TEXAS MATH SOLUTION

Geometry

Student Textbook

Skills Program Edition

SY 2022-2023

Sandy Bartle Finocchi and Amy Jones Lewis

with Josh Fisher, Janet Sinopoli, and Victoria Fisher

501 Grant St., Suite 1075
Pittsburgh, PA 15219
Phone 888.851.7094
Customer Service Phone 412.690.2444
Fax 412.690.2444

www.carnegielearning.com

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Our Manifesto

WE BELIEVE that quality math education is important for all students, to help them develop into creative problem solvers, critical thinkers, life-long learners, and more capable adults.

WE BELIEVE that math education is about more than memorizing equations or performing on tests—it's about delivering the deep conceptual learning that supports ongoing growth and future development.

WE BELIEVE all students learn math best when teachers believe in them, expect them to participate, and encourage them to own their learning.

WE BELIEVE teachers are fundamental to student success and need powerful, flexible resources and support to build dynamic cultures of collaborative learning.

WE BELIEVE our learning solutions and services can help accomplish this, and that by working together with educators and communities we serve, we guide the way to better math learning.

LONG + LIVE + MATH

ACKNOWLEDGMENTS

High School Math Solution Authors

- Sandy Bartle Finocchi, Chief Mathematics Officer
- Amy Jones Lewis, Senior Director of Instructional Design
- Josh Fisher, Instructional Designer
- Victoria Fisher, Instructional Designer
- Janet Sinopoli, Instructional Designer

Foundational Authors

- William S. Hadley, Co-Founder
- David Dengler
- Mary Lou Metz
- Jacyln Snyder

Vendors

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Texas Math Solution Content Authors

- Tarin Barrow, STEM Instructional Designer
- Sami Briceño, Senior Custom Solution Content Lead
- Brandy King, Custom Solution Content Specialist
- Christine Mooney, Custom Solution Content Specialist

Texas Math Solution Custom Development Team

- Eddie Altomare
- Katie Barsanti
- Desiree Brown
- Allison Carden
- Courtney Comley
- Jesse Hinojosa
- Karrie Holland
- Bethany Jameson
- Steven Mendoza
- Jennifer Penton
- Jason Ulrich
- Lucy Yu
- Rob Zimmerman

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Mathematics is so much more than memorizing rules. It is learning to reason, to make connections, and to make sense of the world. We believe in Learning by Doing™—you need to actively engage with the content if you are to benefit from it. The lessons were designed to take you from your intuitive understanding of the world and build on your prior experiences to then learn new concepts. My hope is that these instructional materials help you build a deep understanding of math.

Sandy Bartle Finocchi, Chief Mathematics Officer

You have been learning math for a very long time—both in school and in your interactions in the world. You know a lot of math! In this course, there's nothing brand new. It all builds on what you already know. So, as you approach each activity, use all of your knowledge to solve problems, to ask questions, to fix mistakes, and to think creatively.

Amy Jones Lewis, Senior Director of Instructional Design

At Carnegie Learning, we have created an organization whose mission and culture is defined by your success. Our passion is creating products that make sense of the world of mathematics and ignite a passion in you. Our hope is that you will enjoy our resources as much as we enjoyed creating them.

Barry Malkin, CEO

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Glossary

LESSON STRUCTURE

Each lesson has the same structure. Key features are noted.

2

The Quad Squad

Conjectures About Quadrilaterals

Warm Up

Classify each figure using as many names as possible.

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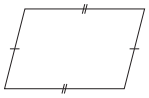
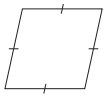
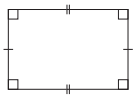
2. 
3. 
4. 

Learning Goals (1)

- Use diagonals to draw quadrilaterals.
- Make conjectures about the diagonals of special quadrilaterals.
- Make conjectures about the angle relationships of special quadrilaterals.
- Categorize quadrilaterals based upon their properties.
- Make conjectures about the midsegments of quadrilaterals.
- Understand that the vertices of cyclic quadrilaterals lie on the same circle.

Key Terms

- coincident
- interior angle of a polygon
- kite
- isosceles trapezoid
- midsegment
- cyclic quadrilateral

(2) You have classified quadrilaterals by their side measurements and side relationships. What conjectures can you make about different properties of quadrilaterals?

1. Learning Goals
Learning goals are stated for each lesson to help you take ownership of the learning objectives.

2. Connection
Each lesson begins with a statement connecting what you have learned with a question to ponder.

Return to this question at the end of this lesson to gauge your understanding.

3. Getting Started

Each lesson begins with Getting Started. When working on Getting Started, use what you know about the world, what you have learned previously, or your intuition. The goal is just to get you thinking and ready for what's to come.

3 GETTING STARTED

Cattywampus

A quadrilateral may be convex or concave. The quadrilaterals you are most familiar with—trapezoids, parallelograms, rectangles, rhombi, and squares—are convex. A convex polygon contains all of the line segments connecting any pair of points. It is concave if and only if at least one of its interior angles is greater than 180°.

Think about:

Why can a concave quadrilateral have only one angle greater than 180°?

Consider the two quadrilaterals shown. A quadrilateral has exactly two diagonals.

Convex **Concave**

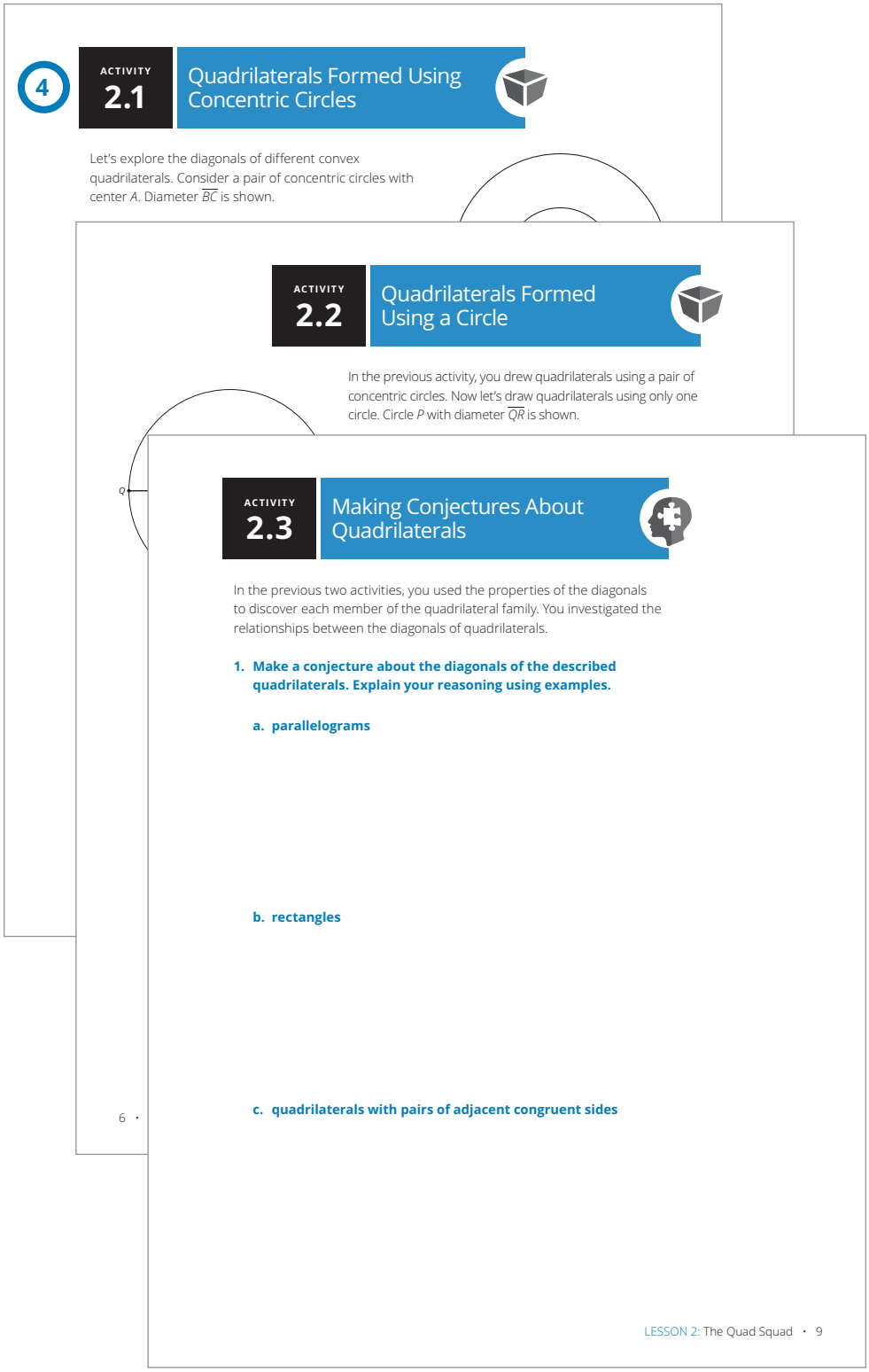
1. **Draw the diagonals in the two quadrilaterals shown. What do you notice?**

2. **Make a conjecture about the diagonals of a convex quadrilateral and about the diagonals of a concave quadrilateral.**

The diagonals of any convex quadrilateral create two pairs of vertical angles and four linear pairs of angles.

3. **Label the vertices of the convex quadrilateral as well as the point of intersection of the diagonals. Identify each pair of vertical angles and each linear pair of angles.**

2 • TOPIC 1: Composing and Decomposing Shapes



4

ACTIVITY 2.1

Quadrilaterals Formed Using Concentric Circles

Let's explore the diagonals of different convex quadrilaterals. Consider a pair of concentric circles with center *A*. Diameter $\overline{BC}$ is shown.

ACTIVITY 2.2

Quadrilaterals Formed Using a Circle

In the previous activity, you drew quadrilaterals using a pair of concentric circles. Now let's draw quadrilaterals using only one circle. Circle *P* with diameter $\overline{QR}$ is shown.

Q

ACTIVITY 2.3

Making Conjectures About Quadrilaterals

In the previous two activities, you used the properties of the diagonals to discover each member of the quadrilateral family. You investigated the relationships between the diagonals of quadrilaterals.

1. Make a conjecture about the diagonals of the described quadrilaterals. Explain your reasoning using examples.

a. parallelograms

b. rectangles

c. quadrilaterals with pairs of adjacent congruent sides

6 •

LESSON 2: The Quad Squad • 9

4. Activities

You are going to build a deep understanding of mathematics through a variety of activities in an environment where collaboration and conversations are important and expected.

You will learn how to solve new problems, but you will also learn why those strategies work and how they are connected to other strategies you already know.

Remember:

- It's not just about answer-getting. The process is important.
- Making mistakes are a critical part of learning, so take risks.
- There is often more than one way to solve a problem.

Activities may include real-world problems, sorting activities, worked examples, or analyzing sample student work.

Be prepared to share your solutions and methods with your classmates.

5. Talk the Talk

Talk the Talk gives you an opportunity to reflect on the main ideas of the lesson.

- Be honest with yourself.
- Ask questions to clarify anything you don't understand.
- Show what you know!

Don't forget to revisit the question posed on the lesson opening page to gauge your understanding.

NOTES

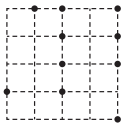
5 TALK the TALK

Zukei, Don't Bother Me

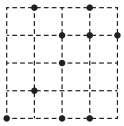
Remember, a Zukei puzzle is a Japanese logic puzzle in which a grid is presented with a number of points shown at different intersections. Each grid is presented along with the name of a geometric figure. The goal of the puzzle is to determine which points on the grid are the vertices of the named geometric figure.

1. For each Zukei puzzle, identify and connect the vertices that form each shape. There is only one correct answer.

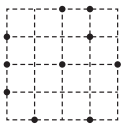
a. Square



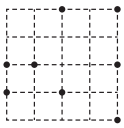
b. Rectangle



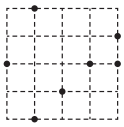
c. Rhombus



d. Parallelogram

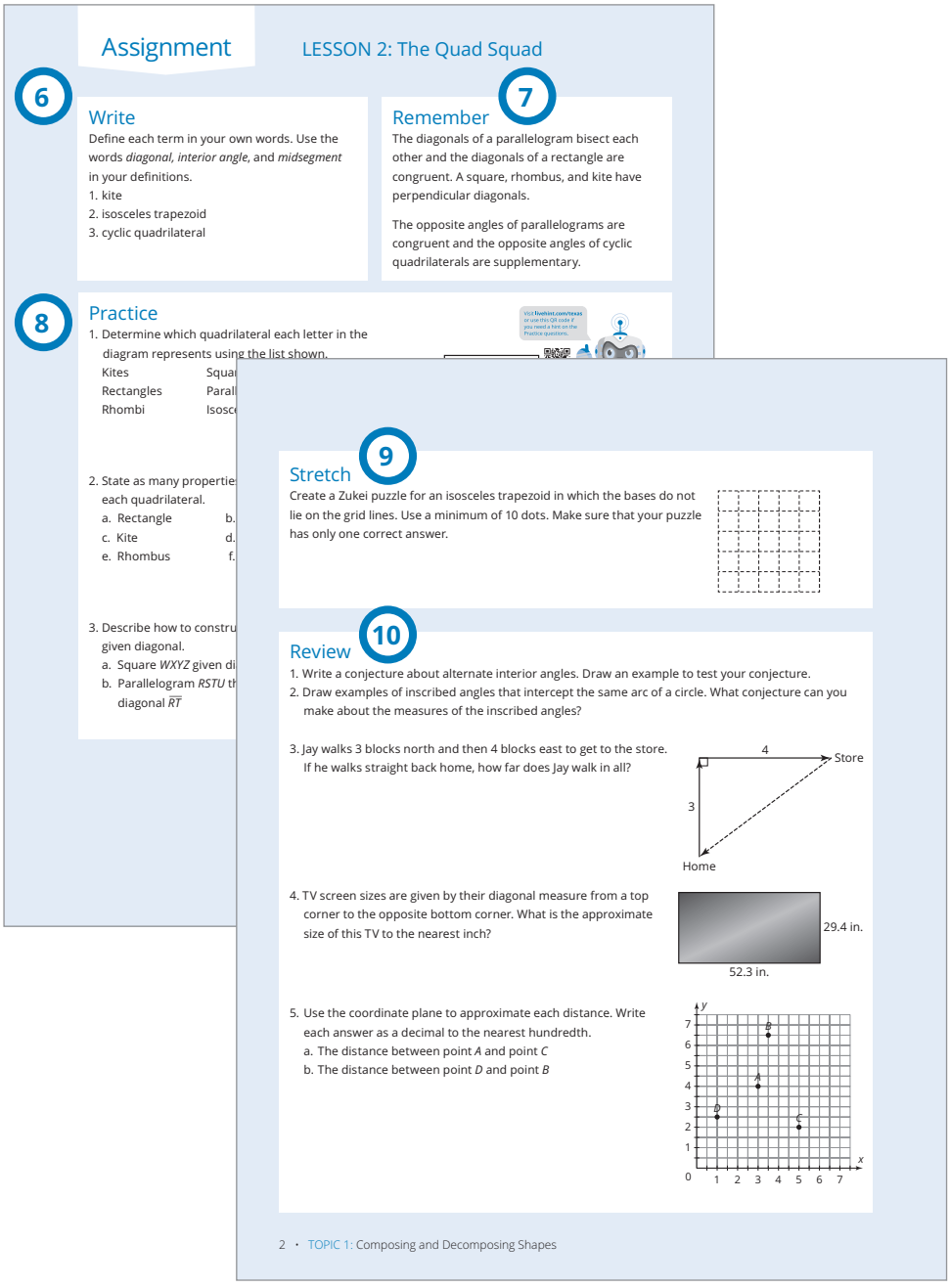


e. Trapezoid



16 • TOPIC 1: Composing and Decomposing Shapes

ASSIGNMENT



Assignment

LESSON 2: The Quad Squad

6

Write

Define each term in your own words. Use the words *diagonal, interior angle,* and *midsegment* in your definitions.

1. kite
2. isosceles trapezoid
3. cyclic quadrilateral

7

Remember

The diagonals of a parallelogram bisect each other and the diagonals of a rectangle are congruent. A square, rhombus, and kite have perpendicular diagonals.

The opposite angles of parallelograms are congruent and the opposite angles of cyclic quadrilaterals are supplementary.

8

Practice

1. Determine which quadrilateral each letter in the diagram represents using the list shown.
   Kites Squa
   Rectangles Parall
   Rhombi Isosc
2. State as many properties
   each quadrilateral.
   a. Rectangle b.
   c. Kite d.
   e. Rhombus f.
3. Describe how to constru
   given diagonal.
   a. Square *WXYZ* given di
   b. Parallelogram *RSTU* th
   diagonal $\overline{RT}$

9

Stretch

Create a Zukei puzzle for an isosceles trapezoid in which the bases do not lie on the grid lines. Use a minimum of 10 dots. Make sure that your puzzle has only one correct answer.

10

Review

1. Write a conjecture about alternate interior angles. Draw an example to test your conjecture.
2. Draw examples of inscribed angles that intercept the same arc of a circle. What conjecture can you make about the measures of the inscribed angles?
3. Jay walks 3 blocks north and then 4 blocks east to get to the store. If he walks straight back home, how far does Jay walk in all?

4. TV screen sizes are given by their diagonal measure from a top corner to the opposite bottom corner. What is the approximate size of this TV to the nearest inch?

5. Use the coordinate plane to approximate each distance. Write each answer as a decimal to the nearest hundredth.
   a. The distance between point *A* and point *C*
   b. The distance between point *D* and point *B*

2 • TOPIC 1: Composing and Decomposing Shapes

6. Write
Reflect on your work and clarify your thinking.

7. Remember
Take note of the key concepts from the lesson.

8. Practice
Use the concepts learned in the lesson to solve problems.

9. Stretch
Ready for a challenge?

10. Review
Remember what you've learned by practicing concepts from previous lessons and topics.

PROBLEM TYPES YOU WILL SEE

Worked Example

When you see a Worked Example:

- Take your time to read through it.
- Question your own understanding.
- Think about the connections between steps.

Ask Yourself:

- What is the main idea?
- How would this work if I changed the numbers?
- Have I used these strategies before?

Worked Example

Consider ΔABC and ΔADE shown. They are both 45°-45°-90° triangles.

$$\frac{\text{leg length of } \Delta ADE}{\text{hypotenuse length of } \Delta ABC}$$

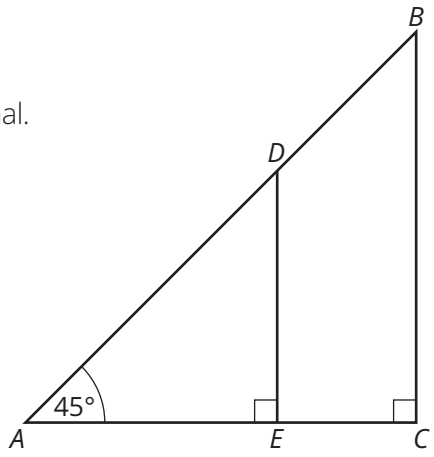
Triangle ABC is similar to ΔADE by the AA Similarity Theorem.
Therefore, the lengths of the corresponding sides are proportional.

$$\frac{AE}{AC} = \frac{AD}{AB}$$

You can rewrite the proportion.

$$\frac{\text{side length adjacent to } \angle A}{\text{length of hypotenuse}}$$

$$\frac{AE}{AD} = \frac{AC}{AB}$$



So, given the same reference angle measure, the ratio $\frac{\text{side length adjacent to reference angle}}{\text{length of hypotenuse}}$ is constant in similar right triangles.

Who's Correct?

When you see a Who's Correct icon:

- Take your time to read through the situation.
- Question the strategy or reason given.
- Determine if correct or not correct.

Ask Yourself:

- Does the reasoning make sense?
- If the reasoning makes sense, what is the justification?
- If the reasoning does not make sense, what error was made?

5. Jun says that the sine and cosecant value of every acute angle is less than 1. Todd says that the sine value of every acute angle is less than 1, but the cosecant value is greater than 1. Who is correct? Explain your reasoning.

Thumbs Up

When you see a Thumbs Up icon:

- Take your time to read through the correct solution.
- Think about the connections between steps.

Ask Yourself:

- Why is this method correct?
- Have I used this method before?

Gabriel

The side length ratios of the opposite side to the hypotenuse or the adjacent side to the hypotenuse is a percent. If the ratio is approximately 0.70, that means the length of the side is about 70% the length of the hypotenuse.

Thumbs Down

When you see a Thumbs Down icon:

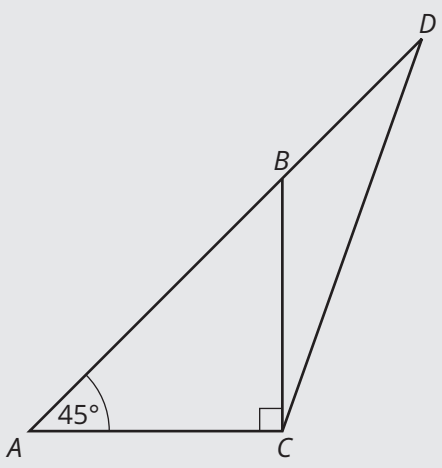
- Take your time to read through the incorrect solution.
- Think about what error was made.

Ask Yourself:

- Where is the error?
- Why is it an error?
- How can I correct it?

Alicia

The ratio $\frac{BC}{AB}$ is equal to the ratio $\frac{DC}{AD}$, because the ratio $\frac{\text{side opposite } \angle A}{\text{hypotenuse}}$ is the same for both $\triangle ABC$ and $\triangle ADC$, given the reference angle A, which is 45°.



MATHEMATICAL PROCESS STANDARDS

Texas Mathematical Process Standards

Effective communication and collaboration are essential skills of a successful learner. With practice, you can develop the habits of mind of a productive mathematical thinker. The "I can" expectations listed below align with the TEKS Mathematical Process Standards and encourage students to develop their mathematical learning and understanding.

▶ Apply mathematics to problems arising in everyday life, society, and the workplace.

I can:

- use the mathematics that I learn to solve real world problems.
- interpret mathematical results in the contexts of a variety of problem situations.

▶ Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying a solution, and evaluating the problem-solving process and reasonableness of the solution.

I can:

- explain what a problem "means" in my own words.
- create a plan and change it if necessary.
- ask useful questions in an attempt to understand the problem.
- explain my reasoning and defend my solution.
- reflect on whether my results make sense.

▶ Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate; and techniques including mental math, estimation, and number sense as appropriate, to solve problems.

I can:

- use a variety of different tools that I have to solve problems.
- recognize when a tool that I have to solve problems might be helpful and when it has limitations.
- look for efficient methods to solve problems.
- estimate before I begin calculations to inform my reasoning.

▶ Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.

I can:

- communicate and defend my own mathematical understanding using examples, models, or diagrams.
- use appropriate mathematical vocabulary in communicating mathematical ideas.
- make generalizations based on results.
- apply mathematical ideas to solve problems.
- interpret my results in terms of various problem situations.

▶ Create and use representations to organize, record, and communicate mathematical ideas.

I can:

- consider the units of measure involved in a problem.
- label diagrams and figures appropriately to clarify the meaning of different representations.
- create an understandable representation of a problem situation.

▶ Analyze mathematical relationships to connect and communicate mathematical ideas.

I can:

- identify important relationships in a problem situation.
- use what I know to solve new problems.
- analyze and organize information.
- look closely to identify patterns or structure.
- look for general methods and more efficient ways to solve problems.

▶ Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

I can:

- work carefully and check my work.
- distinguish correct reasoning from reasoning that is flawed.
- use appropriate mathematical vocabulary when I talk with my classmates, my teacher, and others.
- specify the appropriate units of measure when I explain my reasoning.
- calculate accurately and communicate precisely to others.

ACADEMIC GLOSSARY

There are important terms you will encounter throughout this book. It is important that you have an understanding of these words as you get started on your journey through the mathematical concepts. Knowing what is meant by these terms and using these terms will help you think, reason, and communicate your ideas.

Visit the Students & Caregivers Portal on the Texas Support Center at **www.CarnegieLearning.com/texas-help** to access the Mathematics Glossary for this course anytime, anywhere.

ANALYZE

Definition

To study or look closely for patterns. Analyzing can involve examining or breaking a concept down into smaller parts to gain a better understanding of it.

Ask Yourself

- Do I see any patterns?
- Have I seen something like this before?
- What happens if the shape, representation, or numbers change?

Related Phrases

- Examine
- Evaluate
- Determine
- Observe
- Consider
- Investigate
- What do you notice?
- What do you think?
- Sort and match

EXPLAIN YOUR REASONING

Definition

To give details or describe how to determine an answer or solution. Explaining your reasoning helps justify conclusions.

Ask Yourself

- How should I organize my thoughts?
- Is my explanation logical?
- Does my reasoning make sense?
- How can I justify my answer to others?

Related Phrases

- Show your work
- Explain your calculation
- Justify
- Why or why not?

Related Phrases

- Show
- Sketch
- Draw
- Construct
- Create
- Plot
- Graph
- Write an equation
- Complete the table

REPRESENT

Definition

To display information in various ways. Representing mathematics can be done using words, tables, graphs, or symbols.

Ask Yourself

- How should I organize my thoughts?
- How do I use this model to show a concept or idea?
- What does this representation tell me?
- Is my representation accurate?

Related Phrases

- Predict
- Approximate
- Expect
- About how much?

ESTIMATE

Definition

To make an educated guess based on the analysis of given data. Estimating first helps inform reasoning.

Ask Yourself

- Does my reasoning make sense?
- Is my solution close to my estimation?

Related Phrases

- Demonstrate
- Label
- Display
- Compare
- Determine
- Define
- What are the advantages?
- What are the disadvantages?
- What is similar?
- What is different?

DESCRIBE

Definition

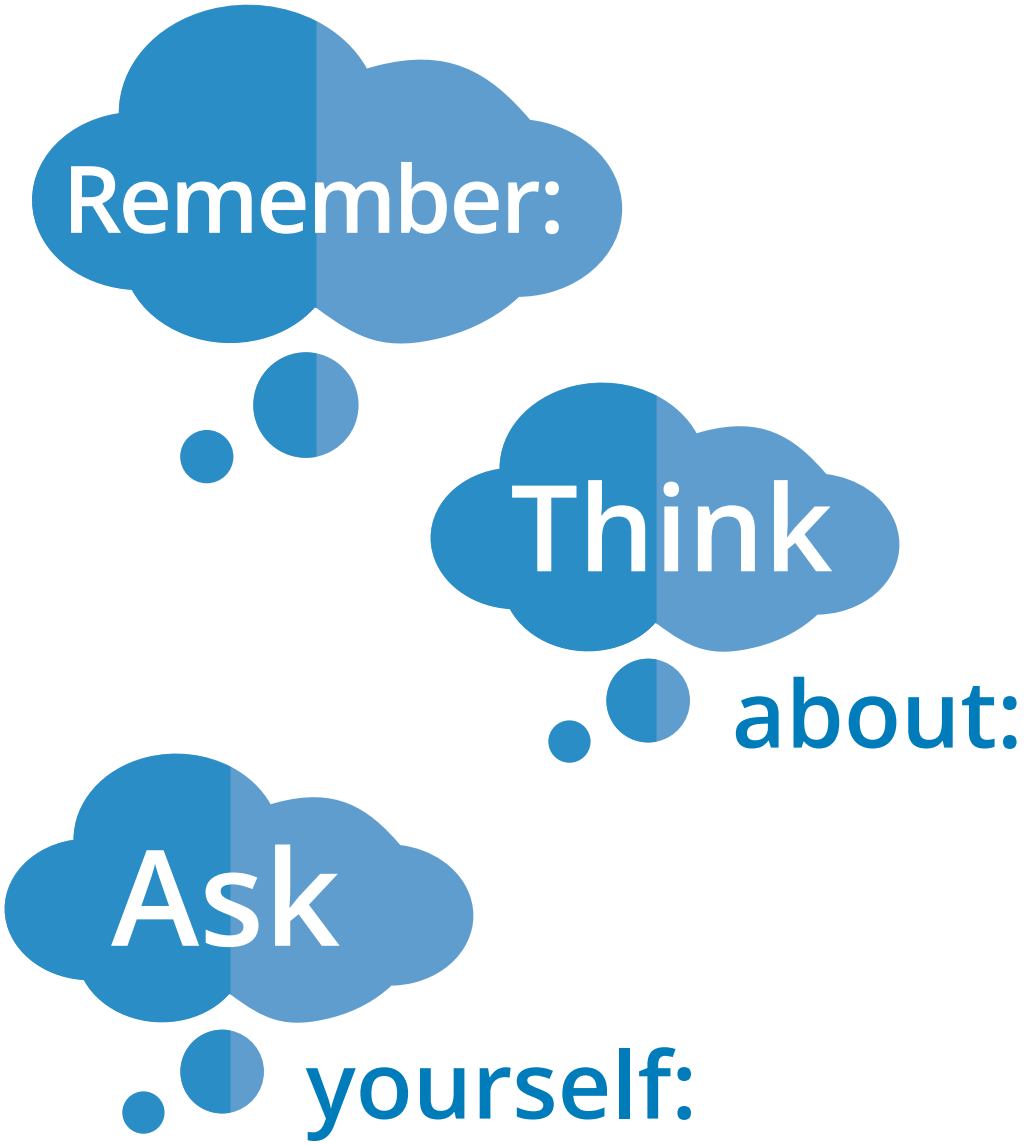
To represent or give an account of in words. Describing communicates mathematical ideas to others.

Ask Yourself

- How should I organize my thoughts?
- Is my explanation logical?
- Did I consider the context of the situation?
- Does my reasoning make sense?

Thought Bubbles

Look for these icons as you journey through the textbook. Sometimes they will remind you about things you already learned. Sometimes they will ask you questions to help you think about different strategies. Sometimes they will share fun facts. They are here to help and guide your learning.

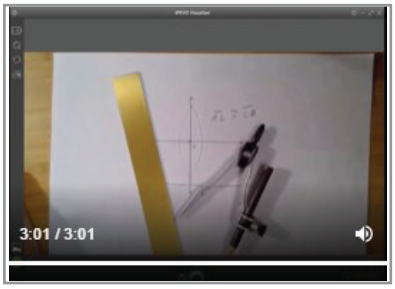


Side notes are included to provide helpful insights as you work.

Resources for Students and Caregivers

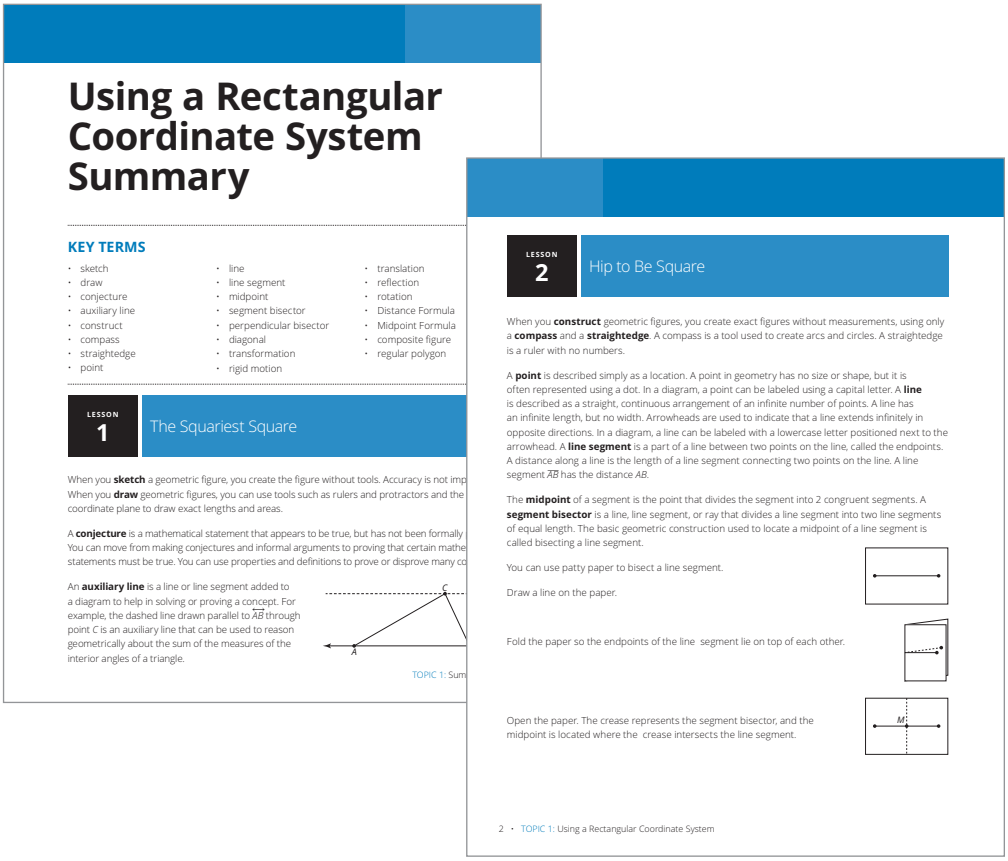
Student Lesson Overview Videos

Each lesson has a corresponding lesson overview video(s) for you to use and reference as you are learning. The videos provide an overview of key concepts, strategies, and/or worked examples from the lessons.



Topic Summary

A Topic Summary is provided at the end of each topic. The Topic Summary lists all key terms of the topic and provides a summary of each lesson. Each lesson summary defines key terms and reviews key concepts, strategies, and/or worked examples.



Using a Rectangular Coordinate System Summary

KEY TERMS

- sketch
- draw
- conjecture
- auxiliary line
- construct
- compass
- straightedge
- point
- line
- line segment
- midpoint
- segment bisector
- perpendicular bisector
- diagonal
- transformation
- rigid motion
- translation
- reflection
- rotation
- Distance Formula
- Midpoint Formula
- composite figure
- regular polygon

LESSON 1 — The Squariest Square

When you **sketch** a geometric figure, you create the figure without tools. Accuracy is not imp
When you **draw** geometric figures, you can use tools such as rulers and protractors and the
coordinate plane to draw exact lengths and areas.

A **conjecture** is a mathematical statement that appears to be true, but has not been formally
You can move from making conjectures and informal arguments to proving that certain mathe
statements must be true. You can use properties and definitions to prove or disprove many co

An **auxiliary line** is a line or line segment added to a diagram to help in solving or proving a concept. For example, the dashed line drawn parallel to $\overline{AB}$ through point C is an auxiliary line that can be used to reason geometrically about the sum of the measures of the interior angles of a triangle.

TOPIC 1: Sum

LESSON 2 — Hip to Be Square

When you **construct** geometric figures, you create exact figures without measurements, using only a **compass** and a **straightedge**. A compass is a tool used to create arcs and circles. A straightedge is a ruler with no numbers.

A **point** is described simply as a location. A point in geometry has no size or shape, but it is often represented using a dot. In a diagram, a point can be labeled using a capital letter. A **line** is described as a straight, continuous arrangement of an infinite number of points. A line has an infinite length, but no width. Arrowheads are used to indicate that a line extends infinitely in opposite directions. In a diagram, a line can be labeled with a lowercase letter positioned next to the arrowhead. A **line segment** is a part of a line between two points on the line, called the endpoints. A distance along a line is the length of a line segment connecting two points on the line. A line segment $\overline{AB}$ has the distance AB.

The **midpoint** of a segment is the point that divides the segment into 2 congruent segments. A **segment bisector** is a line, line segment, or ray that divides a line segment into two line segments of equal length. The basic geometric construction used to locate a midpoint of a line segment is called bisecting a line segment.

You can use patty paper to bisect a line segment.

Draw a line on the paper.

Fold the paper so the endpoints of the line segment lie on top of each other.

Open the paper. The crease represents the segment bisector, and the midpoint is located where the crease intersects the line segment.

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Mathematics Glossary

A course-specific mathematics glossary is available to utilize and reference while you are learning. Use the glossary to locate definitions and examples of math key terms.

Glossary

A

Addition Property of Equality

The addition property of equality states: "If $a = b$, then $a + c = b + c$."

Example

If $x = 2$, then $x + 5 = 2 + 5$, or $x + 5 = 7$ is an example of the Addition Property of Equality.

Addition Rule for Probability

The Addition Rule for Probability states: "The probability that Event *A* occurs or Event *B* occurs is the probability that Event *A* occurs plus the probability that Event *B* occurs minus the probability that both *A* and *B* occur."

$$P(A \text{ or } B) = P(A) + P(B) = P(A \text{ and } B)$$

Example

You flip a coin two times. Calculate the probability of flipping a heads on the first flip or flipping a heads on the second flip.

Let *A* represent the event of flipping a heads on the first flip. Let *B* represent the event of flipping a heads on the second flip.

$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$

$P(A \text{ or } B) = \frac{1}{2} + \frac{1}{2} - \frac{1}{4}$

$P(A \text{ or } B) = \frac{3}{4}$

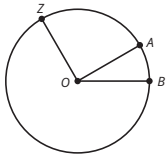
So, the probability of flipping a heads on the first flip or flipping a heads on the second flip is $\frac{3}{4}$.

adjacent arcs

Adjacent arcs are two arcs of the same circle sharing a common endpoint.

Example

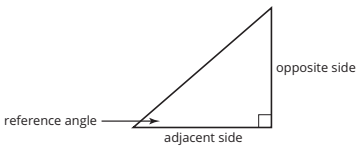
Arcs *ZA* and *AB* are adjacent arcs.



adjacent side

The adjacent side of a triangle is the side adjacent to the reference angle that is not the hypotenuse.

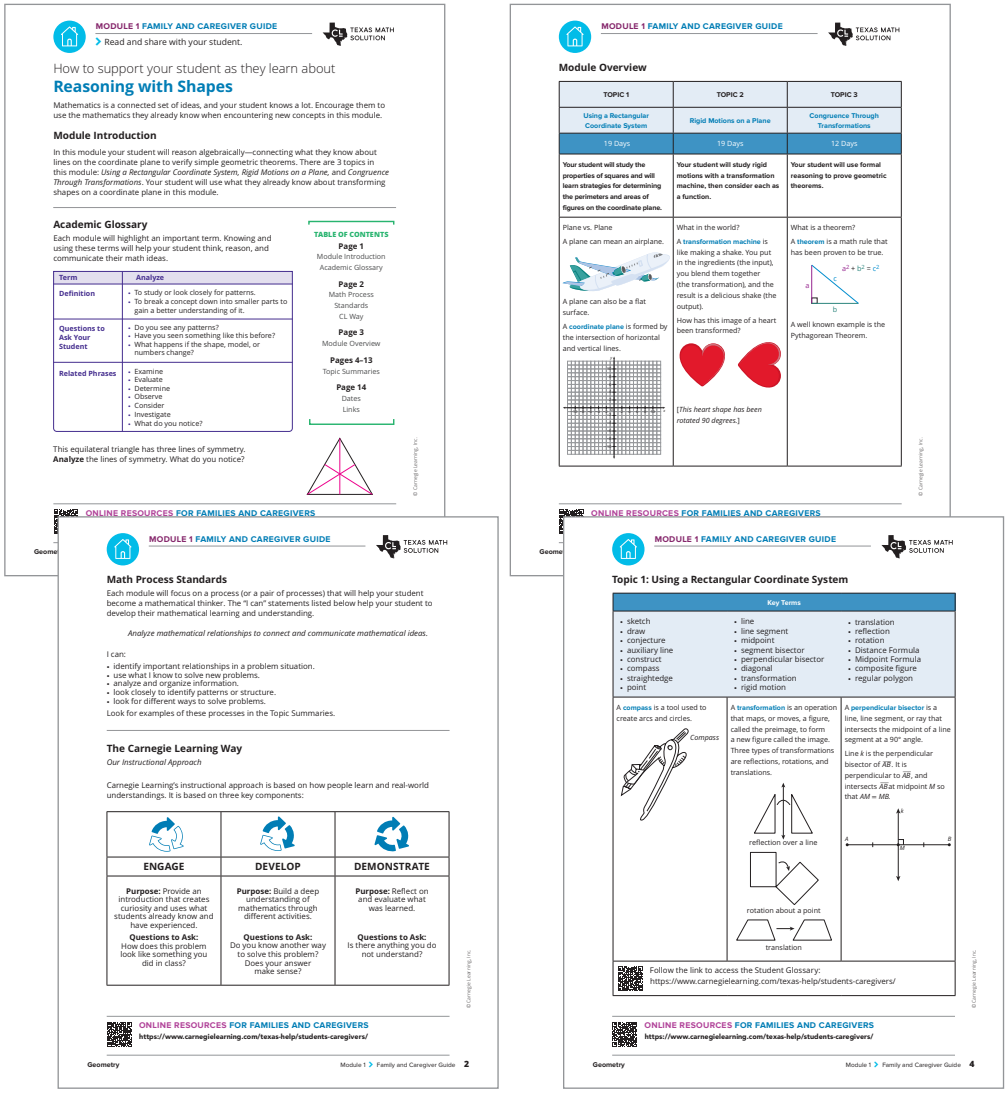
Example



Module Family and Caregiver Guides

Each module guide will provide a different highlight of the academic glossary, description and examples of TEKS Mathematical Process Standards, and an overview of a different component of our instructional approach known as The Carnegie Learning Way. Also included is a module overview of content, specific key terms, visual representations, and strategies you are learning in each topic of the module.

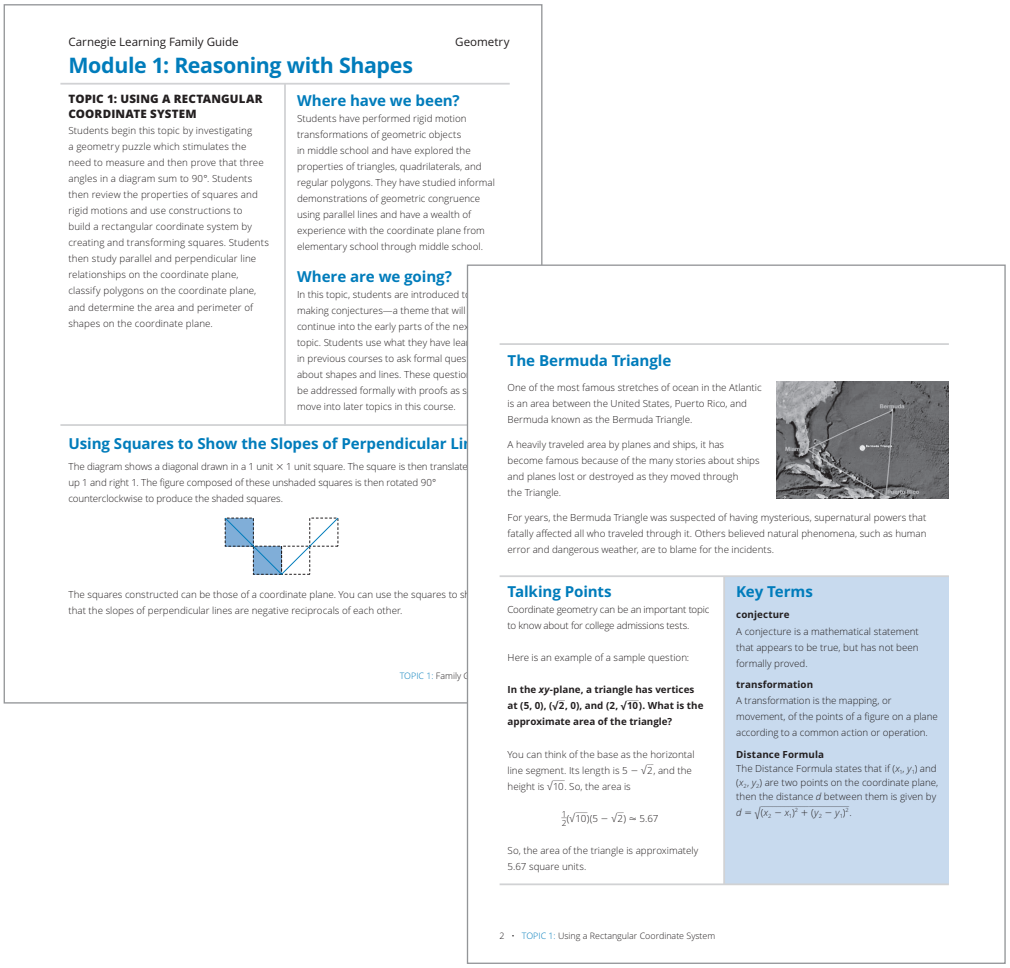
The purpose of the Family and Caregiver Guides is to bridge student learning in the classroom to student learning at home. Our goal is to empower you and your family to understand the concepts and skills learned in the classroom so that you can review, discuss, and solidify the understanding of these key concepts together. Videos will also be available on the Students & Caregivers Portal on the Texas Support Center to provide added support.



Topic Family Guides

Each topic contains a Family Guide that provides an overview of the math of the topic and answers the questions, “Where have we been?” and “Where are we going?” Additional components of the Family Guide are, as follows: new notation or strategy taught in the topic, definitions of a few key terms, connection of math to the real world, related standardized test question sample, or talking points for caregivers to support your learning.

We recognize that learning outside of the classroom is crucial to student success at school. While we don’t expect families and caregivers to be math teachers, the Family Guides are designed to assist families and caregivers as they talk to you about what you are learning. Our hope is that both you and your family will read and benefit from these guides.



Carnegie Learning Family Guide Geometry

Module 1: Reasoning with Shapes

TOPIC 1: USING A RECTANGULAR COORDINATE SYSTEM

Students begin this topic by investigating a geometry puzzle which stimulates the need to measure and then prove that three angles in a diagram sum to 90°. Students then review the properties of squares and rigid motions and use constructions to build a rectangular coordinate system by creating and transforming squares. Students then study parallel and perpendicular line relationships on the coordinate plane, classify polygons on the coordinate plane, and determine the area and perimeter of shapes on the coordinate plane.

Where have we been?

Students have performed rigid motion transformations of geometric objects in middle school and have explored the properties of triangles, quadrilaterals, and regular polygons. They have studied informal demonstrations of geometric congruence using parallel lines and have a wealth of experience with the coordinate plane from elementary school through middle school.

Where are we going?

In this topic, students are introduced t making conjectures—a theme that will continue into the early parts of the nex topic. Students use what they have lea in previous courses to ask formal ques about shapes and lines. These questio be addressed formally with proofs as s move into later topics in this course.

Using Squares to Show the Slopes of Perpendicular Li

The diagram shows a diagonal drawn in a 1 unit × 1 unit square. The square is then translate up 1 and right 1. The figure composed of these unshaded squares is then rotated 90° counterclockwise to produce the shaded squares.

The squares constructed can be those of a coordinate plane. You can use the squares to s that the slopes of perpendicular lines are negative reciprocals of each other.

TOPIC 1: Family G

The Bermuda Triangle

One of the most famous stretches of ocean in the Atlantic is an area between the United States, Puerto Rico, and Bermuda known as the Bermuda Triangle.

A heavily traveled area by planes and ships, it has become famous because of the many stories about ships and planes lost or destroyed as they moved through the Triangle.

For years, the Bermuda Triangle was suspected of having mysterious, supernatural powers that fatally affected all who traveled through it. Others believed natural phenomena, such as human error and dangerous weather, are to blame for the incidents.

Talking Points

Coordinate geometry can be an important topic to know about for college admissions tests.

Here is an example of a sample question:

In the *xy*-plane, a triangle has vertices at (5, 0), (√2, 0), and (2, √10). What is the approximate area of the triangle?

You can think of the base as the horizontal line segment. Its length is $5 - \sqrt{2}$, and the height is $\sqrt{10}$. So, the area is

$$\frac{1}{2}(\sqrt{10})(5 - \sqrt{2}) \approx 5.67$$

So, the area of the triangle is approximately 5.67 square units.

Key Terms

conjecture
A conjecture is a mathematical statement that appears to be true, but has not been formally proved.

transformation
A transformation is the mapping, or movement, of the points of a figure on a plane according to a common action or operation.

Distance Formula
The Distance Formula states that if (x_1, y_1) and (x_2, y_2) are two points on the coordinate plane, then the distance d between them is given by $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$.

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Students and Caregivers Portal

Research has proven time and again that family engagement greatly improves a student's likelihood of success in school.

The Students & Caregivers Portal on the Texas Support Center provides:

- Getting to Know Carnegie Learning video content to provide an introduction to the instructional materials and research.
- Articles and quick tip videos offering strategies for how families and caregivers can support student learning.
- Access to instructional resources to support students and caregivers.

  To access new content and resources, visit the Students and Caregivers Portal on the Texas Support Center at https://www.CarnegieLearning.com/texas-help/students-caregivers/