

Navigating This Program



Once you have logged into the digital program, you can launch a guided tour with helpful navigation tips.

Unit & Sub-Unit Resources

Each unit includes a range of resources designed to support teachers in thinking through the progression of mathematics that students will engage with over the course of the unit. These resources can support teachers in their unit planning, as well as choices they make in response to students' thinking, strengths, and needs that arise over the course of the unit.

Unit at a Glance

Assess and Respond

Sub-Unit 1

Pre-Unit Check (Optional)
Learn more about your students' understanding of foundational concepts and skills that will support them in the upcoming unit. This can be given in its entirety before the unit or spread throughout the unit.

Explore: Scale-y Shapes (Optional)
Which shapes can be used to build larger copies of themselves? Notice the attributes of scaled copies of shapes and copies of shapes that are not scaled.

Scaling Machines
What Are Scaled Copies?
Describe characteristics of scaled copies and create scaled copies using equivalent ratios.

Scaling Robots
Lengths and Scaled Copies
Scale figures by applying a scale factor to each length in the figure.

Make It Scale
Drawing Scaled Copies
Draw accurate scaled copies on a grid by applying knowledge of scale factor.

Scale Factor Challenges
Effects of Scale Factors
Determine which scale factors create a copy that is larger, smaller, or the same size as the original.

Tiles
Scaling and Area
Explore how different scale factors affect the area of scaled copies.

Practice Day 1
Practice the concepts and skills developed during Lessons 1–5. Consider using this time to prepare for the upcoming quiz.

Sub-Unit 2

Sub-Unit Quiz
Learn about your students' understanding of the concepts and skills so far in this unit.

Introducing Scale
Comparing Scale Factor and Scale
Explore how scale is used to represent distances in the real world.

Will It Fit?
Scale Drawings
Determine actual and scaled distances from a scale drawing.

Scaling States, Part 1
Creating Scale Drawings
Create scale drawings given the actual dimensions of an object and the scale.

Scaling States, Part 2
Same Object, Different Scales
Calculate distances on a scale drawing, given a drawing of the same object with a different scale.

Team Spirit (Optional)
Scale and Scale Factor
Create logos by choosing appropriate scales for scale drawings of specific sizes.

Practice Day 2
Practice the concepts and skills developed during Lessons 1–11. Consider using this time to prepare for the upcoming assessment.

End-of-Unit Assessment
Learn about your students' understanding of the concepts and skills in this unit. There are two forms of the End-of-Unit Assessment: Forms A and B.

Investigate: Interior Design Room
(Intervention, Extension, and Investigation Resources)
(optional) Use Task 1 anytime after Unit 1, Lesson 10
Students create a 2-D blueprint of their dream bedroom and then consider the room in 3-D to design the walls and ceilings, and determine the amount of paint needed.

Pacing Considerations
Lesson 4: This lesson supports students in developing a conceptual understanding of scaling and scale factor, which will be addressed in more depth in upcoming lessons. If students show a strong understanding of scale drawings in earlier lessons and in Problem 1 of the Pre-Unit Check, this lesson may be omitted. If omitted, be sure to discuss how the scale factor that takes one figure to another figure relates to the scale factor that takes the second figure back to the first.
Lessons 8–9: These lessons support students in creating scale drawings using different scale factors. They could be condensed into one class period by completing Activity 1 from each lesson.
Lesson 11 (Optional): This lesson gives students an opportunity to use their creativity and personal experiences to apply the concepts they learned in this unit to choose an appropriate scale for a logo. This lesson can be omitted because there is no new content introduced in this lesson.

We recommend students use devices for most lessons, as indicated with **DE**.
Print Student Editions are available for every lesson including options for teachers to present screens.

Pacing: 14 days (+3 optional days) | Short on time? See pacing considerations below.

All instructional and assessment days are ~45 minutes each.

- 10 Lessons (+2 optional lessons)
- 2 Practice Days
- Pre-Unit Check (optional)
- Sub-Unit Quiz
- End-of-Unit Assessment
- Performance Task (optional)

Getting to Know Each Other and Unit Synthesis activities are available digitally.

Grade 7 Unit 1

1B

Unit at a Glance

Grade 7 Unit 1

1C

Unit at a Glance

Every unit has a **Unit at a Glance** page that shows teachers everything they need to know to get started planning out their upcoming unit.

While all lessons can be taught using the Student Edition as the teacher projects Presentation Screens, we recommend students use **devices** to interact with most lessons.

Each grade is accompanied by two course-level **investigations**. These investigations can be used after the content standards have been addressed in corresponding units.

Teachers are provided with thoughtful **pacing considerations** for how they can adjust the pacing of the unit as needed without compromising unit learning goals.

Unit Overview pages

Teachers will find a comprehensive set of resources for each unit, including an overview of the math of the unit, a visual summary of the Unit at a Glance, a preview of each of the unit assessments, and guidance about differentiation, supporting math identity and community, accessibility, language development, materials, technology, and connections to future learning. Each Unit Overview also includes a professional development activity and a formative Pre-Unit Check that teachers can use to learn more about students' understanding of foundational concepts and skills that will support them in the upcoming unit.

The **Sub-Unit Overview** clearly shows the goals and student-facing essential questions for the sub-unit. The progression of the development of the Big Ideas and their connections are provided for each sub-unit

The mathematical concepts of the unit are presented in student-friendly language on the **Watch Your Knowledge Grow** page, allowing students to monitor their own progress.

Sub-Unit 1

Rigid Transformations

Sub-Unit 1 Goals

- **Goal:** Perform translations, reflections, and rotations on and off a grid.
- **Language Goal:** Describe translations, reflections, and rotations.

Progression of Big Ideas in Sub-Unit 1

- **Lessons 1–4:** Students work toward the Big Idea **Transformational Geometry**. They visualize, describe, and perform translations, reflections, and rotations on and off a grid and on a coordinate plane.
- **Lessons 5–6:** Students connect **Transformational Geometry** with **Generalized Numbers Leading to Algebra** as they analyze patterns in coordinates after a translation, reflection, and rotation.

Sub-Unit 1 Progression	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6
Transformational Geometry	●	●	●	●	●	●
Generalized Numbers Leading to Algebra	○	○	○	○	●	●

Coming Up Next

- Sub-Unit 2, Lessons 7–9: **Transformational Geometry**
- Sub-Unit 3, Lessons 10–13: **Transformational Geometry**

Sub-Unit 1

Big Idea Development

Transformational Geometry

Generalized Numbers Leading to Algebra

As students progress through Sub-Unit 1, look for these skills as they perform **translations, rotations, and reflections**.

Progression of Strategies, Skills, or Language

Progression	For example...								
Identifying and describing translations, rotations, and reflections.	Describe a sequence of transformations to complete this challenge. Responses vary: • Rotate 180° around the center of the grid. • Reflect over a horizontal line that passes through the center of the grid. Then reflect over a vertical line that passes through the center of the grid.								
Translating, rotating, or reflecting a figure on a grid.	Reflect triangle DEF over line l.								
Determining the coordinates of a transformed polygon after a translation, reflection, or rotation.	Determine the coordinates for the image of figure ABC after a rotation 90° counterclockwise around center $(0, 0)$. <table border="1"> <thead> <tr> <th>Pre-Image Coordinates</th> <th>Image Coordinates</th> </tr> </thead> <tbody> <tr> <td>$(7, 2)$</td> <td>$(-2, -7)$</td> </tr> <tr> <td>$(4, -5)$</td> <td>$(5, 4)$</td> </tr> <tr> <td>$(3, 0)$</td> <td>$(0, 3)$</td> </tr> </tbody> </table>	Pre-Image Coordinates	Image Coordinates	$(7, 2)$	$(-2, -7)$	$(4, -5)$	$(5, 4)$	$(3, 0)$	$(0, 3)$
Pre-Image Coordinates	Image Coordinates								
$(7, 2)$	$(-2, -7)$								
$(4, -5)$	$(5, 4)$								
$(3, 0)$	$(0, 3)$								

Unit 1 | Rigid Transformations and Congruence

Watch Your Knowledge Grow (Optional)

Purpose: Students rate their understanding of the concepts that they will explore in this unit, prior to beginning the unit. Return to this page at the end of the unit and invite them to rate their understanding again to see how their knowledge has grown.

Watch Your Knowledge Grow

This is the math part you explore in this unit. Rate your understanding of how your knowledge grows.

Before	Before	After
Identify and describe translations, rotations, and reflections.	○	○
Translate, rotate, or reflect a figure on a grid.	○	○
Determine the coordinates of a transformed polygon after a translation, reflection, or rotation.	○	○
Describe a sequence of transformations to complete a challenge.	○	○
Identify and describe translations, rotations, and reflections.	○	○
Translate, rotate, or reflect a figure on a grid.	○	○
Determine the coordinates of a transformed polygon after a translation, reflection, or rotation.	○	○
Describe a sequence of transformations to complete a challenge.	○	○

Watch Your Knowledge Grow

This is the math part you explore in this unit. Rate your understanding of how your knowledge grows.

Before	Before	After
Identify and describe translations, rotations, and reflections.	○	○
Translate, rotate, or reflect a figure on a grid.	○	○
Determine the coordinates of a transformed polygon after a translation, reflection, or rotation.	○	○
Describe a sequence of transformations to complete a challenge.	○	○
Identify and describe translations, rotations, and reflections.	○	○
Translate, rotate, or reflect a figure on a grid.	○	○
Determine the coordinates of a transformed polygon after a translation, reflection, or rotation.	○	○
Describe a sequence of transformations to complete a challenge.	○	○

Read aloud: or invite students to read the instructions. Let them know that they are about to explore these standards in the upcoming unit.

Invite students to rate their understanding of each standard prior to beginning the unit. Let them know that they can return to this page at the end of the unit, to rate their understanding again. They will be able to see how their knowledge has grown! Consider asking:

- “Have you heard of a translation, reflection, or rotation? If so, where did you hear this term?”
- “What are some things that you know about parallel lines?”

Multilingual/English Learners

Consider pairing students with partners who speak the same primary language and inviting them to respond to your questions first in their primary language or using a mixture of their primary language and English. (**Listening, Speaking**)

Math Identity and Community

Let students know that it is a normal part of learning to not understand or be familiar with a topic prior to learning about it. Celebrate the number of “Not yet” and “Almost” bubbles that were selected. Remind students that this means their knowledge can increase greatly after this unit!

Sub-Unit Overview pages

The lessons within each unit are grouped into sub-units that address a related group of concepts. All sub-units include lesson practice and Show What You Know formative assessments, and targeted sub-units include a practice day and quiz.

Navigating This Program

Lesson Supports

Throughout this Teacher Edition, lesson guidance for teachers is organized clearly and consistently so that they have all of the information they need at their fingertips.

The **content goals** and **language goals** are clearly stated at the beginning of each lesson and aligned to the Big Ideas.

Each lesson clearly identifies the **Driver of Investigation (Why)**, **Standard for Mathematical Practice (How)**, and **Content Connection (What)** of focus.

In the **Connections and Coherence** section, teachers will find prior learning that has built to the math in this lesson, as well as future learning that this lesson is helping build to.

The **Integrating Rigor in Student Thinking** section explains how students develop conceptual understanding, procedural fluency, application, strategic competence, adaptive reasoning, and productive disposition in this lesson.

Teachers can quickly visualize the **Big Ideas** engaged in each lesson, as well as the connections between those Big Ideas.

Unit 1
Lesson
8

Are They the Same?

Defining Congruence

Let's explore a type of sameness.

Today's Big Ideas

Transformational Geometry

Vocabulary

New Vocabulary

congruent

CA CCSSM

Building Toward

8.G.2

Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations. Given two congruent figures, describe a sequence that exhibits the congruence between them.

Also Addressing: 8.G.1

Mathematical Practices: SMP.3, SMP.6, SMP.7

Building On

Building Toward

8.G.1

G-CO.6

CA ELD Standards: ELD.PI.8.1, ELD.PI.8.3, ELD.PI.8.6, ELD.PI.8.10, ELD.PI.8.11, ELD.PI.8.4

Focus on the Big Ideas

Today's Goals

Transformational Geometry

1. Goal: Recognize that two figures are congruent if the second can be obtained from the first by a sequence of translations, reflections, and rotations.

2. Language Goal: Justify whether two figures are congruent using rigid transformations. (Reading, Writing, Speaking, and Listening)

DI

Why? In order to...

Make sense of congruence (DI1)

SM

How? Students will...

Use the structure of a grid (SMP.7)

CC

What? While...

Performing rigid transformations. (CC.4)

Connections and Coherence

Students explore what it means for figures to be the "same" and learn that the term **congruent** is a mathematical way to talk about figures being the "same." They discover that two figures are congruent if there is a sequence of rigid transformations that maps one onto the other. (SMP.6)

Prior Learning

Transformational Geometry

In Lesson 7, students learned that translations, reflections, and rotations are examples of rigid transformations. They saw that rigid transformations preserve side lengths and angle measures.

Future Learning

Transformational Geometry

In Lesson 9, students will develop and analyze arguments for whether two figures are congruent.

Integrating Rigor in Student Thinking

Students build their **conceptual understanding** to determine how two shapes are congruent through the use of rigid transformations.

Grade 8 Unit 1 Lesson 861AAre They the Same?

The **Standards** section lists all applicable standards addressed in this lesson, including standards the lesson builds on and build towards. The **bolded** words indicate which parts of part of the primary standard described are covered in the lesson. Applicable **English Language Development Standards** and **Environmental Principles and Concepts** are also noted.

Lesson Overview

This introductory page orients teachers to the topic, standards, and key learning goals of the lesson, including any new vocabulary terms that will be introduced.

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The **time frame** and suggested **student grouping** is listed for each part of the lesson.

Lesson at a Glance

~ 45 min

CA CCSSM: 8.G.1, 8.G.2, SMP.6

Why digital?

Repeated Challenges offer Responsive Feedback to support students in developing fluency.

Warm-Up

Pairs Sharing a Device | 5 min

Students discover a need for a precise meaning of sameness by deciding whether a series of figures are the same. (SMP.3, SMP.6)

1-2

Are They the Same?

Here are six pairs of figures. a. Select all the pairs with figures that are the same.

Pacing: Screens 1-2

Activity 1

Pairs Sharing a Device | 20 min

Students explore the idea of congruence by identifying and justifying whether pairs of figures are congruent. Routine: Decide and Defend (SMP.3)

Materials: tracing paper (as needed)

3-6

Which Are Congruent?

One figure is congruent to another if there is a sequence of rigid transformations that maps one figure onto another. (SMP.7)

Pacing: Screens 3-6

Activity 2

Pairs Sharing a Device | 10 min

Students practice justifying congruence by identifying a sequence of rigid transformations that maps one figure onto another. (SMP.7)

7-8

Sequence of Rigid Transformations

Which sequence of rigid transformations maps figure A onto figure B?

Pacing: Screens 7-8

Synthesis

Whole Class | 5 min

Students synthesize their understanding of how to determine whether two figures are congruent using rigid transformations.

9-12

Synthesis

How can you determine whether two figures are congruent?

Pacing: Screen 9, Screen 12

Show What You Know

Independent | 5 min

Students demonstrate their understanding by writing a sequence of transformations that proves two figures are congruent. (SMP.6)

Materials for students using print: Show What You Know Sheet

10-11

Show What You Know

Are figures A and B congruent? Justify your answer.

Pacing: Screens 10-11

Math Language Development

Multilingual / English Learners

Consider using the scaffolds from the Math Language Development Resources with Activity 1 to support math language acquisition for your students.

Grade 8 Unit 1 Lesson 8

Emerging

Students use simple phrases and a word bank to defend which claim is correct about two figures being congruent. Guiding questions are provided for you to support students as they determine whether two figures are congruent.

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Expanding

Students use word bank, as needed, to defend which claim is correct about two figures being congruent. Guiding questions are provided for you to support students as they determine whether two figures are congruent.

Bridging

Students work with a partner to defend which claim is correct about two figures being congruent using complete sentences. Guiding questions are provided for you to support students as they determine whether two figures are congruent.

Lesson at a Glance

Quickly preview the **English Learner proficiency-levelled supports** for this lesson. Refer to the *Math Language Development Resources* book for more information.

Materials needed for each activity are listed within each tile.

The screen icon is used to show which **Presentation Screens** or **Digital Student Screens** align to each instructional moment.

Pairs Sharing a Device | 5 min | Pacing: Screens 1-2

Warm-Up

Purpose: Students discover a need for a precise meaning of sameness by deciding whether a series of figures are the same. (SMP.3, SMP.6)

1 Launch

Consider asking, "What are ways that two things can be the same?"

Invite students to discuss their thinking about whether each pair is the same with a partner.

2 Connect

Display the distribution of responses using the dashboard's Teacher View. It is okay — even desirable — to lack consensus at this stage. Students will focus their understanding on one type of sameness (congruence) in the next activity.

Invite students to make arguments and justify their reasoning for why these figures are and are not the same. (SMP.3)

Consider asking, "Do you think the fact that these are different sizes means that they are not the same?"

Math Identity and Community Invite students to celebrate a classmate's thinking that was strong, clear, or creative.

Students using digital

ELD.PI.8.3.Em, Ex, Br

1

Are They the Same?

Here are six pairs of figures. a. Select all the pairs with figures that are the same. b. Discuss: Which pairs did you choose? Why?

Responses vary. Note: Each pair has a way that it could be "the same."

Students using print

ELD.PI.8.11.Em, Ex, Br

2

The Same (and Not)

Here are one of the pairs from the previous screen. Why might someone say these figures are the same? Are not the same?

Responses vary. • They are the same because both figures have the same shape. • They are not the same because the figures are different sizes.

Sample student responses to the Warm-Up prompt are provided to help teachers prepare to facilitate the conversation.

Lesson at a Glance

The Lesson at a Glance page describes the purpose of the Warm-Up, Activities, Synthesis, and Show What You Know. Teachers will find suggested timing for each part of the lesson, as well as guidance on whether students should work individually, in pairs, in small groups, or with the whole class.

The page also lists which Student Edition pages, Presentation Screens, or Digital Student Screens can be used with each part of the lesson, as well as any hands-on materials that may be needed.

Warm-Up

Every Amplify Desmos Math California lesson begins with a Warm-Up to help draw students into the lesson. It might elicit information from their personal experience or intuition, remind them of a context they have seen before, invite them to think about the previous lesson, or preview a calculation that will appear in the current lesson.

Grade 7

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In the **Launch, Monitor, Connect** guidance, teachers will find ways to help students get started, suggested facilitation moves, and discussion questions.

The **Purpose** of each activity is highlighted here, as well as suggestions for the **student grouping, time frame, and screen pacing** for the activity.

Teachers are provided with thoughtful **Short on time?** suggestions for how they can adjust their facilitation of the lesson as needed without compromising lesson goals.

Each lesson notes the corresponding **Teacher Presentation Screens** or related **Student Edition** pages also available to support the lesson.

Activity 1 Coordinate Patterns

Purpose: Students examine and generalize how the coordinates of a figure change after rotations of 90, 180, and 270 degrees. (SMP.3, SMP.8)

Short on time? Consider omitting Screen 4.

1 Launch

2 Monitor

3 Connect

4 Differentiation

Look for students who:	Respond to Student Thinking
Need support getting started.	Support Consider asking, "What pattern do you notice in the coordinates from the previous screen?" (SMP.8)
Notice that there is a pattern in changing the order and sign of the coordinates but struggle to apply it accurately or consistently.	Support Consider asking, "What quadrant is the pre-image point in? What does that tell us about its sign?"
Accurately apply the pattern.	Strengthen Consider asking, "Why does this strategy work? Would it work for rotations of other degree measures?"
Would like to explore patterns in coordinates after a rotation further.	Stretch Consider asking, "What pattern, if any, would there be if the figure were rotated around a point other than the origin?"

Accessibility: Conceptual Processing Invite students to revisit their work from the previous screen to support students in generalizing.

Accessibility: Visual-Spatial Processing As students interpret visual representations, provide tracing paper that students can use to rotate the points.

Activity 1 continued >

Grade 8 Unit 1 Lesson 6

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Activity 1

The guidance for every lesson includes a **Differentiation** table to support teachers in meeting the needs of all students during the activity. This table can help teachers anticipate the ways students may approach the activity, and provides prompts that they can use during the lesson to **Support**, **Strengthen**, and **Stretch** individual students in their thinking.

Activity 1 Coordinate Patterns (continued)

Purpose: Students examine and generalize how the coordinates of a figure change after rotations of 90, 180, and 270 degrees. (SMP.3, SMP.8)

Short on time? Consider omitting Screen 6.

2 Monitor

3 Connect

4 Differentiation

Look for students who:	Respond to Student Thinking
Need support getting started.	Support Encourage students to use tracing paper or use the sketch tool to draw the rotation.
Use the same pattern as a 90 degree rotation.	Support Consider asking, "How is this rotation alike and different from the 90 degree rotation?"
Change one coordinate sign but not both.	Support Consider asking, "What transformation have we seen with that pattern? How is this one different?"

5 Multilingual/English Learners Emerging, Expanding, and Bridging scaffolds and supports are available in the Math Language Development Resources.

6 Invite students to make arguments and justify their reasoning (SMP.3)

7 Key Takeaway

We can use patterns in how coordinates change for rotations to help us precisely rotate figures around (0, 0) by 90, 180, 270, or 360 degrees. For example, when applying a 180 degree rotation around the origin, the x - and y -coordinate of the image are the opposite of the x - and y -coordinate of the pre-image.

Grade 8 Unit 1 Lesson 6

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Activity 1

Math language development and English Learner supports are noted at point of use. Refer to the *Math Language Development Resources* for proficiency-level support.

The **Key Takeaway** is called out to highlight the learning goal of the activity and provide teachers with an example of how to frame the big idea of the activity for students.

Activities

Each lesson includes one, two, or three activities. These activities are the heart of each lesson. Students notice, wonder, explore, calculate, predict, measure, explain their thinking, settle disputes, create challenges for their classmates, and more.

Guidance is provided to help teachers Launch, Monitor, and Connect students' thinking over the course of each activity. Teachers will also find suggestions for pacing, facilitation moves, discussion questions, examples of early student thinking, ideas for students who may enjoy a challenge, ways to increase access to the language and content, as well as opportunities to build and develop the math community in your classroom. The suggestions for facilitation provide comprehensive support for teachers as they prepare for and teach lessons.

Each **Lesson Practice** begins with a **Summary** of the big ideas in the lesson, often including a worked example. Students can highlight parts of the summary or share it with a caregiver or classmate.

Practice Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Lesson 6 Practice

Students using digital

Students using print

Practice 1.00

Name _____ Date _____ Period _____

1. Plot the location of points G , H , and I after a 360° rotation around the origin. Label the points G' , H' , and I' . Then write the coordinates in the table.

Point	Coordinates
G	$(4, -2)$
H	$(-3, 6)$
I	$(-1, 5)$

2. Point $P(5, 3)$ is rotated 90° counterclockwise around the origin and the image is labeled P' . Which of the following are the coordinates of point P' ?

A. $(-1, -5)$ B. $(-4, -5)$ C. $(-1, 5)$ **D. $(-5, 1)$**

3. Here are the pre-image and image coordinates of points on a graph. Describe the transformation. **Answer only.**

$\bullet$ 90° counterclockwise rotation around the origin

Pre-Image Coordinates	Image Coordinates
$(0, 6)$	$(-6, 0)$
$(-1, 4)$	$(-4, -1)$
$(-3, 3)$	$(-3, -4)$
$(4, 0)$	$(0, -4)$
$(-5, -1)$	$(-1, -5)$

4. Point (x, y) is rotated 90° counterclockwise around the origin, and then translated 1 unit to the left and 3 units up. Write the generalized coordinates of the image. **($x - 1, y + 3$)**

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Practice

Practice 1.00

Name _____ Date _____ Period _____

5. Write the generalized coordinates of the image after the pre-image is rotated 180° around the origin. **($-x, -y$)**

6. Describe a sequence of transformations that will map the pre-image (purple) onto the image (pinkish-blue). **Answer only. Explain the pre-image, how the x -axis, then the translated image to the right and up.**

Spiral Review

Problems 7-12: Write an expression that has a value of 7 (based on the given).

Answer only.

7. An expression that is a sum.

$$7 + 1$$

8. An expression that is a difference.

$$7 - 1$$

9. An expression that is a product.

$$7 \times 1$$

10. An expression that is a quotient.

$$7 \div 1$$

11. An expression that involves at least two operations.

$$7 + 1 + 1$$

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Practice

Practice for this lesson is available online.

Practice Problem Item Analysis

Problem(s) DOK CA CCSS

On-Lesson

	1, 6	2	8.G.1, 8.G.3
Test Practice	2	2	8.G.3
	3	2	8.G.3
	4, 5	3	8.G.3, SMP.2

Spiral Review

Fluency	7-11	2	7.EE.1
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Need more Practice?

Additional practice can be found in the **Practice Resources**, **Intervention, Extension, and Investigation Resources**, and **online resources** (Item banks, Boost Personalized Learning, and Fluency Practice).

Grade 8 Unit 1 Lesson 6

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Practice

A Practice Problem Item Analysis table breaks down the problems by type, Depth of Knowledge (DOK), and corresponding standards.

Lesson Practice

Daily practice problems for the day's lesson are included both online and in the print Student Edition, including Fluency, Test Practice, and Spiral Review.

An **Item Analysis** is provided to show what concepts and skills are assessed in each problem.

Unit 1 | Sub-Unit Quiz

Assess and Respond

Support, strengthen, and stretch learning by assigning these digital resources that adjust to each student's current level of skill and understanding.

- Best Personalized Learning
- Fluency Practice
- Math Adventures

Sub-Unit Quiz

Independent
 45 min

Facilitation: Administer the Sub-Unit Quiz to learn about your students' understanding of the concepts and skills so far in this Unit. Text to speech is available in the digital version. If time allows, consider inviting students to complete one or more of the tasks in the Unit Synthesis and Reflection.

Transformational Geometry

Item Analysis

Problem	Concept or Skill	DOK	CA CCSM
1	Recognizing properties of rotations	1	8.G.1
2	Identifying one coordinate plane		
3	Identifying the plane		
4	Using the structure coordinates of a figure		
5	Drawing the image of a figure		
6	Using the structure sequence of transformations		

Assessment Resources

 Student Print Answer Key

Digital

Unit 1 Sub-Unit Quiz

Assessment Resource PDF

Sub-Unit Quiz

1. Match each pair of figures with Figure A that related each figure to Figure A.

Figure A:

Figure B:

Figure C:

Figure D:

Figure E:

Figure F:

Figure G:

Figure H:

Figure I:

Figure J:

Figure K:

Figure L:

Figure M:

Figure N:

Figure O:

Figure P:

Figure Q:

Figure R:

Figure S:

Figure T:

Figure U:

Figure V:

Figure W:

Figure X:

Figure Y:

Figure Z:

Digital

Sub-Unit Quiz (Digital)

1. Match each pair of figures with Figure A that related each figure to Figure A.

Figure A:

Figure B:

Figure C:

Figure D:

Figure E:

Figure F:

Figure G:

Figure H:

Figure I:

Figure J:

Figure K:

Figure L:

Figure M:

Figure N:

Figure O:

Figure P:

Figure Q:

Figure R:

Figure S:

Figure T:

Figure U:

Figure V:

Figure W:

Figure X:

Figure Y:

Figure Z:

D Differentiation (Sub-Unit Quiz 1)

To Strengthen and Stretch students' learning, refer to the differentiation resources suggested throughout this Sub-Unit.

Sub-Unit Goals	Problems	Respond to Student Thinking
Sub-Unit 1: Describe and perform translations, reflections, and rotations on and off a grid. (Lessons 1-6)	1-3, 5	Support - Teacher Move: Consider revisiting Unit 1, Lesson 2 (Spinning, Flipping, Sliding) Strengthen - Practice Day 1: Cards 3-7 Stretch - You're invited to explore more: - Practice Day 1 - Lesson 3 (Transformation Targets) - Lesson 4 (Moving Day) - DOCK3 Practice: Lessons 1, 3
	4, 6	Support - Mini Lesson: Determining Coordinates After a Rotation (ML 1.06) - Pre Unit Check: Screens 3-4 - Teacher Move: Consider revisiting these lessons in Unit 1 - Lesson 5 (Getting Coordinated, Part 1) - Lesson 6 (Getting Coordinated, Part 2) Strengthen - Challenge Creator: Lesson 6 (Getting Coordinated, Part 2) Stretch - Practice Day 1: Cards 8-10 - DOCK3 Practice: Lessons 5-6

Grade 8 Unit 1

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Assess and Respond

A **Differentiation** table suggests specific materials from the unit to **Support**, **Strengthen**, or **Stretch** students' understanding based on their responses to different assessment problems.

Assess and Respond

Each unit typically includes one or two Sub-Unit Quizzes. Quizzes are designed for students to show what they know and can do based on what they have learned so far in the unit. Each unit includes Assess and Respond guidance for the Pre-Unit Check, Sub-Unit Quizzes, and End-of-Unit Assessment.