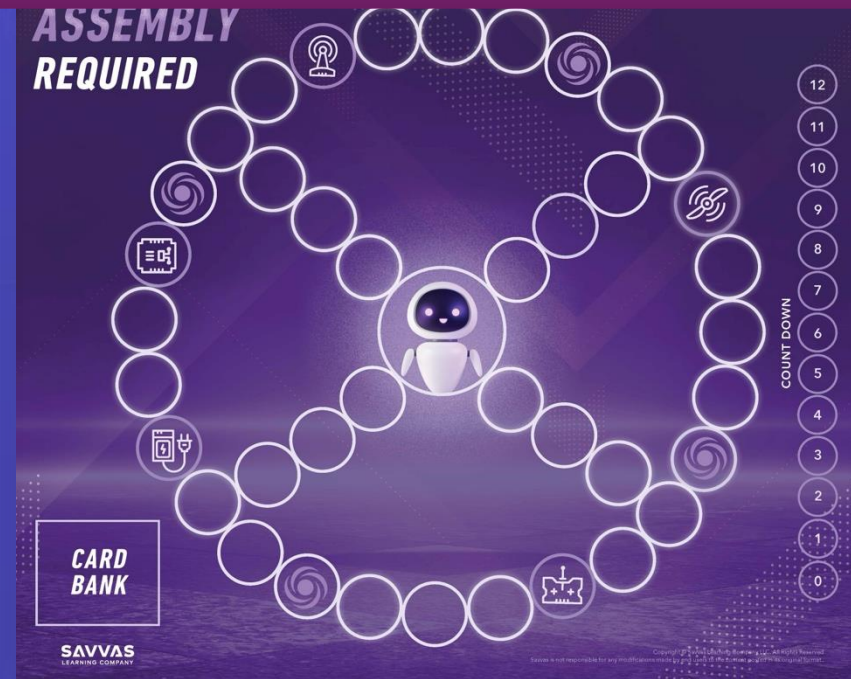
Problem 2B
If needed, ask:
• How could you use the conversion factor to compare the vehicles in miles per hour? How about in kilometers per hour?
• Does it matter which rate you use, miles or kilometers? Why or why not?

Problem 2B: Sample Student Work





Hands-on Games





LAUNCH GAME

3 Types of Lessons

Let's Investigate

Represent Locations on the Coordinate Plane

I can ... investigate locations on the coordinate plane.

Let's Investigate

Lesson
2-5

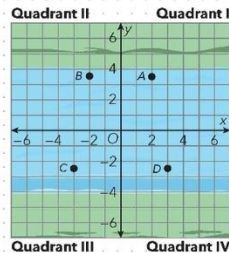
People depend on clean water, which is essential to human life. Many communities rely on rivers and waterways for their economies and cultures to function. Cities and towns take action when water sources become polluted.

River Refresh



A Clean Water organization is removing trash from a river. They divide a map of the river into four quadrants on a coordinate plane. On the first day, volunteers clean the trash from the given locations on the map recorded at coordinates A, B, C, and D.

Identify the quadrant for each trash location.



The next day, volunteers will work on corresponding locations on the opposite side of the river. Reflect each point across the x-axis. Plot the new coordinates on the map. What do you notice about the coordinates of the reflected points?

Let's Build

Find Distances on the Coordinate Plane

I can ... use absolute value to find distance and side lengths of a polygon on a coordinate plane.

Let's Build

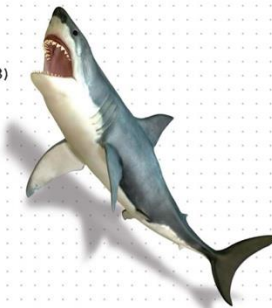
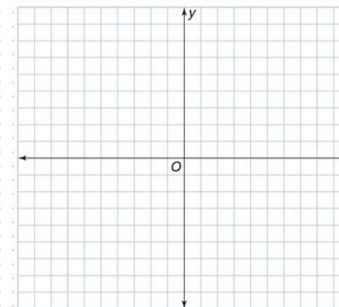
Lesson
2-6

Explore and Share



Graph the points on the coordinate plane.

$(3, 3)$, $(0, 0)$, $(-4, -4)$, $(-9, 0)$, $(-4, 4)$, $(0, 0)$, $(3, -3)$, $(3, 3)$



Use Structure How can you use the structure of the grid to find a pair of points that are the same distance from the x-axis?

A. What picture do you make when you connect the points in order?

B. Name a pair of points that are the same distance from the x-axis. Explain your choice.

Use Structure How can you use the coordinate plane to find the total length of the picture you graphed?

Let's Model in 3 Acts

Powering Down

I can ... use mathematical modeling to solve problems.

Let's Model in 3 Acts

Lesson
2-6



ACT 1

- After watching the video, what is the first question that comes to mind?
- Write the Main Question you will answer.
- Construct Arguments** Predict an answer to this Main Question. Explain your prediction.
- On the number line shown, write a time that is too early to be the answer. Write a time that is too late.
Too early Too late
- Plot your prediction on the same number line.

Let's Model in 3 Acts

ACT 1: The Hook

Let's Model in 3 Acts

ACT 1



ACT 2: The Model

Let's Model in 3 Acts

ACT 2

ACT 3: The Solution

Let's Model in 3 Acts

ACT 3



Let's Model in 3 Acts

Lesson

2-6

Powering Down

Mathematics Objectives

- Use mathematical modeling to represent a problem situation and to propose a solution.
- Test and verify the appropriateness of math models.
- Explain why the results from mathematical models may not align exactly to the problem situation.

Language Objective Explain, orally and in writing, how to apply a mathematical model to solve a real-world problem involving a multistep equation.

Essential Understanding Many real-world problem situations can be represented with a mathematical model, but that model may not represent a real-world situation exactly.

Earlier in this topic, students:

- solved different types of multistep equations.

In this lesson, students:

- develop a mathematical model to represent and propose a solution to a problem situation involving a multistep equation.

Later in this course, students will:

- refine their mathematical modeling skills.

Additional Connections Using equations to model situations connects to graphing relationships using functions in Topic 3.

Conceptual Understanding Students draw on their understanding of equality concepts to develop a representative model.

Application Students apply their mathematical model to test and validate its applicability to similar problem situations.

Materials

Provide manipulatives and other tools that students request.



Student Resources

- Family Engagement

Teacher Resources

Available at Savvas Realize®.

- Editable Lesson Plan
- enVision on the Go: Planning Support



Notes

Act 1 The Hook

Act 1

Powering Down

I can use my mathematical knowledge to solve problems.

Let's Model in 3 Acts Lesson 2-6

ACT 1

1. After watching the video, what is the first question that comes to mind?

2. Write the first question you ask.

3. Compare your question to the class. Explain your question.

4. Circle the question that best represents the problem situation.

5. Write a prediction of the answer to the question.

Students are tasked with determining how much longer a smartphone's battery will last.

Play the Video

Take advantage of your students' reactions to watching the video. Ask: What did you notice? What do you wonder?

Brainstorm Questions

Have students complete **Question 1**. Encourage them to ask any question that comes to mind. Listen for both mathematical and non-mathematical questions. Ask students what makes each question interesting.

- What questions do you have? [Sample questions: How much can he use his device before it loses power? How much power is left in the battery? How long has he been using the device so far?]

Ask the Main Question

After the question brainstorming, pose the Main Question. Students will be tasked with answering. Have students complete **Question 2**.

- What time will it be when the phone runs out of power?

Ask About Predictions

Have students complete **Questions 3-5**. Survey the class about their predictions.

- Why do you think your prediction is the solution to the Main Question?
- Who had predictions that are close?
- How many of you agree with that prediction?
- Who has a different prediction?

Important Information

Complete **Question 6**. How do you need to know to solve the current battery percent, how long the phone is used, the unit rate of minutes per percent.

Get that information?

Formulation

After the question brainstorming, pose the Main Question. Students will be tasked with answering. Have students complete **Question 2**.

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Model

Students might select pencil and paper, a ruler, a calculator, a spreadsheet, or other grade-appropriate tools to

Questions 8 and 9, look for inefficient using and prompt them to think about solution before making a model.

Strategies

After the question brainstorming, pose the Main Question. Students will be tasked with answering. Have students complete **Question 2**.

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enVision Plus Mathematics 2027 Grade 8

eText Tools



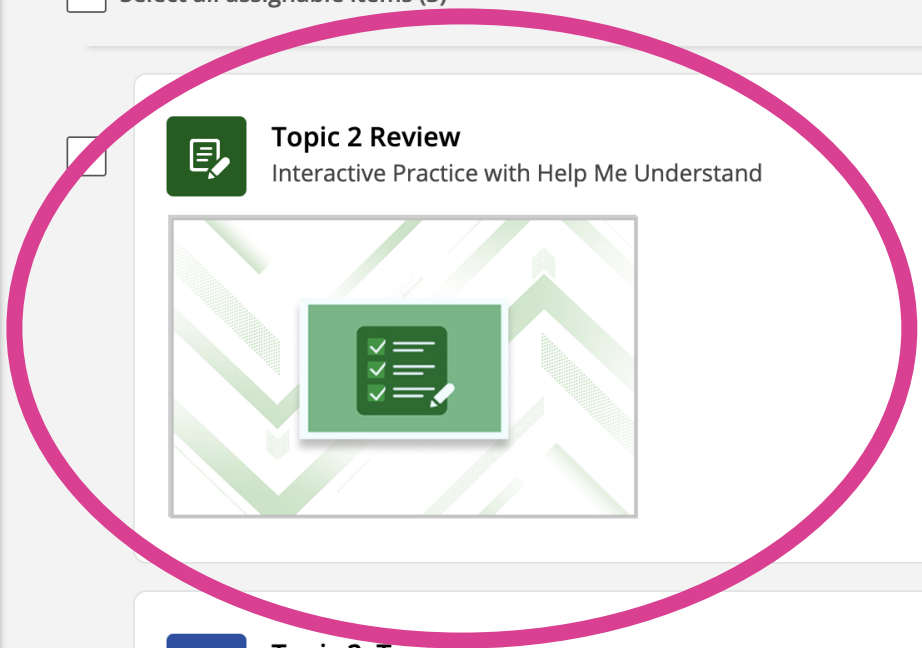
- Sides
- 2-3: Let's Build: Solve More Equations with Variables on Both Sides
- 2-4: Let's Build: Solve Multistep Equations
- 2-5: Let's Build: Equations with No Solutions or Infinitely Many Solutions
- Mid-Topic Assessment
- 2-6: Let's Model in 3 Acts: Powering Down
- 2-7: Let's Build: Compare Proportional Relationships
- 2-8: Let's Investigate: Proportional Relationships and Slope
- 2-9: Let's Build: Understand the Slope of a Line: $y = mx$
- 2-10: Let's Build: Understand the y-Intercept of a Line
- 2-11: Let's Build: Analyze Linear Equations: $y = mx + b$

Topic 2: Topic Review & Fluency

Topic 2: Topic Assessments

Topic 2: Topic Review & Fluency

Select all assignable items (3) Customize



☐



Topic 2 Review
Interactive Practice with Help Me Understand

Live Session

✦ ⚡

Assign

⋮



☐



Topic 2: Topic Review

Assign ⋮

☐



Topic 2: Fluency Practice Activity

Assign ⋮



Topic 4 Review

Evaluate the power.

$$10^2 = \boxed{.8}$$

(Type a whole number or a decimal.)

Check Answer

Clear all

Need help?

Get support to solve this question

Help me understand

New



View an Example

Help me solve this

Animation

A-Z Glossary

Math Tools

Video

Review Progress

Question 2 of 20

Back

Next

enVision Plus Mathematics 2027 Grade 8

eText Tools



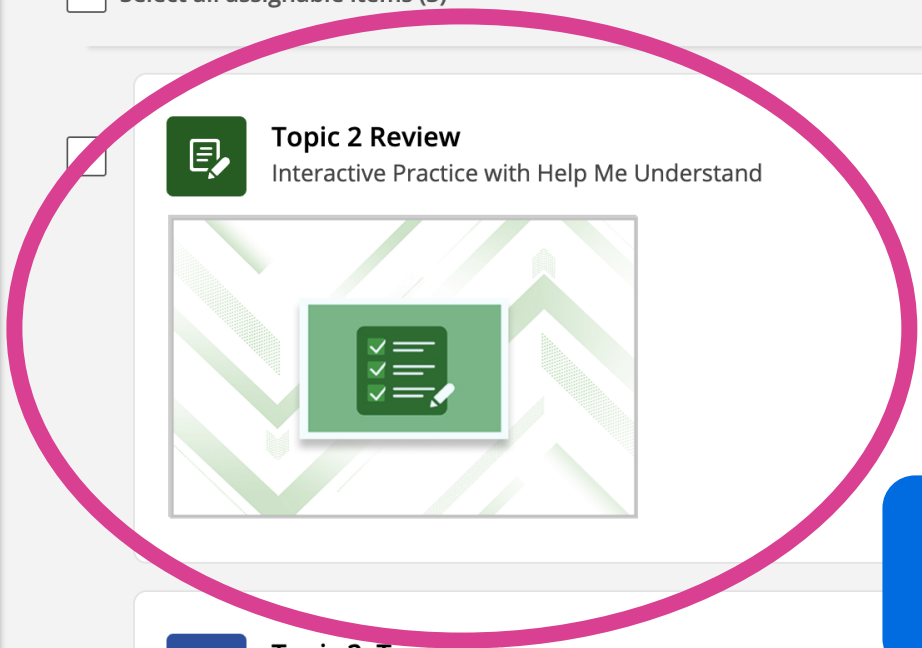
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Select all assignable items (3) Customize



☐ **Topic 2 Review**
Interactive Practice with Help Me Understand

☐ **Topic 2: Topic Review**

☐ **Topic 2: Fluency Practice Activity**

Live Session ✨ ⚡ Assign ⋮

Live Session

Assign ⋮

00:30

TIME

1 OF 20

QUESTIONS

555

POINTS



Solve the equation $-4(x - 26) = -200$

A -24

B 76

C 24

D 50

00:30

TIME

1 OF 20

QUESTIONS

555

POINTS



Solve the equation $-4(x - 26) = -200$

A -24

B 76

C 24

D 50

Submit

00:30

TIME

1 OF 20

QUESTIONS

555

POINTS



Solve the equation $-4(x - 26) = -200$

A

-24



76

80 points

C

24

D

50



Correct!

76 is the answer.

Next

Integers and the Coordinate Plane
Topic 2

Topic Essential Question

What are integers and rational numbers? How are points graphed on a coordinate plane?

Math Walk

Highs and Lows
Where are the highest and lowest places you have visited? Let's explore some elevations.

Topic Essential Question

What are integers and rational numbers? How are points graphed on a coordinate plane?

Revisit the Topic Essential Question throughout the topic. See the Teacher's Edition for the Topic Review for notes about answering the question.

Home-School Connection

At the start of this topic, send home the Home-School Connection letter to give families an overview of the content in the topic.

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Generate excitement about the topic by having students watch the Math Walk video about high and low elevations.

Question in the Video

- Where are the highest and lowest places you have visited? Let's explore some elevations.

Questions for Students

You might give students copies of the Math Walk questions or just project them and have students turn and talk to a partner followed by whole-class discussion.

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Any time after students learn about absolute values of rational numbers, show the video again.

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Choose the best term from the box to complete each definition.

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- The number below the fraction bar that represents the total number of equal parts in one whole is the denominator.

- decimal
- denominator
- fraction
- numerator

Fractions and Decimals

Write each fraction as a decimal.

- $\frac{4}{5}$ **0.4**
- $\frac{5}{10}$ **0.75**
- $\frac{10}{2}$ **2.5**
- $\frac{1}{2}$ **2.4**
- $\frac{6}{10}$ **0.6**
- $\frac{15}{3}$ **5.0**

Division with Decimals

Divide.

- $1.25 \div 0.5$ **2.5**
- $13 \div 0.65$ **20**
- $12.2 \div 0.4$ **30.5**

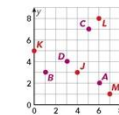
Ordered Pairs

Write the ordered pair for each point shown on the graph.

- J **(4, 3)**
- K **(0, 5)**
- L **(6, 8)**
- M **(7, 1)**

Plot each point on the coordinate plane.

- A **(6, 2)**
- B **(1, 3)**
- C **(5, 7)**
- D **(3, 4)**



Explain

21. Les said that the quotient of $3.9 \div 0.75$ is 0.52. Explain how you know Les is incorrect without completing the division.

Sample answer: I can use estimation to determine that $3.9 \div 0.75$ is close to $4 \div 1$. Because $4 \div 1 = 4$, the quotient of $3.9 \div 0.75$ is about 4. Les's answer of 0.52 is not close to the estimate.

Item Analysis for Diagnosis and Remediation

Item	IS
1-3	M1
4-9	M24
10-12	L69
13-20	K48
21	L69

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Reviews and remediates key prerequisite standards for the topic's content.

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Integers and the Coordinate Plane

Topic 2

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Topic 2 63

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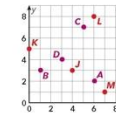
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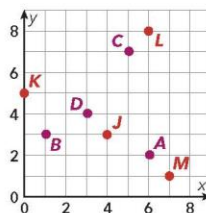
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Plot each point on the coordinate plane.

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18. B(1, 3)
19. C(5, 7)
20. D(3, 4)



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Review What You Know Assessments

Provide Individualized, Just-in-Time Support

Topic

Vocab

Choose

1. A. loc

2. Th is t

3. Th eq

Fracti

Write es

4. $\frac{2}{5}$

7. $\frac{12}{5}$

Divisi

Divide.

10. 1.2

Order

Write th

13. J

15. L

Plot eac

17. A(

19. C(

Expla

21. Le

64 Topic

Name _____

Intervention Lesson M24

Fractions to Decimals

Materials crayons, markers, or colored pencils

In the Princeton Middle School marching band, 3 of the 100 students play the tuba.

Write $\frac{3}{100}$ as a decimal by answering Exercises 1 to 3.

1. Color the grid to show $\frac{3}{100}$.

2. What decimal represents the part of the grid you colored? _____

3. What decimal is equal to $\frac{3}{100}$? $\frac{3}{100} =$ _____

4. What decimal is equal to $5\frac{3}{100}$? _____

5. How many zeros are in the denominator of $\frac{3}{100}$? _____

6. How many digits are to the right of the decimal point in 0.03? _____

When the denominator is a power of 10, like 10 or 100, the number of zeros in the denominator matches the number of digits to the right of the decimal point in the equivalent decimal.

7. Complete the table.

Fraction	Number of Zeros in Denominator	Number of Digits to Right of Decimal Point	Equivalent Decimal
$\frac{2}{10}$	1	1	0.2
$\frac{2}{100}$	2		
$\frac{20}{100}$			0.20

8. How many zeros are in the denominator of $\frac{67}{100}$? _____

So what decimal is equal to $\frac{67}{100}$? $\frac{67}{100} =$ _____

You can also change a fraction to a decimal by dividing the numerator by the denominator.

9. Write $\frac{3}{20}$ as a decimal. Find the quotient of $\frac{3}{20}$ or $3 \div 20$, at the right.

20 $\overline{)3.00}$

10. What decimal is equal to $\frac{3}{20}$? $\frac{3}{20} =$ _____

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M24 (student p. 1)

MD.5.2.0

Item Analysis for Diagnosis and Remediation

Item	IS
1-3	M1
4-9	M24
10-12	L69
13-20	K48
21	L69

Topic 2 Prep Personalized by SuccessMaker®

Reviews and remediates key prerequisite standards for the topic's content.

Topic 2

Differentiation Library

This topic has a variety of opportunities to engage students with the topic's content in a variety of formats to allow for differentiation.

Pick a Project

Use anytime.

STEAM

Project 2A Students create a math walk.

Project 2B Students design a puzzle.

Project 2C Students make a brochure and map.

Project 2D Students write a script.

Project	Engaging Contexts	Activity Modalities	Final Products
2A	Real world	Create	Math walk
2B	Puzzles	Design	Puzzle and instructions
2C	Travel	Make	Brochure and Map
2D	Commercials	Write	Script

Stand Up and Think

Problem 2A Position Vehicles Use anytime after Lesson 2-2.

Problem 2B Birthday Party Layout Use anytime after Lesson 2-6.

Amazing Contributions

Georg Joachim Rheticus was a mathematician, scientist, teacher, and mapmaker. Use anytime.

Topic 2 Pick a Project

Project 2A

Where do you see math in the real world?
Create Your Own Math Walk



Project 2B

If you were to make a puzzle, what type would you choose?
Design a Connect-the-Dots Puzzle



Project 2C

What place would you like to visit in the United States?
Make a Travel Brochure



Project 2D

If you were going to make a commercial, what type of product would you feature?
Write Your Own Commercial



Digital Manipulative Activities



What are Negative Numbers? Students locate negative numbers on a number line. Use anytime after Lesson 2-2.

The Space Between Students plot points in all four quadrants and find the distance between two points with the same x -coordinate or y -coordinate. Use anytime after Lesson 2-6.

Lesson Resources Use with each lesson.

Available at [Savvas Realize.com](https://www.savvasrealize.com).

Spiral Review

Mixed Review

Additional Vocabulary Support

Reteach to Build Understanding

Build Mathematical Literacy

Enrichment



Sustain Understanding and Fluency

Hands-On Games

Summit Strategy Students play a game to practice the skills covered throughout this topic. Use anytime after Lesson 2-6.

Pyramid Tower Maintain fluency skills used in this topic. Use anytime.

Digital Games

Fluency Games Practice to achieve and maintain fluency.

Vocabulary Games Practice to acquire mathematical terminology.

Use anytime.

Fluency

Fluency Practice Add, subtract, multiply, and divide fractions. Use anytime.



Let's Build
Lesson
2-6

Find Distances on the Coordinate Plane

FOCUS

Mathematics Objectives

- Use absolute value to find the distance between two points that lie on the same horizontal or vertical line on a coordinate plane.
- Solve real-world and mathematical problems involving distances on the coordinate plane.

Language Objective Explain, orally and in writing, how to use absolute value to find distance on a coordinate plane.

Essential Understanding The distance between two points on the coordinate plane with the same first coordinate or the same second coordinate can be found by adding or subtracting the absolute values of the coordinates that differ.

Previously in this topic, students:

- learned that the absolute value of a number is its distance from 0 on the number line.

In this lesson, students:

- use absolute value to calculate the distance between two points that lie on the same horizontal or vertical line on a coordinate plane.

Later in this topic, students will:

- find side lengths of polygons on the coordinate plane and use these lengths to calculate perimeter.

Additional Connections Understanding absolute value of rational numbers and using it to find the distances between points on the coordinate plane connects to using coordinates to find the side lengths of polygons on a coordinate plane when solving real-world and mathematical problems involving area, surface area, and volume.

RIGOR

Procedural Skill Students learn a procedure for finding vertical and horizontal distances on the coordinate plane.

Application Students apply the procedure for finding distances on the coordinate plane to solve real-world and mathematical problems.

Vocabulary

Revisit previously taught vocabulary.

Materials

- graph paper
- Four-Quadrant Coordinate Grids

Student Resources

Family Engagement

Intervention System (IS)

IS K47 Lengths of Line Segments

Teacher Resources Available at
Savvas Realize®.

Lesson Presentation Slides

Sample Student Work

Exit Ticket and Teacher Support

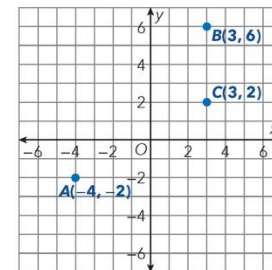
enVision on the Go: Planning Support



Language Support

Use this activity before Example 2 to support understanding of the terms *ordered pair*, *x-coordinate*, *y-coordinate*, and *absolute value*.

Multi-modal Instruction Present a coordinate plane with points marked as shown.



Have students work in pairs to prepare a presentation explaining how to find the distance between points A and C and between points B and C.

Ask student pairs to share their explanations with the class. Remind listeners to be sensitive to student presenters, ask key questions, and be aware of key math terms being used.

An additional activity is available online.

- Use the activity that supports understanding the term *absolute value* with Visual Learning Example.

Math Talk

Equation Detective

Analyze this solution. Look for any mistakes.

Add and subtract.

$$\begin{aligned} |1-24| - |1-14| &= |1-5| - |3| \\ &= 24 - 14 + 1 - 5 - |3| \\ &= 10 - 5 - |3| \\ &= 5 - 3 \\ &= 2 \end{aligned}$$

Number Sense Use this Math Talk at the beginning of the lesson to prepare students for adding and subtracting several absolute values together.

After discussing Javon's calculations, ask:

- What did Javon do before he added or subtracted the values?

At this point in Topic 2, operating with absolute values is still new. They may not notice that the student lost track of the addition in the middle of the expression.

As students analyze the work, consider:

- What steps did this student take?
- Did the student perform the order of operations correctly?
- Are the student's calculations correct? How do you know?

Exit Ticket

Formative Assessment

Name _____ Use this Exit Ticket anytime after Example 1. Exit Ticket Lesson 2-6

1. Strahon mapped out his jogging trail on a coordinate plane. Each unit of the grid represents one mile. How many miles is the entire trail?

Ⓐ $\frac{1}{2}$ mi
Ⓑ 1 mi
Ⓒ $\frac{3}{2}$ mi
Ⓓ 2 mi

Self-Assessment
Select how well you understood what you learned in this lesson.

Math Goal
I can use absolute value to find distance and side lengths of a polygon on a coordinate plane.

Language Goal
I can explain, orally and in writing, how to use absolute value to find distance on a coordinate plane.

Get it! ☐ Getting there! ☐ Working on it! ☐

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Prevent Misconceptions

Students may incorrectly subtract signed fractions. Have these students find the distance each point is from the axes and then add the distances. For example, point S is $\frac{3}{4}$ unit from the y-axis and point C is $\frac{1}{2}$ unit from the y-axis. The distance between points S and C is the sum of $\frac{3}{4}$ and $\frac{1}{2}$.

English Language Development

ELL English Language Learners (Example 1)

MLR3 Critique, Correct, and Clarify (Example 1)

Language Support (Examples 3 and 4)

FOCUS

Mathematics Objectives

- Use absolute value to find the distance between two points that lie on the same horizontal or vertical line on a coordinate plane.
- Solve real-world and mathematical problems involving distances on the coordinate plane.

Language Objective Explain, orally and in writing, how to use absolute value to find distance on a coordinate plane.

Essential Understanding The distance between two points on the coordinate plane with the same first coordinate or the same second coordinate can be found by adding or subtracting the absolute values of the coordinates that differ.

COHERENCE

Previously in this topic, students:

- learned that the absolute value of a number is its distance from 0 on the number line.

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- use absolute value to calculate the distance between two points that lie on the same horizontal or vertical line on a coordinate plane.

Later in this topic, students will:

- find side lengths of polygons on the coordinate plane and use these lengths to calculate perimeter.

Additional Connections Understanding absolute value of rational numbers and using it to find the distances between points on the coordinate plane connects to using coordinates to find the side lengths of polygons on a coordinate plane when solving real-world and mathematical problems involving area, surface area, and volume.

RIGOR

Procedural Skill Students learn a procedure for finding vertical and horizontal distances on the coordinate plane.

Application Students apply the procedure for finding distances on the coordinate plane to solve real-world and mathematical problems.

Vocabulary

Revisit previously taught vocabulary.

Materials

- graph paper
- Four-Quadrant Coordinate Grids

Student Resources

 Family Engagement

Intervention System (IS)

IS K47 Lengths of Line Segments

Teacher Resources

Available at
Savvas Realize®.

 Lesson Presentation Slides

 Sample Student Work

 Exit Ticket and Teacher Support

 enVision on the Go: Planning Support



Let's Build Lesson 2-6

Find Distances on the Coordinate Plane

FOCUS

Mathematics Objectives

- Use absolute value to find the distance between two points that lie on the same horizontal or vertical line on a coordinate plane.
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Sample Student Work

Exit Ticket and Teacher Support

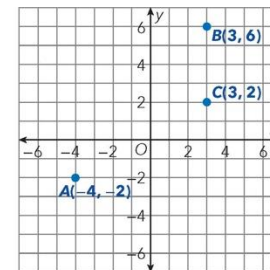
enVision on the Go: Planning Support



Language Support

Use this activity before Example 2 to support understanding of the terms *ordered pair*, *x-coordinate*, *y-coordinate*, and *absolute value*.

Multi-modal Instruction Present a coordinate plane with points marked as shown.



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Math Talk

Equation Detective

Analyze this solution. Look for any mistakes.

Add and subtract.

$$\begin{aligned} |1-24| - |1-14| + |1-5| - |3| \\ = 24 - 14 + 1 - 5 - |3| \\ = 10 - 5 - |3| \\ = 5 - 3 \\ = 2 \end{aligned}$$

Number Sense Use this Math Talk at the beginning of the lesson to prepare students for adding and subtracting several absolute values together.

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- What did Javon do before he added or subtracted the values?

At this point in Topic 2, operating with absolute values is still new. They may not notice that the student lost track of the addition in the middle of the expression.

As students analyze the work, consider:

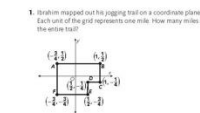
- What steps did this student take?
- Did the student perform the order of operations correctly?
- Are the student's calculations correct? How do you know?

Exit Ticket

Formative Assessment

Name _____ Use this Exit Ticket anytime after Example 1.

Exit Ticket Lesson 2-6



- Ⓐ $\frac{1}{2}$ mi
- Ⓑ 1 mi
- Ⓒ $\frac{3}{2}$ mi
- Ⓓ 7 mi

Self-Assessment

Select how well you understood what you learned in this lesson.

Math Goal	Got it	Need Help	Working on it
I can use absolute value to find distance and side lengths of a polygon on a coordinate plane.	☐	☐	☐
Language Goal	Got it	Need Help	Working on it
I can explain, orally and in writing, how to use absolute value to find distance on a coordinate plane.	☐	☐	☐

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Prevent Misconceptions

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English Language Development

ELL English Language Learners (Example 1)

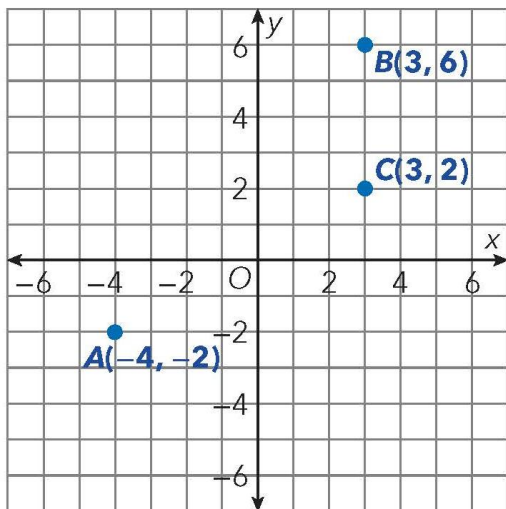
MLR3 Critique, Correct, and Clarify (Example 1)

Language Support (Examples 3 and 4)

Language Support

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Math Talk

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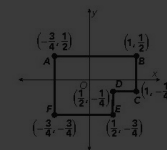
Exit Ticket



Name Use this Exit Ticket anytime after Example 1.

Exit Ticket
Lesson 2-6

1. Ibrahim mapped out his jogging trail on a coordinate plane. Each unit of the grid represents one mile. How many miles is the entire trail?



- (A) $4\frac{1}{2}$ mi
(B) 6 mi
(C) $6\frac{1}{2}$ mi
(D) 7 mi

Self-Assessment

Select how well you understand what you learned in this lesson.

Math Goal

I can use absolute value to find distance and side lengths of a polygon on a coordinate plane.



Got it



Need help



Working on it

Language Goal

I can explain, orally and in writing, how to use absolute value to find distance on a coordinate plane.



Got it



Need help



Working on it

Teacher Answer Key

1 of 1

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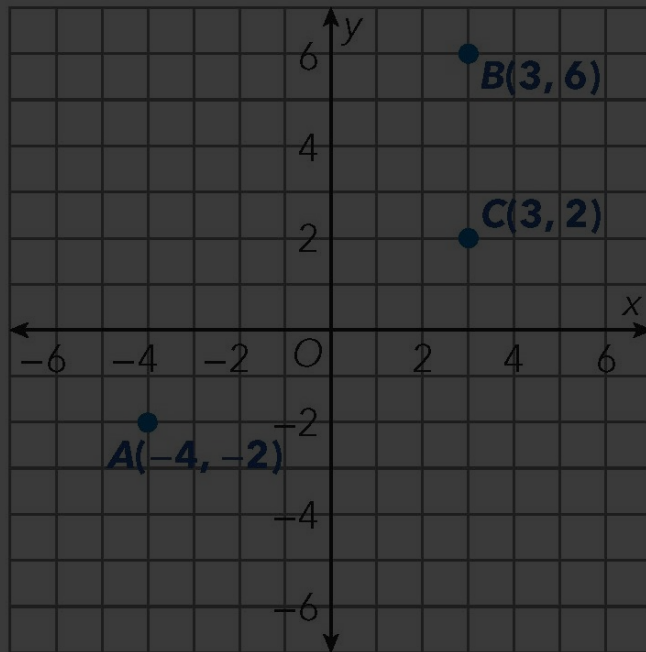
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Students may incorrectly subtract signed fractions. Have these students find the distance each point is from the axes and then add the distances. For example, point S is $\frac{3}{4}$ unit from the y-axis and

Language Support

Use this activity before Example 2 to support understanding of the terms *ordered pair*, *x-coordinate*, *y-coordinate*, and *absolute value*.

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Math Talk

Equation Detective

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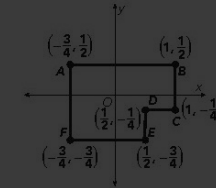
- What steps did this student take?
- Did the student perform the order of

Exit Ticket

Name Use this Exit Ticket anytime after Example 1.

Exit Ticket
Lesson 2-6

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- (A) $4\frac{1}{4}$ mi
(B) 6 mi
(C) $6\frac{1}{2}$ mi
(D) 7 mi

Self-Assessment

Select how well you understand what you learned in this lesson.

Math Goal

I can use absolute value to find distance and side lengths of a polygon on a coordinate plane.



Language Goal

I can explain, orally and in writing, how to use absolute value to find distance on a coordinate plane.



Teacher Answer Key

1 of 1

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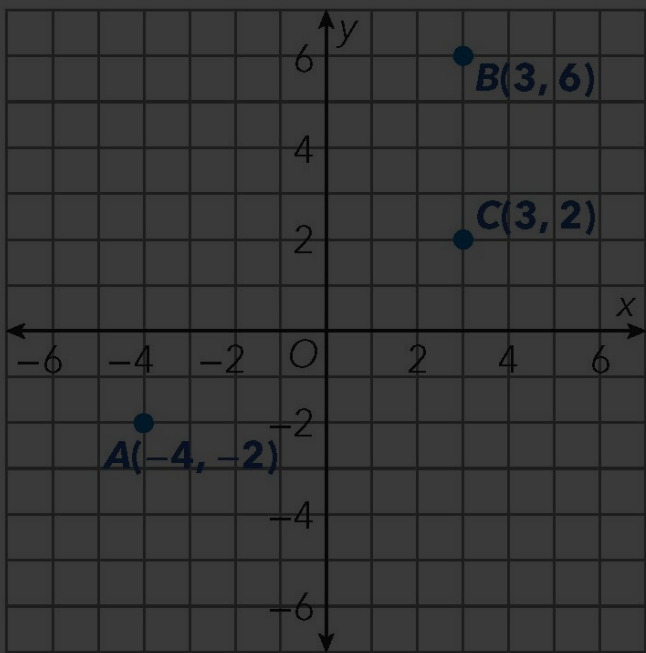
Prevent Misconceptions

Students may incorrectly subtract signed

Language Support

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Exit Ticket

Name Use this Exit Ticket anytime after Example 1.

Exit Ticket
Lesson 2-6

1. Ibrahim mapped out his jogging trail on a coordinate plane. Each unit of the grid represents one mile. How many miles is the entire trail?

☐ A $4\frac{1}{4}$ mi
☒ B 6 mi
☐ C $6\frac{1}{2}$ mi
☐ D 7 mi

Self-Assessment

Select how well you understand what you learned in this lesson.

Math Goal I can use absolute value to find distance and side lengths of a polygon on a coordinate plane.	☒ Got it ☐	☐ Need help ☐	☐ Working on it ☐
Language Goal I can explain, orally and in writing, how to use absolute value to find distance on a coordinate plane.	☒ Got it ☐	☐ Need help ☐	☐ Working on it ☐

Teacher Answer Key 1 of 1 Copyright © Savvas Learning Company LLC. All Rights Reserved.

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Prevent Misconceptions

Students may incorrectly subtract signed

Find Distances on the Coordinate Plane

Mathematics Objectives

- Use absolute value to find the distance between two points that lie on the same horizontal or vertical line on a coordinate plane.
- Solve real-world and mathematical problems involving distances on the coordinate plane.

Language Objective Explain, orally and in writing, how to use absolute value to find distance on a coordinate plane.

Essential Understanding The distance between two points on the coordinate plane with the same first coordinate or the same second coordinate can be found by adding or subtracting the absolute values of the coordinates that differ.

Previously in this topic, students:

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In this lesson, students:

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Procedural Skill Students learn a procedure for finding vertical and horizontal distances on the coordinate plane.

Application Students apply the procedure for finding distances on the coordinate plane to solve real-world and mathematical problems.

Vocabulary

Revisit previously taught vocabulary.

Materials

Student Resources

- Family Engagement
- Intervention System (IS)
- G10 Adding Three-Digit Numbers
- G18 Adding Greater Numbers

Teacher Resources

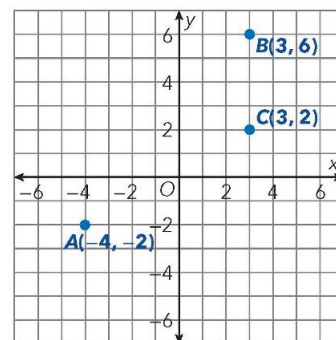
- enVision on the Go



Language Support

Use this activity before Example 2 to support understanding of the terms *ordered pair*, *x-coordinate*, *y-coordinate*, and *absolute value*.

Multi-modal Instruction Present a coordinate plane with points marked as shown.



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- Use the activity that supports understanding the term *absolute value* with Visual Learning Example.

Math Talk

Equation Detective

Analyze this solution. Look for any mistakes.

Add and subtract:

$$\begin{aligned} | -24 | - | -14 | + | -5 | - | 3 | \\ = 24 - 14 + | -5 | - | 3 | \\ = 10 - 5 - | 3 | \\ = 5 - 3 \\ = 2 \end{aligned}$$

Number Sense Use this Math Talk at the beginning of the lesson to prepare students for adding and subtracting several absolute values together.

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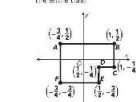
Exit Ticket



Name: Use this Exit Ticket anytime after Example 1.

Exit Ticket
Lesson 2-6

- Read the problem and the diagram on a coordinate plane. Each unit of the grid represents one mile. How many miles is the entire trip?



- ☐ A 4 mi
- ☐ B 6 mi
- ☐ C 6 mi
- ☐ D 7 mi

Self-Assessment

Select how well you understand what you learned in this lesson.

Math Goal	Got it	Need Help	Working on it
I can use absolute value to find distance and side lengths of a polygon on a coordinate plane.	☐	☐	☐
Language Goal	☐	☐	☐
I can explain, orally and in writing, how to use absolute value to find distance on a coordinate plane.	☐	☐	☐

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Prevent Misconceptions

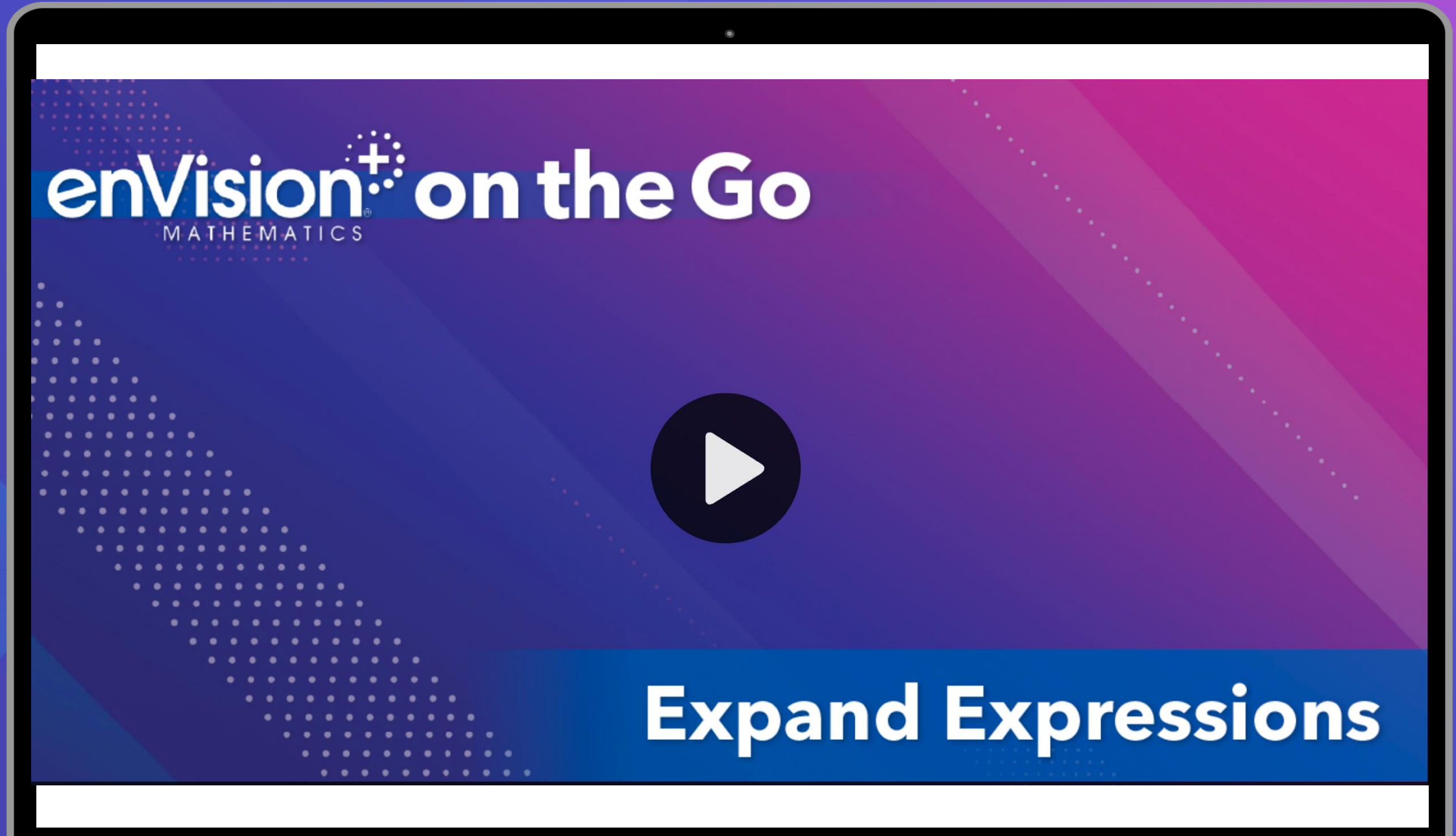
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English Language Development

ELL English Language Learners (Example 1)

LR3 Critique, Correct, and Clarify (Example 1)

Teacher Curated Lesson Support: enVision on the Go



Step 1 Explore and Share

15-20 min

Explore and Share Scout Observational Assessment

Find Distances on the Coordinate Plane

I can use absolute value to find distance and side lengths of a polygon on a coordinate plane.

Big Ideas: Distance and Direction, Model the World, Graphing Points

Standards: 8.G.A.1, 8.G.A.2, 8.EE.7, 8.EE.8

Let's Build

Lesson 2-6

Explore and Share

Graph the points on the coordinate plane.

(3, 3), (9, 9), (-4, -4), (-9, 9), (-4, 4), (0, 0), (3, -3), (3, 3)

Use Structure How can you use the structure of the grid to find a pair of points that are the same distance from the x-axis?

A: What picture do you make when you connect the points in order?

B: Name a pair of points that are the same distance from the x-axis. Explain your choice.

Use Structure How can you use the coordinate plane to find the total length of the picture you graphed?

Sample answer: Each grid line is 1 unit, so you can count grid lines in a horizontal line from the front of the picture to the end of the picture.

Sample Student Work

The picture is a fish. $(-4, 4)$ and $(-4, -4)$ are the same distance from the x-axis because the x-axis divides the fish in half.

The picture is a fish. $(3, 3)$ and $(3, -3)$ are the same distance from the x-axis. From $(3, 3)$, I can count 3 units down to the x-axis. From $(3, -3)$, I can count 3 units up to the x-axis.

Asha's Work

Asha plots and connects the points in order. She uses symmetry to name a pair of points that are the same distance from the x-axis.

Owen's Work

Owen plots the picture correctly and names a different pair of points than Asha by counting vertical units from each point to the x-axis.

Explore and Share

powered by **desmos**

Purpose Students connect previous understandings of finding distance on a number line and graphing points on the coordinate plane to calculate distances on the coordinate plane in the Visual Learning Example.

Introduce

WHOLE CLASS

Ask: Have you ever played a game where you connect numbered dots to make a picture?

Monitor, Select, and Sequence

SMALL GROUP

Observe students at work.

- What strategies do students use to identify points that are equidistant from the x-axis? Students may note the symmetry of the figure they made and identify points that way. Other students may count the units between the point and the axis. If needed, ask How do you know how far a point is from the x-axis?

Early Finishers

Ask: Name a pair of points that are the same distance from the x-axis. $[(3, 3)$ and $(3, -3)$ or $(-4, 4)$ and $(-4, -4)$]

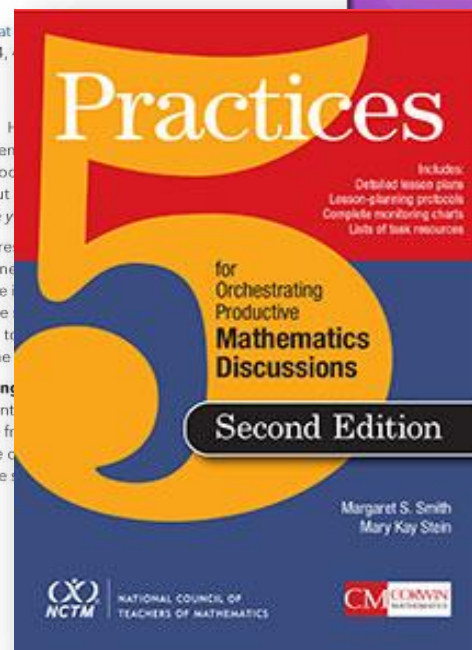
Connect

WHOLE CLASS

Connect Solution Strategies Have students identify points and how they found them on the board. Have students locate and identify what is the same about a pair of points. Have students identify what is the same about a pair of points. Have students identify what is the same about a pair of points.

Have students make conjectures about points that are the same distance from the x-axis. Have students identify points that are the same distance from the x-axis. Have students identify points that are the same distance from the x-axis.

Connect to the Visual Learning Example Have students identify points that are the same distance from the x-axis. Have students identify points that are the same distance from the x-axis. Have students identify points that are the same distance from the x-axis.



Step 1 Explore and Share



15-20 mm

[Explore and Share](#) [Scout Observational Assessment](#)

[illegible]

Sample Student Work

The picture is a fish. $(-4, 4)$ and $(-4, -4)$ are the same distance from the x -axis because the x -axis divides the fish in half.

The picture is a fish $(3, 3)$ and $(3, -3)$ are the same distance from the x -axis. From $(3, 3)$, I can count 3 units down to the x -axis. From $(3, -3)$, I can count 3 units up to the x -axis.

Asha's Work

Asha plots and connects the points in order. She uses symmetry to name a pair of points that are the same distance from the x-axis.

Owen's Work

Owen plots the picture correctly and names a different pair of points than Asha by counting vertical units from each point to the x -axis.

MTP Explore and Share powered by **desmos**



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- What strategies do students use to identify points that are equidistant from the x-axis? Students may note the symmetry of the figure they made and identify points that way. Other students may count the units between the point and the axis. If needed, ask *How do you know how far a point is from the x-axis?*

Early Finishers

Ask: Name a pair of points that are the same distance from the x -axis. [(3, 3) and (3, -3) or (-4, 4) and (-4, -4)]

Connect **WHOLE CLASS**

Connect Solution Strategies Have students share their points and how they found them. Write the pairs of points on the board. Have students look at each pair of points and identify what is the same about each pair of points; in each pair, the points have the same y -coordinate.

Have students make conjectures about how they could identify points that are the same distance from the x -axis from a list and how the y -coordinate is related to the distance of that point from the x -axis. Have students discuss how this conjecture could be modified to work for distance from the y -axis; the points both have the same x -coordinate.

Connect to the Visual Learning When presenting Example 1, remind students of how they interpreted the y -coordinate of a point as the point's distance from 0 in the Solve & Discuss It. Connect this conjecture to the concept of absolute value; the points $(3, 4)$ and $(3, -4)$ are the same distance from the x -axis because $|4| = |-4|$.

Step 2 Visual Learning

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 Visual Learning Animation

[illegible]

MTP Essential Question

Engage students in a discussion about the **Essential Question**. Make sure they have a solid understanding of absolute value before applying what they know to finding distances on the coordinate plane.

Example 1 Find Vertical and Horizontal Distances



- Are Li's house and the store on the same horizontal or vertical grid line? [Vertical]
- What do you notice about the x-coordinates of Li's house and the store? [The x-coordinates are the same.]
- Why do you add the distances between each point and the x-axis to find the total distance from Li's house to the store? [The two distances combined will result in the total distance between Li's house and the store.]
- What do you notice about the y-coordinates of the store and the greenhouse? [They are the same.]
- Should you use the absolute values of the x-coordinates or the y-coordinates to find the distance? [The x-coordinates]
- What operation can you use to find the distance between those coordinates? [Subtraction]
- In general, when should you add the absolute values and when should you subtract? [When the points are in different quadrants, you should add; when they are in the same quadrant, you should subtract.]

MTP Try It!

- Do the coordinates of the water park and the coordinates of the Coulters' home share the same x-coordinates or y-coordinates? [y-coordinates]
- Should you add or subtract the x-coordinates to find the distance? Explain. [Add, because the points are in different quadrants.]

MLR3 Critique, Correct, and Clarify

Have a student share an explanation of how to find the perimeter of a rectangle on the coordinate plane. Then, have student pairs discuss the explanation and offer suggestions for how to make the explanation more precise, more detailed, and/or more concise.

MLL Multilingual Learners WRITING

Emerging As students work through Example 1, instruct them to identify and write the coordinates for Li's house and the store. Then have students complete this sentence stem: The _____ are the same, and the _____ have opposite signs. (x-coordinates: y-coordinates)

Expanding Have students review Example 1. Then have them write the absolute values of the y -coordinates for Li's house and the store. Ask students to work with a partner to write an explanation about how to use absolute values to find the distance between Li's house and the store.

Bridging Write these terms on the board: *x*-coordinate, *y*-coordinate, and absolute value. Instruct students to use these three terms in a written explanation about how to find the distance between any two points that lie on the same vertical line on a coordinate plane.

Editable & Customizable

○ Diagnostic Assessments

- Readiness Assessments
- Review What You Know

○ Formative Assessments

- SCOUT
- Lesson Quick Check
- Exit Ticket

○ Summative Assessments

- Topic Assessment
- Topic Performance Task

○ Progress Monitoring

- Cumulative/Benchmark Tests
- Performance Tasks

Name _____

Topic **2**
Assessment
Form A

1. Cassie's score in a card game is 4 points away from zero. If Juanita's score is the opposite of Cassie's and is a negative value, what is Juanita's score?

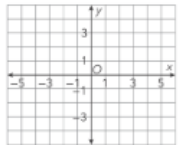
2. Swimmers dive to 60 and 65 feet below the surface of the ocean. Write the depth closest to the surface as an integer.

3. For the number line shown which statement is not true?

$\begin{array}{c} \leftarrow a \qquad 0 \qquad b \rightarrow \\ \hline \end{array}$

(A) $|a| > b$ (C) $|a| > a$
 (B) $-|a| < b$ (D) $|a| < |b|$

4. Draw a polygon with vertices $R(-4, 2)$, $S(2, 2)$, $T(2, -2)$, and $U(-4, -2)$.



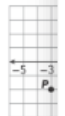
5. Jeremy listed five rational numbers. Then he drew and compared them.

Part A
Plot the numbers $\frac{6}{3}$, $-\frac{3}{4}$, 1.5, 0.2, and -1 on the number line.

$\begin{array}{c} \leftarrow -2 \qquad -1 \rightarrow \\ \hline \end{array}$

Part B
Write an inequality for the fraction of the numbers that are greater than -1.

6. What are the coordinates of point P in Quadrant II?



Assessment Form A 1 of 2

Topic **2**
Performance Task
Form A

Michael and Melita are designing a treasure hunt game for their friends. Answer the questions to help them design the game.

1. Using play money, Melita assigns values to different outcomes in the game. Players will either earn or lose money depending on the outcomes they complete.

Part A
Each player will start with \$5.00 in a treasure account. The winner will be the player who collects the most money. Which outcome will change a player's account the least?

Game Outcomes	Value (\$)
Find a Clue	2.50
Find a Decoy	-1.75
Solve a Puzzle	3.50
Ask for a Hint	-3.25
Find a Treasure	4.75

Part B
Plot the five values on the number line.

$\begin{array}{c} \leftarrow -5 \quad -4 \quad -3 \quad -2 \quad -1 \quad 0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \rightarrow \\ \hline \end{array}$

Explain how the number line can help a player order the values from least change in the treasure account balance to the greatest change in the treasure account balance.

Math



Assignments

- Data 
- Students & Groups
- Discuss
- Settings
- Programs ▼

Assignments by Class

Assignments by Students

Q All Assignments ▼ When Class Duration ▼

Sort by Due Date (descending) ▼



Topic 1: Online Assessment

10/10 Turned In

80% Class Average Score Due Feb 21 ⋮



3-1: Reteach to Build Understanding

2/10 Turned In

18% Class Average Score Due Jan 4 ⋮



3-1: Quick Check

10/10 Turned In

74% Class Average Score Due Jan 4 ⋮



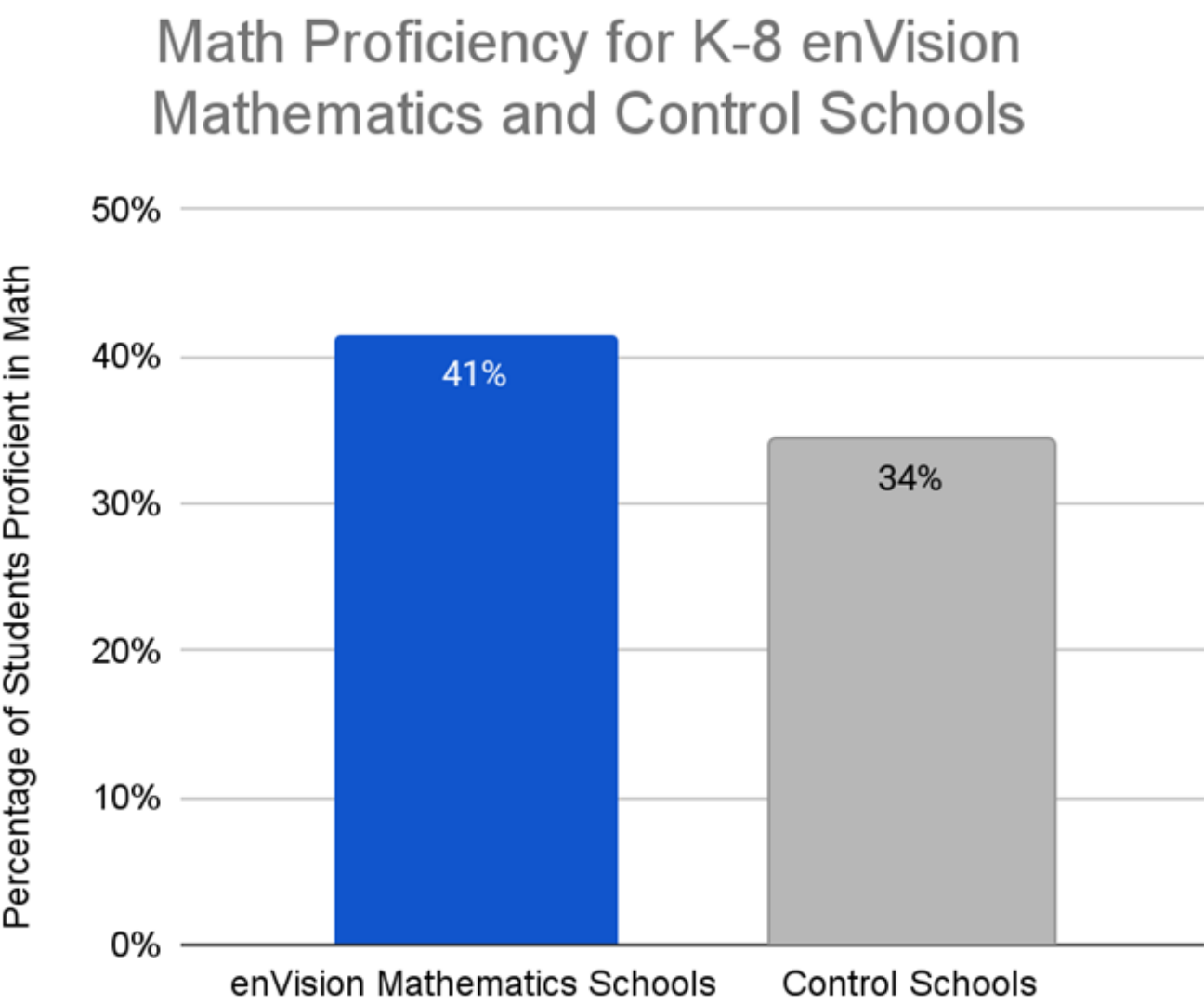
3-1: Practice Buddy: Independent Practice; Problem Solving

10/10 Turned In

80% Class Average Score Due Jan 4 ⋮

A Comprehensive Solution

7% More of enVision K-8 Users Proficient in Math (SBAC)



7.1%

**enVision
Mathematics
meets Evidence
for ESSA Level 2**

*2022/2023 school year SBAC results. 688 districts represented in the sample, 344 of which used enVision Mathematics.

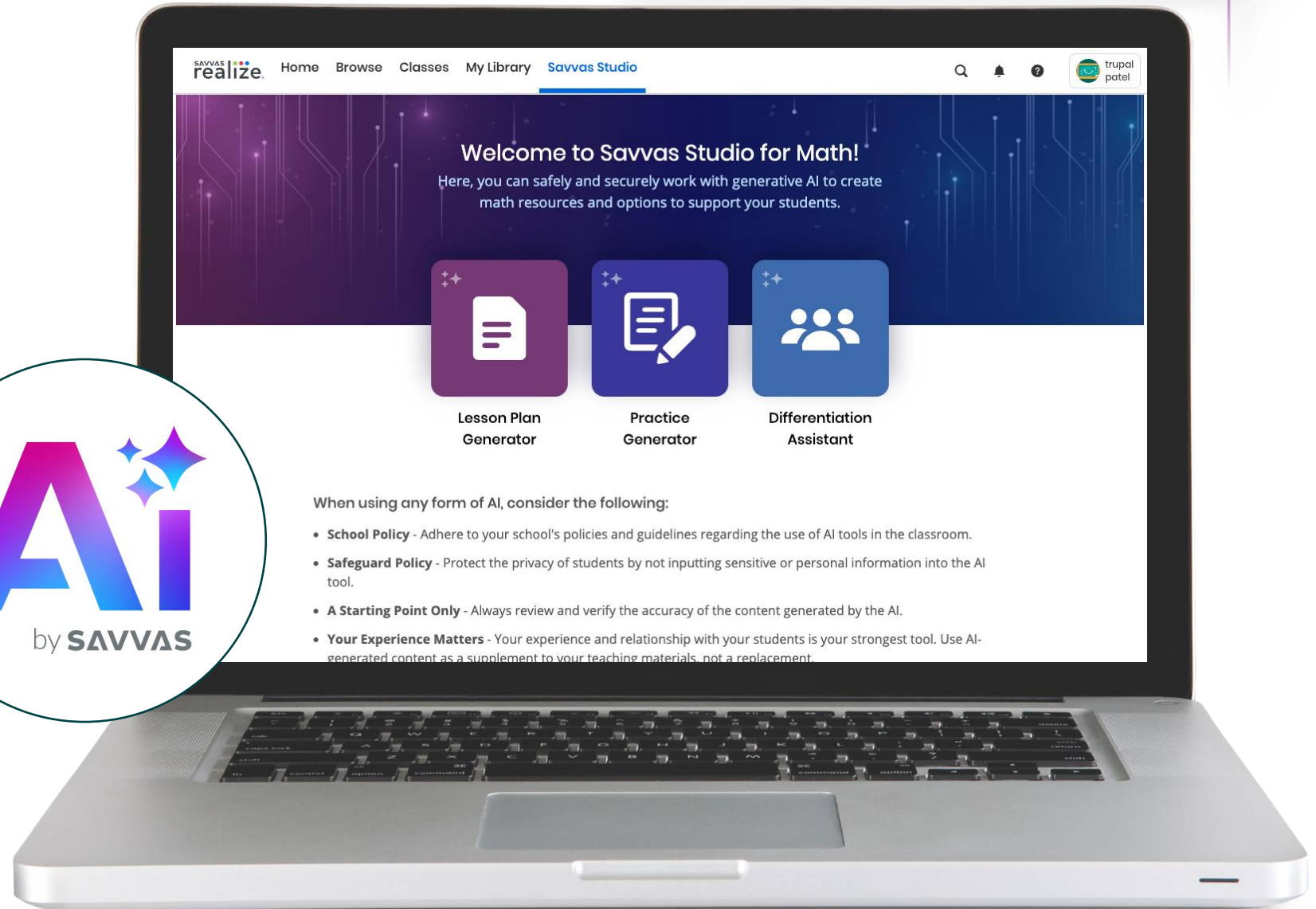
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- Practice Generator
- Differentiation Assistant



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Jayne Feuerbacher,
Savvas Representative



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Learning**

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APPROACH**



Launching Your Curriculum



Ongoing Support for Teachers



Ongoing Support for Leaders



Partnership Plus



Questions