

Unit 6

Geometry and Time

Essential Questions

- What are the attributes of shapes?
- How can we partition shapes into equal parts?
- How do we tell time to the nearest 5 minutes?



Unit Story: Arjun the Artist

You can read the Unit Story with your student by visiting the Unit Story page on the Caregiver Hub.



Unit Investigation

Lesson 1 is the Unit Investigation. Students look for familiar and unfamiliar shapes in their classroom and describe them based on their attributes to build curiosity and apply their own knowledge in a variety of ways. Use the **Caregiver Connection** to help students continue to explore the math they will see in the unit.

Caregiver Connection

Students may enjoy looking for different shapes at home and trying to find examples of shapes that do not fit into known categories, such as circles or triangles. You can ask:

- “How could you describe this shape?”
- “How many sides does this shape have?”
- “How is this shape similar to or different from other shapes?”

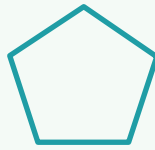
Quadrilaterals, pentagons, and hexagons are closed shapes with straight sides. You can identify and describe each shape with the number of sides and corners.

Quadrilateral



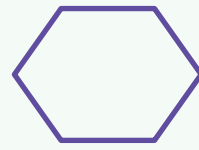
4 sides, 4 corners

Pentagon



5 sides, 5 corners

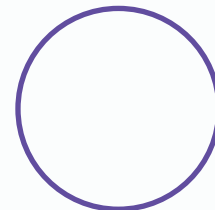
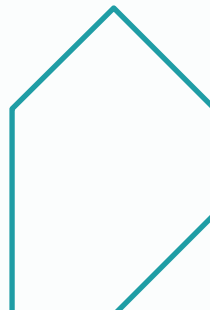
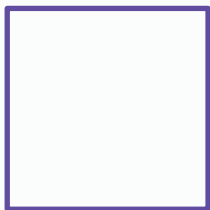
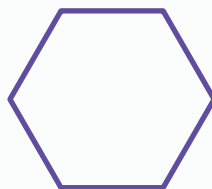
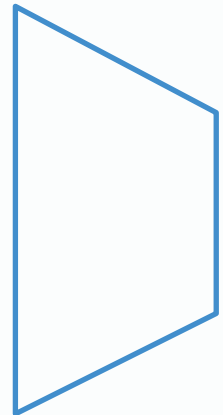
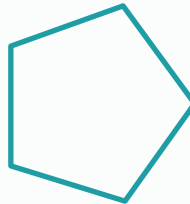
Hexagon



6 sides, 6 corners

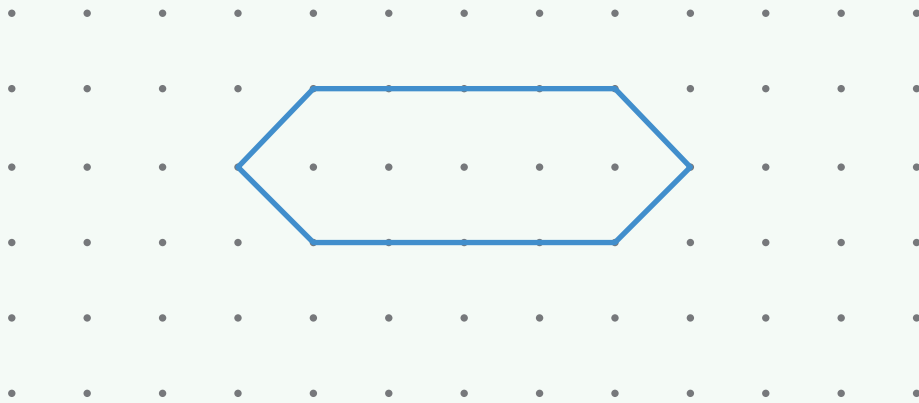
Try This

- 1 Find a pentagon and label it A.



Summary | Lesson 3

You can draw shapes based on their attributes.



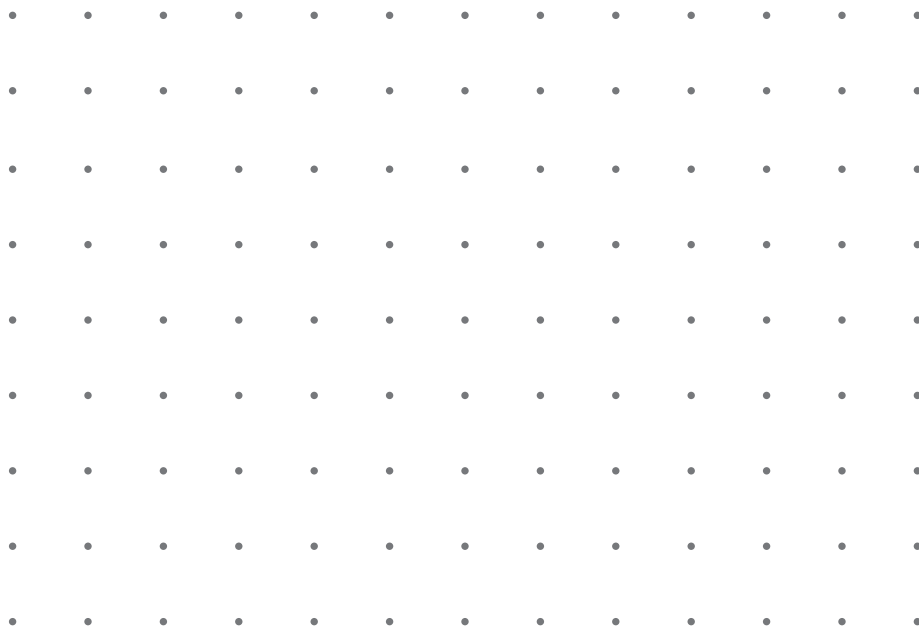
I drew a hexagon
by drawing
6 sides and
6 corners.

Try This

1 Draw a quadrilateral.

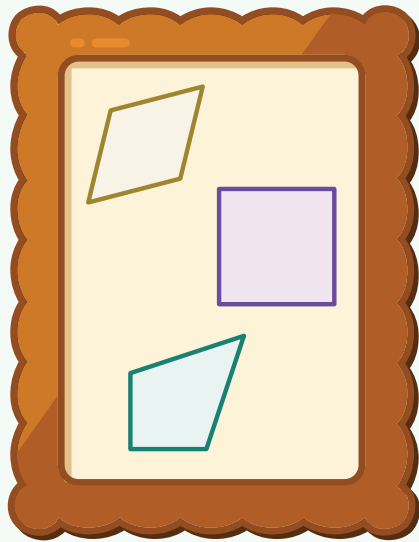


Draw



Summary | Lesson 4

Shapes can have different side lengths and different types of corners but still belong in the same category.



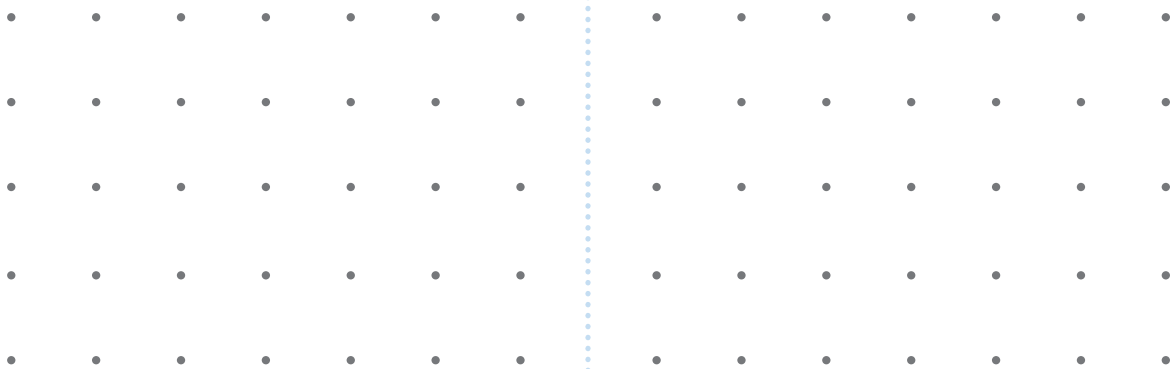
These are all quadrilaterals because they all have 4 sides and 4 corners.

Try This

- 1 Draw 2 different shapes with 5 sides each.



Draw



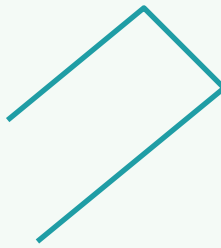
- 2 What type of shape did you draw in Problem 1?

You can measure side lengths to find shapes with specific attributes.



Both shapes have 4 sides. Two sides are 2 centimeters long.

There are some attributes that *cannot* be combined to make a shape.

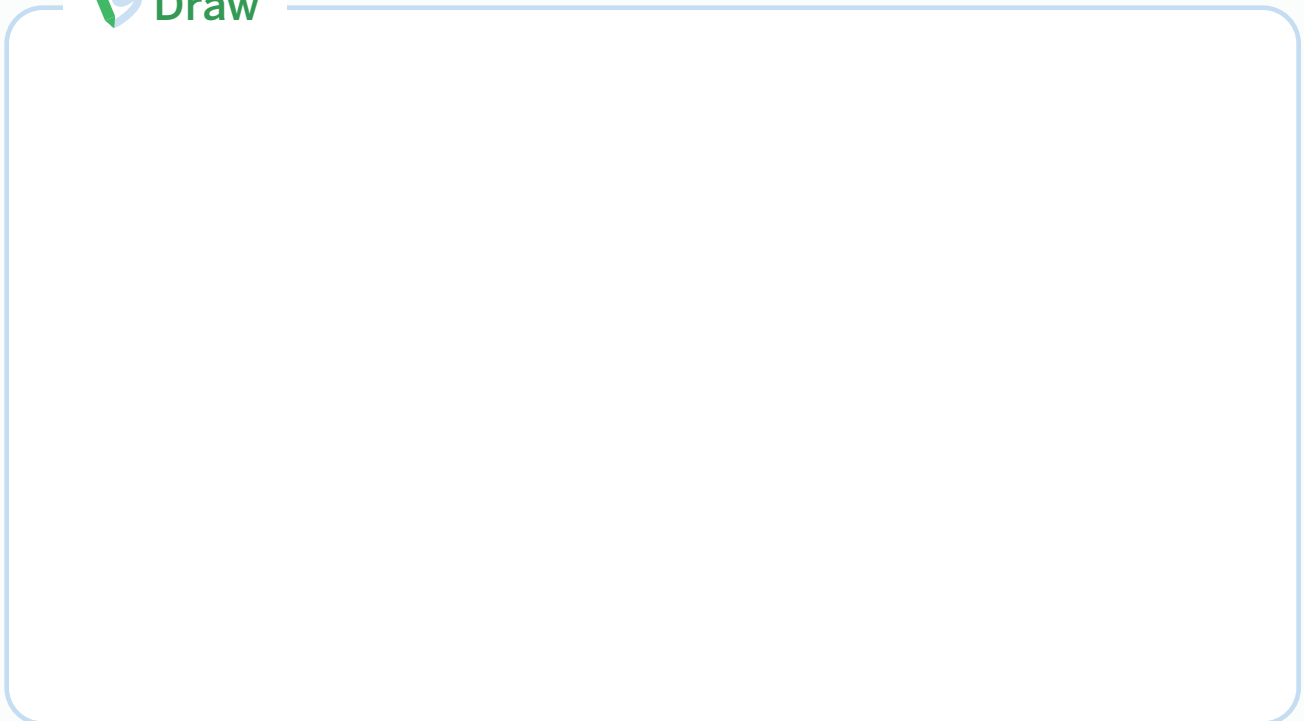


You cannot make a shape with 3 sides and 4 corners.

Try This

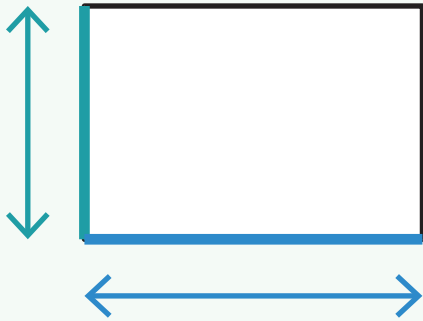
- 1 Draw a quadrilateral with exactly 3 sides that are each 2 inches long.

 Draw

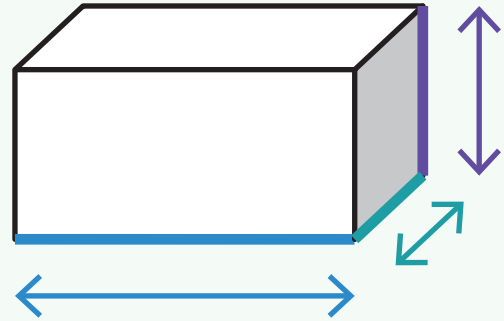
A large, empty rounded rectangle with a light blue border, intended for the student to draw a quadrilateral with 3 sides of 2 inches each.

Two-dimensional shapes are flat shapes with 2 dimensions that can be measured. **Three-dimensional** shapes are solid shapes with 3 dimensions that can be measured.

**two-dimensional
shape (flat)**

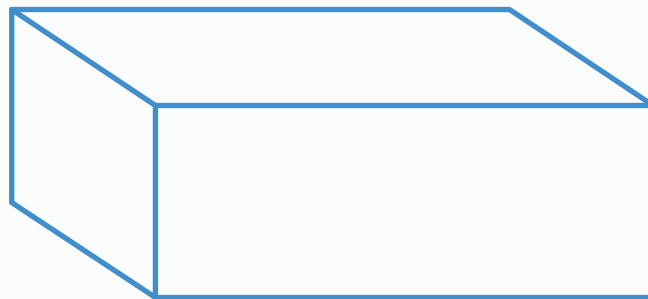


**three-dimensional
shape (solid)**



Try This

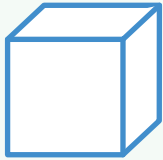
- 1 Use a ruler to measure the edges on the rectangular prism in inches. Label each edge with its measurement.



Summary | Lesson 7

You can describe three-dimensional shapes with their faces, edges, and corners.

Some three-dimensional shapes have flat faces, edges, and corners.

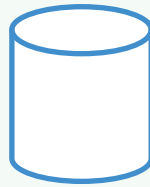


cube



prism

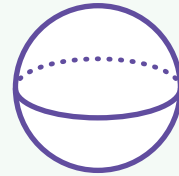
Some three-dimensional shapes have curved surfaces with few to no edges or corners.



cylinder



cone



sphere

Try This

- 1 Choose a three-dimensional shape you have learned about and describe it. Use words from the word bank if it is helpful.

face

edge

corner

Sub-Unit 1 | Summary

In this sub-unit . . .

- We sorted, drew, and identified shapes, such as quadrilaterals, pentagons, and hexagons, based on their sides and corners.

Quadrilaterals



4 sides, 4 corners

Pentagons



5 sides, 5 corners

Hexagons



6 sides, 6 corners

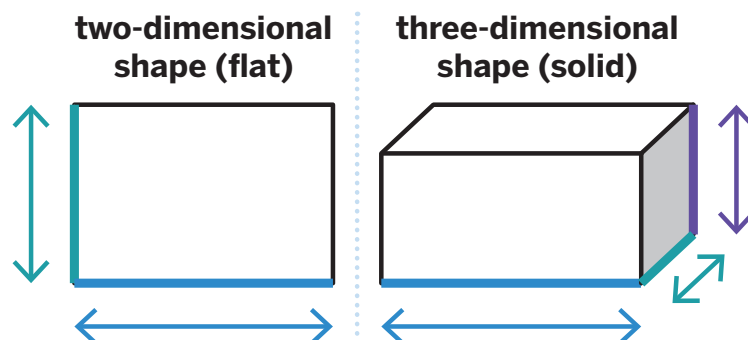
- We noticed that shapes in the same category can look different but share some of the same attributes.



These are both hexagons because they have 6 sides and 6 corners.

Math tip: Shapes in different categories can share attributes.

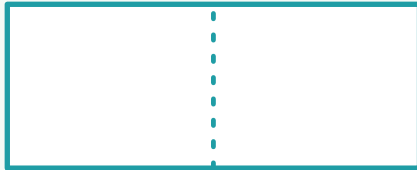
- We saw that two-dimensional shapes are flat shapes with 2 dimensions that can be measured, and three-dimensional shapes are solid shapes with 3 dimensions that can be measured.



Summary | Lesson 8

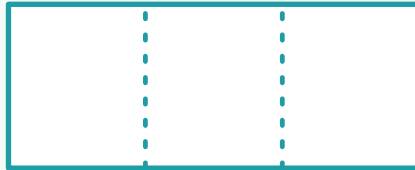
You can split shapes into equal parts and name the parts.
Halves, thirds, and fourths are different sizes.

2 equal parts



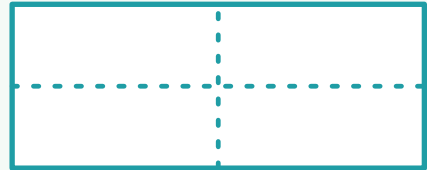
halves

3 equal parts



thirds

4 equal parts

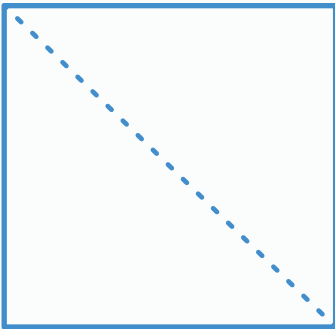


fourths or
quarters

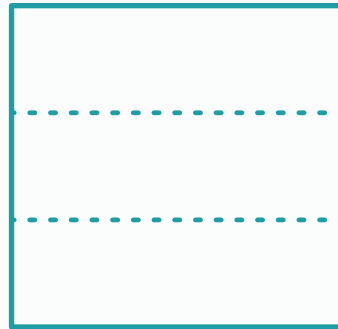
Try This

For Problems 1 and 2, name the equal parts of the shape.

1



2

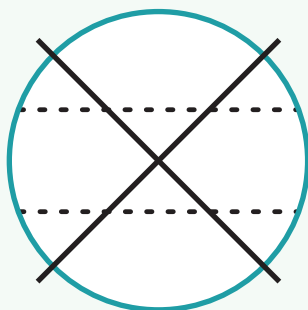


Summary | Lesson 9

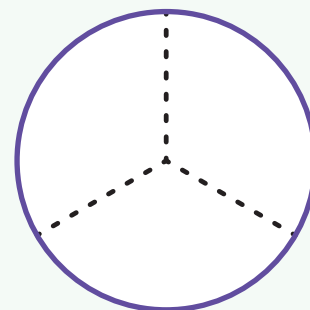
Different shapes can be split into equal parts in different ways. The way you draw to split a shape into equal parts depends on the shape.



thirds



not thirds

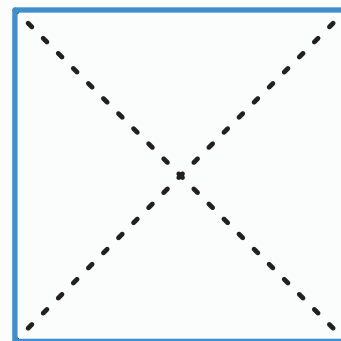


thirds

Try This

Shawn said each part of the square is a fourth. Use the square for Problems 1 and 2.

- 1 Do you agree with Shawn? Explain your thinking.

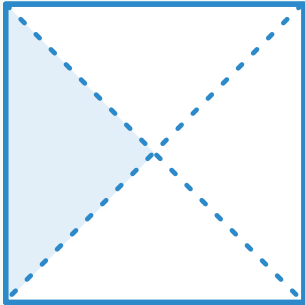


- 2 What is another name for each part of the square?

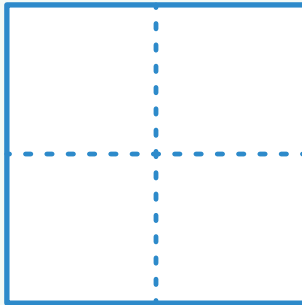
Summary | Lesson 10

Equal parts of same-sized shapes can look different but still be the same size and have the same name.

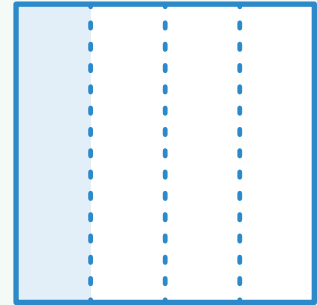
fourth



fourth

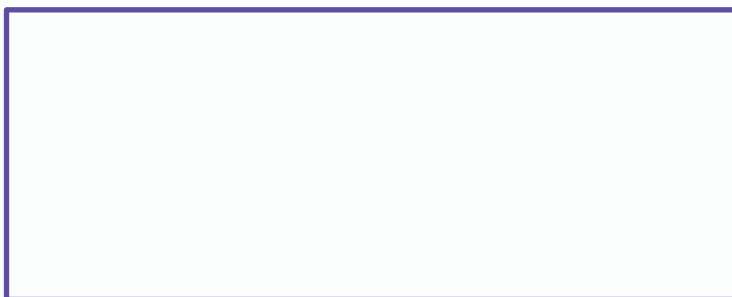
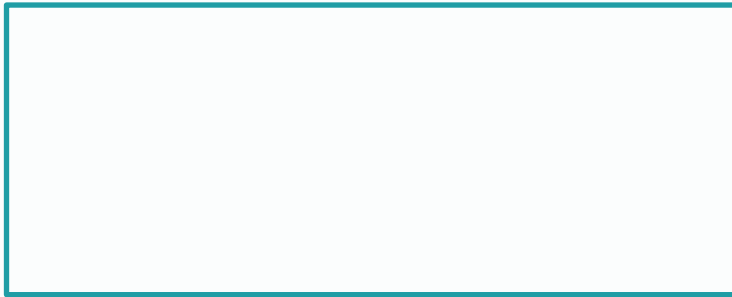


fourth



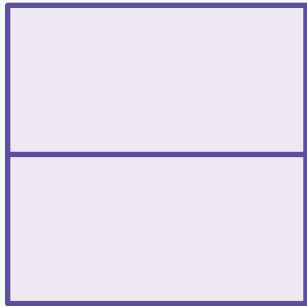
Try This

- 1 Show 2 different ways to split the rectangles into thirds.



Summary | Lesson 11

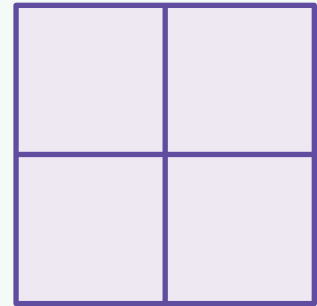
When a shape is split into 2, 3, or 4 equal parts and all the equal-sized parts are shaded, the *whole* shape is shaded.



2 halves



3 thirds



4 fourths

1 whole

Try This

- 1 Clare and her brother are splitting a sandwich. Draw a line to show how she could cut the sandwich into **2** equal parts. Shade the part that Clare ate. Then write the name of the part.



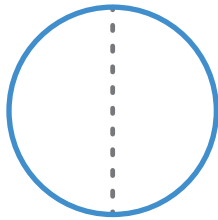
Clare ate _____.

Sub-Unit 2 | Summary

In this sub-unit . . .

- We saw that we can split shapes into equal parts and name the equal parts.

Halves



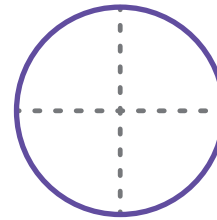
2 equal parts

Thirds



3 equal parts

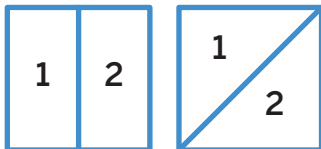
Fourths/Quarters



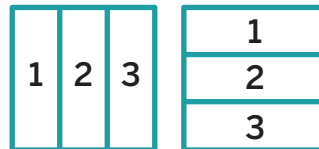
4 equal parts

- We noticed that equal parts of same-sized wholes can look different but still be the same size and have the same name.

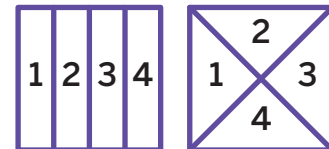
Halves



Thirds

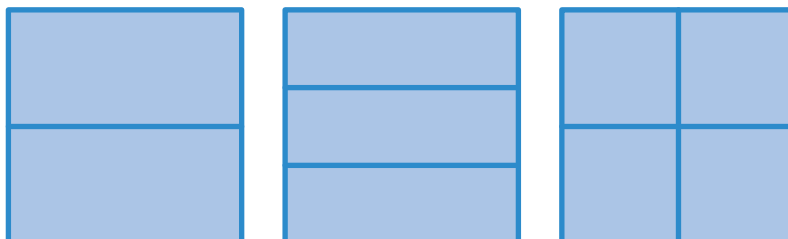


Fourths



-  **Math tip:** You can name the equal parts by counting how many parts there are in total.

- We saw that when a shape is split into equal-sized pieces and all the pieces are shaded, it represents the whole shape.

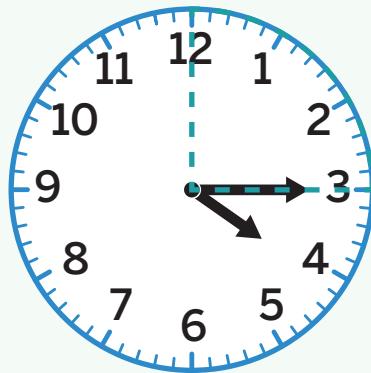


Summary | Lesson 12

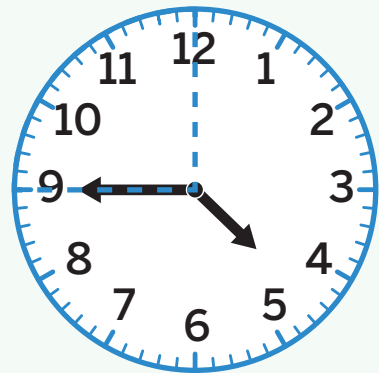
When telling time, think about the clock split into halves and quarters. When the minute hand is 1 quarter past the hour, use the term **quarter past**. When the minute hand is 1 quarter before the next hour, use **quarter to**.



4 o' clock



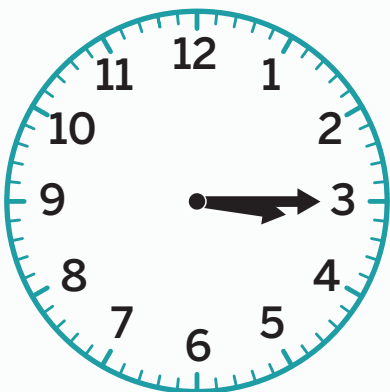
quarter past 4



quarter to 5

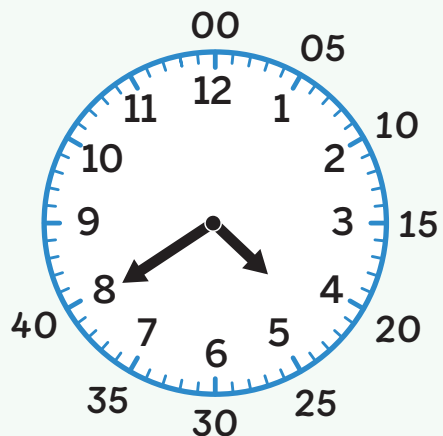
Try This

- 1 Write the time shown on the clock using the phrases *quarter past*, *half past*, or *quarter to*.



Summary | Lesson 13

You can count forward or backward by 5 to tell the minutes on an analog clock. To tell the hour, think about the placement of the hour hand and the minute hand.



For the minutes, I started at the 12 and counted by 5 until I got to the 8: 0, 5, 10, 15, 20, 25, 30, 35, 40. The hour hand is between the 4 and the 5, so it is 4:40.

Try This

- 1 What time does this clock show?

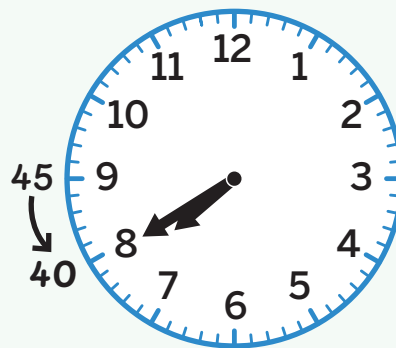


When telling time, it can be helpful to start at a time you know that is closest to the minute hand and use different counting strategies.



7:40

The minute hand is close to the 30-minute mark, so I started at 30 and counted by 5 to the 8 and got 40.

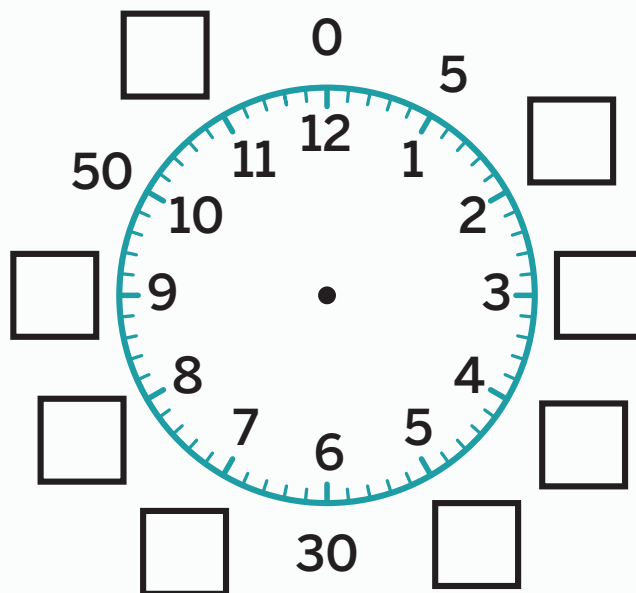


7:40

I know that 9 represents the 45-minute mark, so I counted back by 5 to get 40.

Try This

- 1 Fill in the missing numbers to show the time to the nearest 5 minutes. Then draw hands on the clock to show 7:15.



Summary | Lesson 15

It is important to label times with a.m. or p.m. because each time occurs twice a day. To show the time of day, it helps to include the labels.



7:45 a.m.



7:45 p.m.

Try This

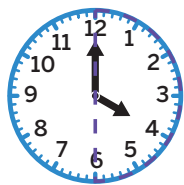
- 1 The clock shows when Han arrived at school. Write the time shown on the clock with *a.m.* or *p.m.*



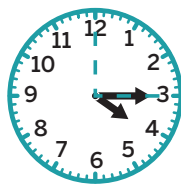
Sub-Unit 3 | Summary

In this sub-unit . . .

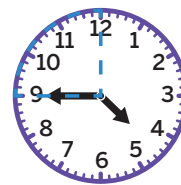
- We saw that when telling time, you can think about the clock split into halves and quarters. When the minute hand is 1 quarter past the hour, you can say **quarter past**. When the minute hand is 1 quarter before the next hour, you can say **quarter to**.



four o'clock

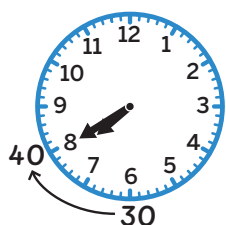


quarter past four



quarter to five

- We noticed that you can count forward or backward by 5 to tell the minutes on an analog clock. To tell the hour, it is important to consider the placement of the hour hand and the minute hand.



7:40

The minute hand is close to the 30-minute mark, so I started at 30 and counted by 5 to the 8 and got 40.



7:40

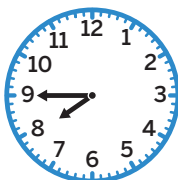
I know that 9 represents the 45-minute mark, so I counted backward by 5 to get 40.

 **Math tip:** It can be helpful to start at a benchmark time closest to the minute hand and use different counting strategies to tell the time.

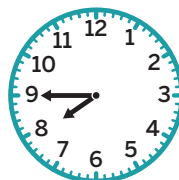
- We labeled times **a.m.** or **p.m.** because times occur twice a day.



7:45 a.m.



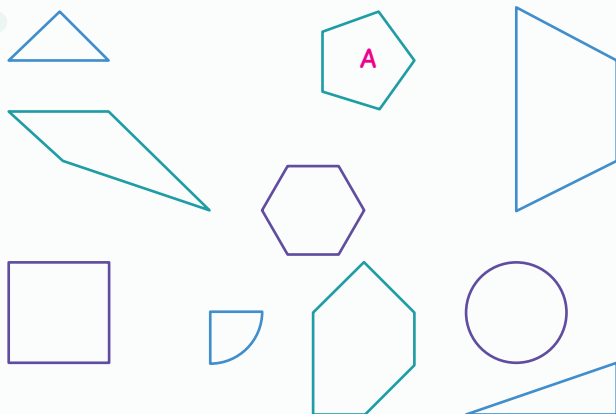
7:45 p.m.



Try This | Answer Key

Lesson 2

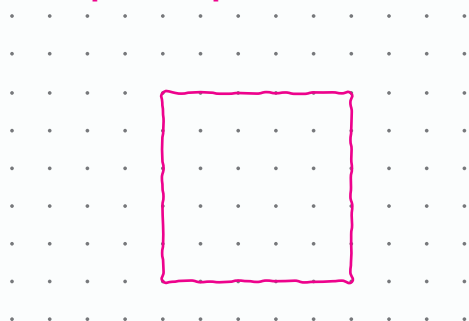
1



Lesson 3

1

Sample response shown.



Lesson 4

1

Sample response shown.



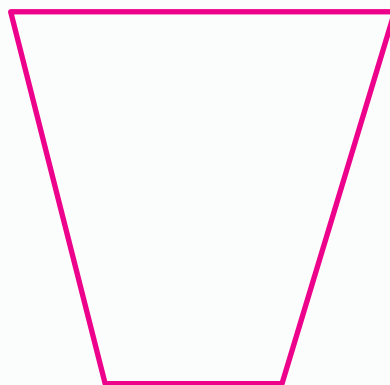
2

pentagon

Lesson 5

1

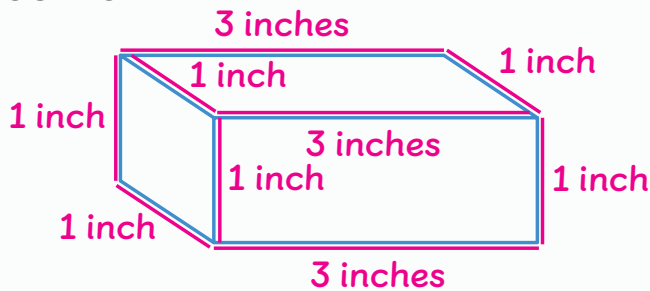
Sample response shown.



Try This | Answer Key

Lesson 6

1



Lesson 7

1

Sample response shown.

A triangular prism has 2 faces that look like triangles and 3 faces that look like rectangles. It has 6 corners and 9 edges.

Lesson 8

1

halves

2

thirds

Lesson 9

1

Sample explanation shown.

I agree. The square is split into 4 equal parts. 4 equal parts are called fourths.

2

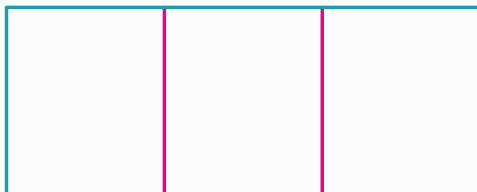
Sample response shown.

a quarter

Lesson 10

1

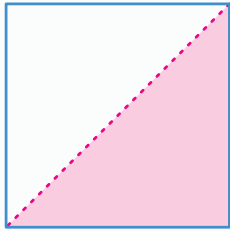
Sample response shown.



Try This | Answer Key

Lesson 11

- 1 Sample response shown.



Clare ate a half.

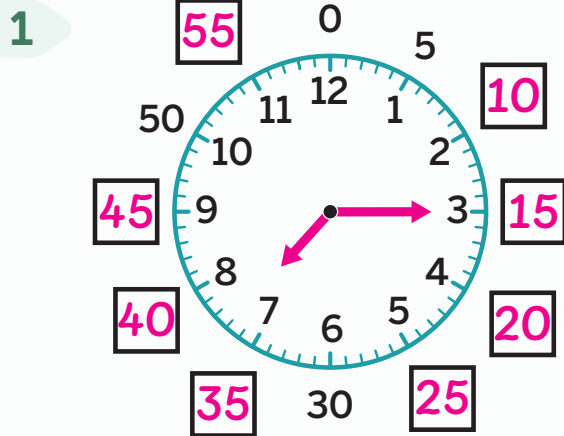
Lesson 12

- 1 quarter past 3

Lesson 13

- 1 6:50

Lesson 14



Lesson 15

- 1 7:25 a.m.