



Core Knowledge[®] MATHEMATICS

Geometry, Time, and Money



Student Workbook



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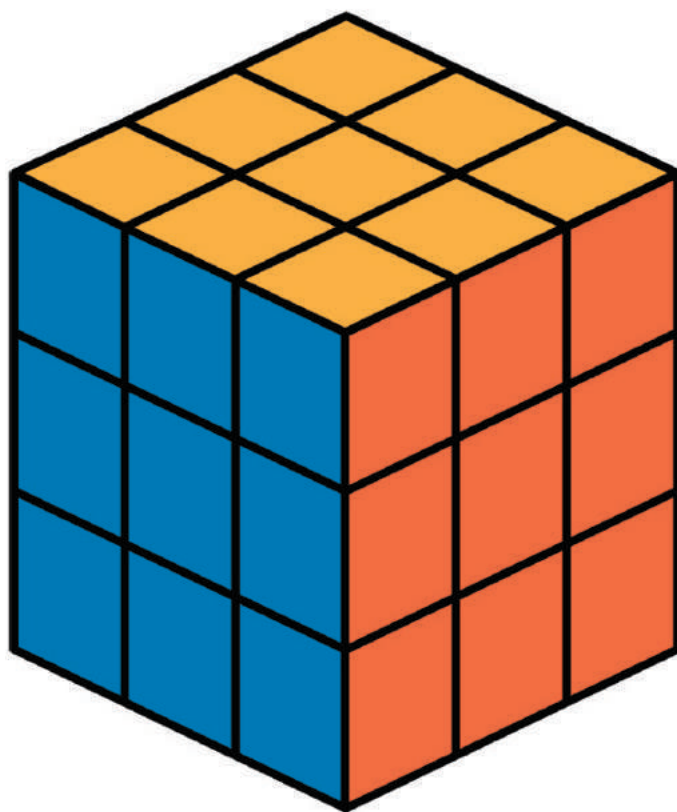
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Geometry, Time, and Money

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Geometry, Time, and Money
Student Workbook

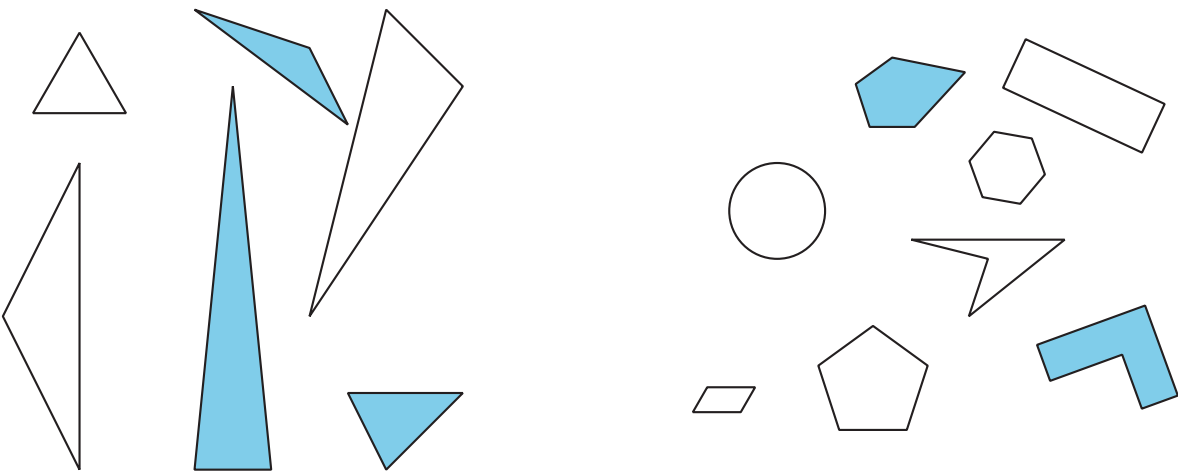
Core Knowledge Mathematics™

Lesson 1: Identify and Sort Shapes

- Let's sort and name shapes based on their sides and corners.

Warm-up: Notice and Wonder: Groups of Shapes

What do you notice? What do you wonder?



1.1: Card Sort: Shapes

Sort the shapes into categories in a way that makes sense to you. Be prepared to explain how you sorted the shapes.

1.2: Penta-what?

Gather clues to find out what kind of shapes belong in each of these categories.

triangle

pentagon

hexagon

quadrilateral

1. Ask the teacher whether a shape card belongs with one of these categories.

Use this question frame:

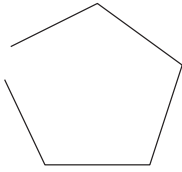
Is Shape _____ a _____?

2. Use the clues you gathered to make a true statement.

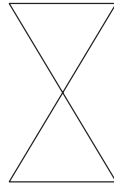
Shape _____ is a _____ because it has

3. Would these shapes belong to any of these categories? Explain.

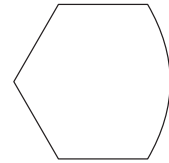
A



B



C



1.3: Compare Shapes

Pick 1 shape card.

Be prepared to name and describe your shape to a partner.

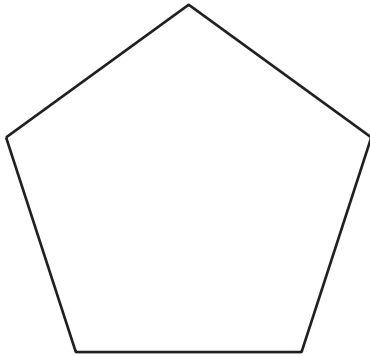
Lesson 2: Draw Shapes

- Let's recognize and draw triangles, quadrilaterals, pentagons, and hexagons.

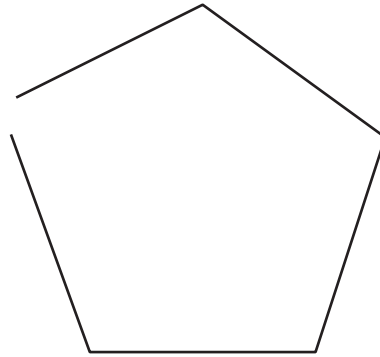
Warm-up: Which One Doesn't Belong: Five-sided Shapes

Which one doesn't belong?

A



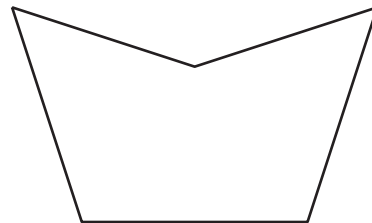
B



C

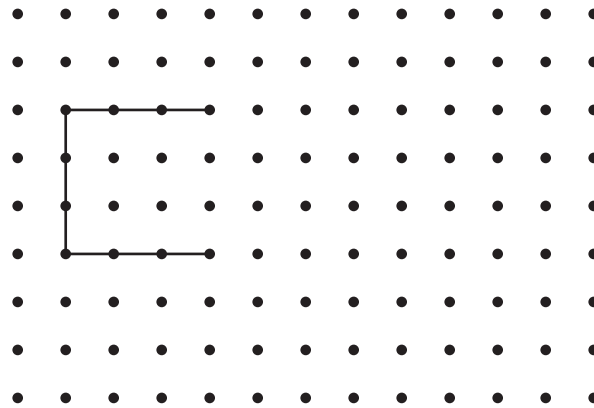


D

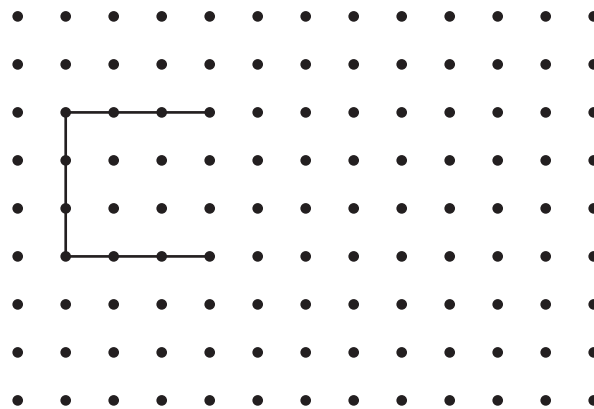


2.1: Draw Shapes

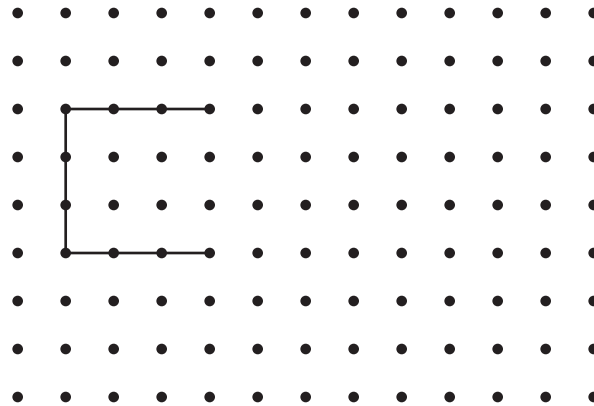
1. Complete the shape to make a quadrilateral. Then draw a different four-sided shape.



2. Complete the shape to make a pentagon. Then draw a different five-sided shape.



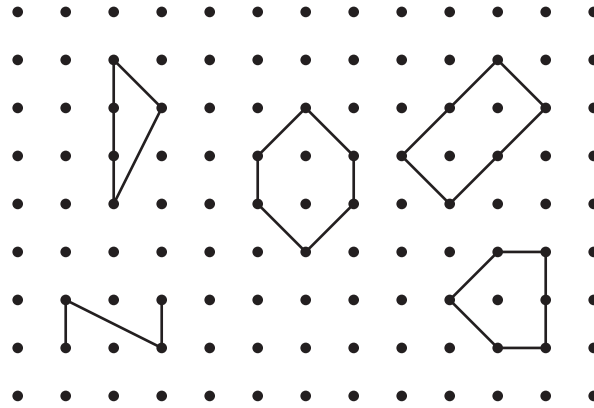
3. Complete the shape to make a hexagon. Then draw a different six-sided shape.



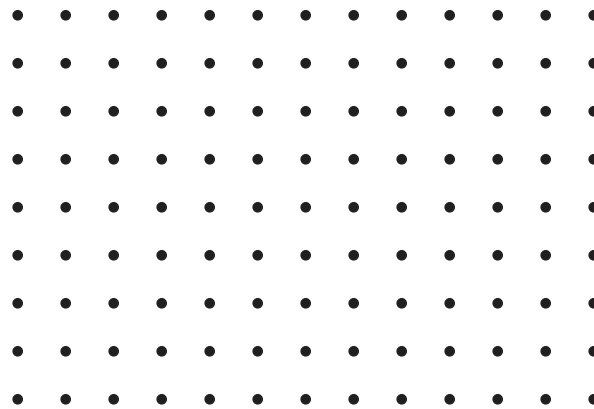
4. Compare your shapes with your partner's shapes. Find one way your shapes are the same and one way they are different.

2.2: What Shape Could It Be?

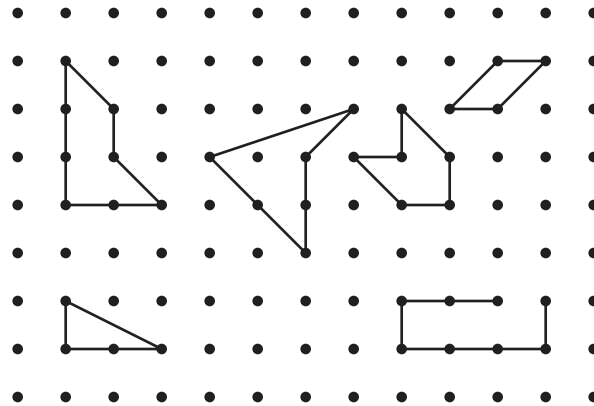
1. Clare drew a shape that has fewer than 5 sides. Circle shapes that could be Clare's shape.



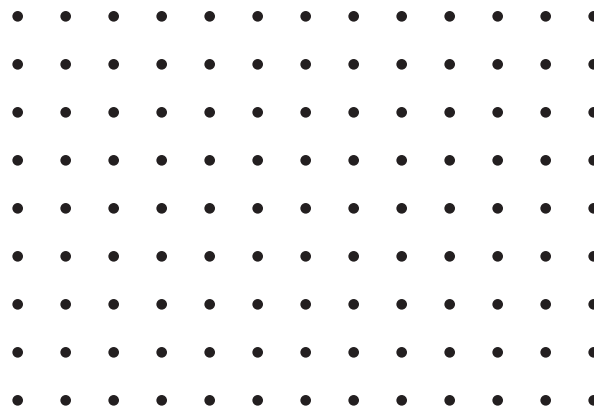
2. Draw a different shape that could be Clare's shape.



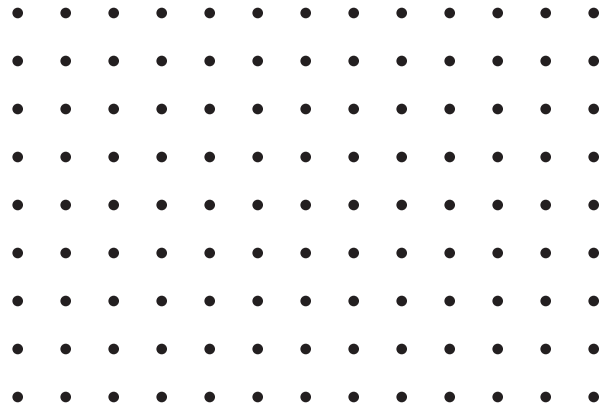
3. Andre drew a shape that has 4 corners. Circle shapes that could be Andre's shape.



4. Draw a different shape that could be Andre's shape.



5. Han drew a shape that has more corners than Andre's shape.
Draw two shapes that could be Han's shape.



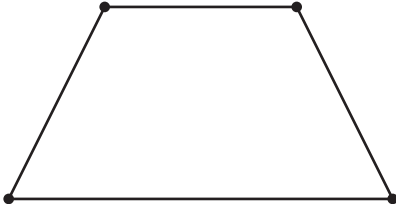
Lesson 3: Specific Side Lengths

- Let's find and draw shapes with specific side lengths.

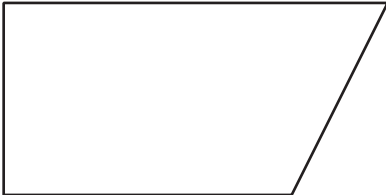
Warm-up: Which One Doesn't Belong: Different Shapes

Which one doesn't belong?

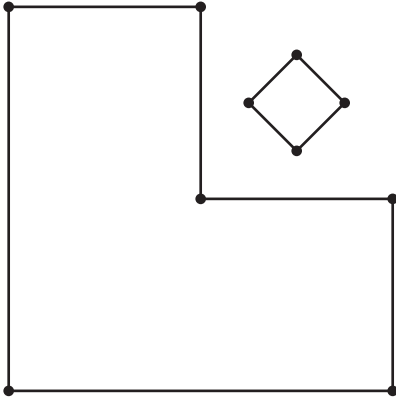
A



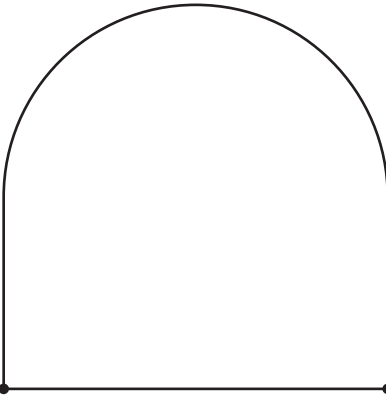
B



C

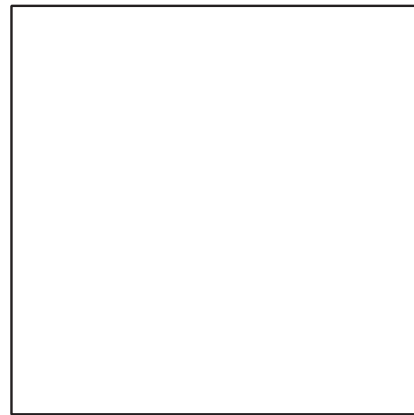
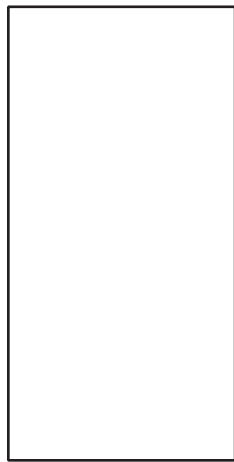
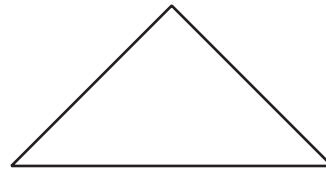
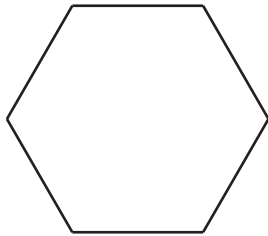


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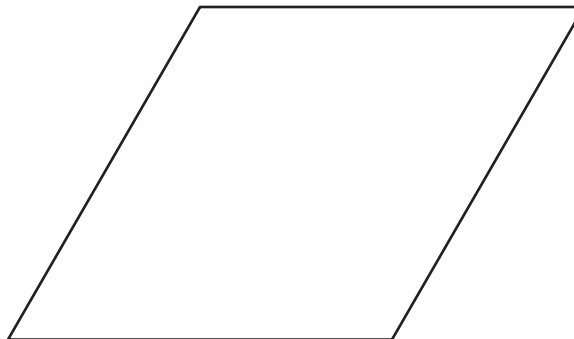
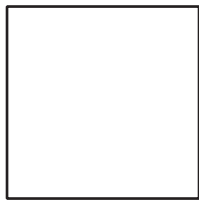
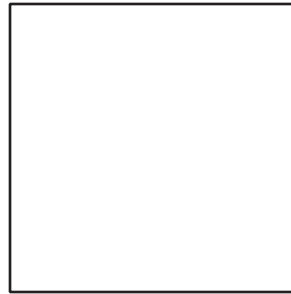
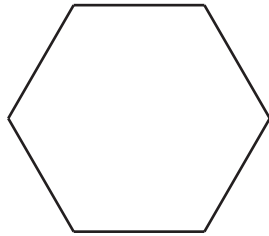
3.1: Measure Twice, Draw Once

1. Diego drew a shape that has fewer than 5 sides. Two sides are 3 centimeters long. Circle shapes that could be Diego's shape.



2. Tyler drew a shape that has 4 sides. Each side is 2 inches long.

a. Circle shapes that could be Tyler's shape.



b. Draw another shape that could be Tyler's shape.

3. Priya drew a shape that has more sides than Tyler's shape. Only one side of her shape is 2 inches long. Draw two shapes that could be Priya's shape.

3.2: Build a Shape

1. Choose your own attributes. Circle an attribute from each row.

sides	3	4	5	6
corners	3	4	5	6
side length	1 side is 2 in.	2 sides are 2 in.	2 sides are 3 in.	4 sides are 2 in.
square corners	0	1	2	all square corners

Draw and name a shape with the attributes you chose. If you cannot draw the shape, explain why.

Shape:

Name: _____

2. Choose your own attributes. Circle an attribute from each row.

sides	3	4	5	6
corners	3	4	5	6
side length	1 side is 2 in.	2 sides are 2 in.	2 sides are 3 in.	4 sides are 2 in.
square corners	0	1	2	all square corners

Draw and name a shape with the attributes you chose. If you cannot draw the shape, explain why.

Shape:

Name: _____

3. Choose your own attributes. Circle an attribute from each row.

sides	3	4	5	6
corners	3	4	5	6
side length	1 side is 2 in.	2 sides are 2 in.	2 sides are 3 in.	4 sides are 2 in.
square corners	0	1	2	all square corners

Draw and name a shape with the attributes you chose. If you cannot draw the shape, explain why.

Shape:

Name: _____

4. Cover your attribute table and trade papers with your partner.
Guess which attributes they used to draw their shape.

5. **If you have time:** Are there any attributes that are impossible to put together to make a shape? Show or explain.

Lesson 4: Solid Shapes

- Let's identify and describe solid shapes.

Warm-up: Notice and Wonder: What is That Shape?

What do you notice? What do you wonder?

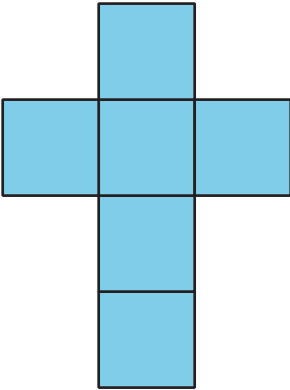
A



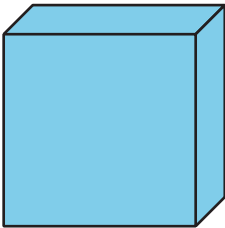
B



C



D



4.1: What is the Missing Shape?

Make a poster to describe your solid shape. Use words, numbers, and drawings to help other groups name your shape.

4.2: Sort and Build Solid Shapes

1. Sort your shape design cards into groups. Be prepared to describe how you sort the cards.
2. Match one of your cards to a solid shape. Explain your match.

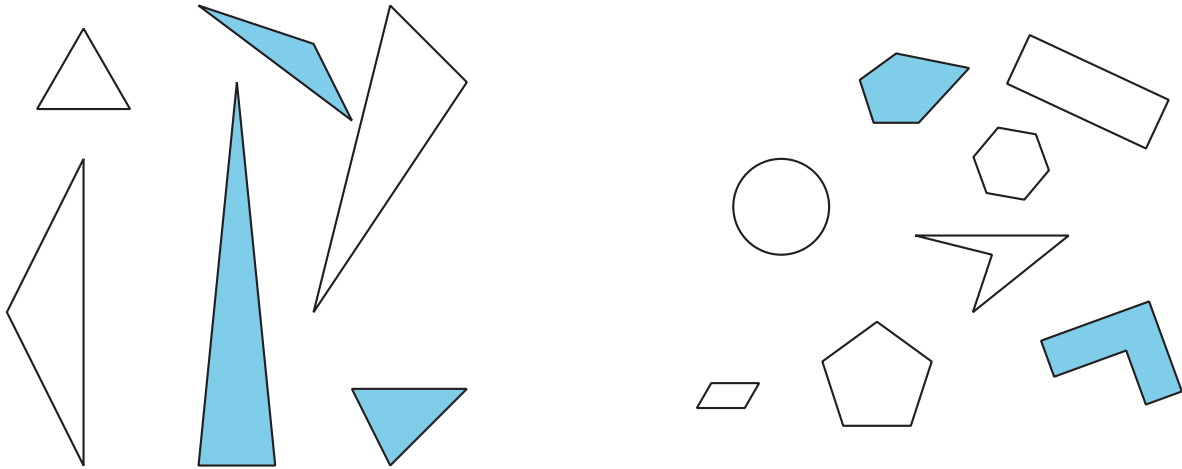
3. Which shape designs could be folded to make cubes? Explain.

4. Your teacher will give you 2 shape designs. Fold the shape designs to make cubes. Compare your cube with your partner's cube.

Section Summary

Section Summary

In this section, we named and drew shapes based on the number of sides and corners. We also drew shapes with different side lengths. We described solid shapes based on the number of faces and their shapes.



Lesson 5: Center Day 1

- Let's work with shapes.

Warm-up: Number Talk: Add 5

Find the value of each expression mentally.

- $5 + 30 + 5$

- $50 + 30 + 5$

- $50 + 5 + 30 + 5$

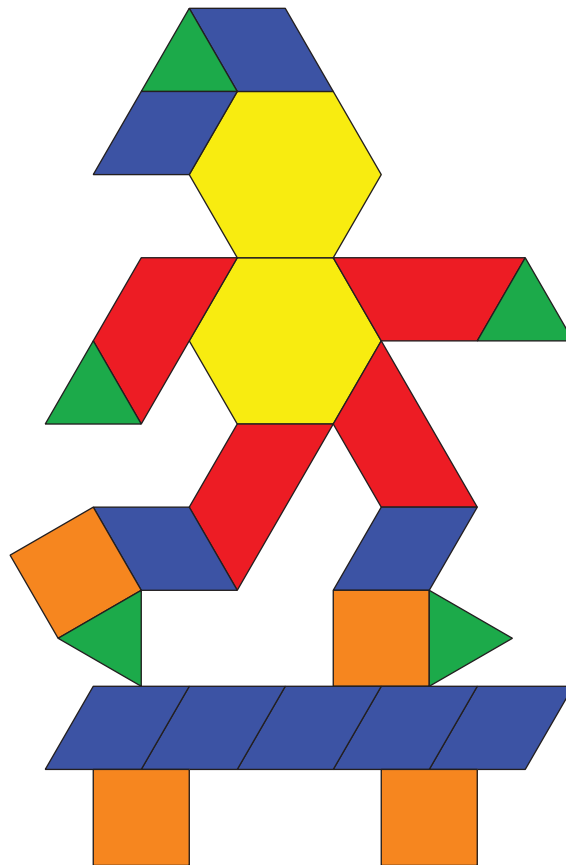
- $500 + 30 + 5$

Lesson 6: Compose and Decompose Shapes

- Let's make shapes with equal-size smaller shapes.

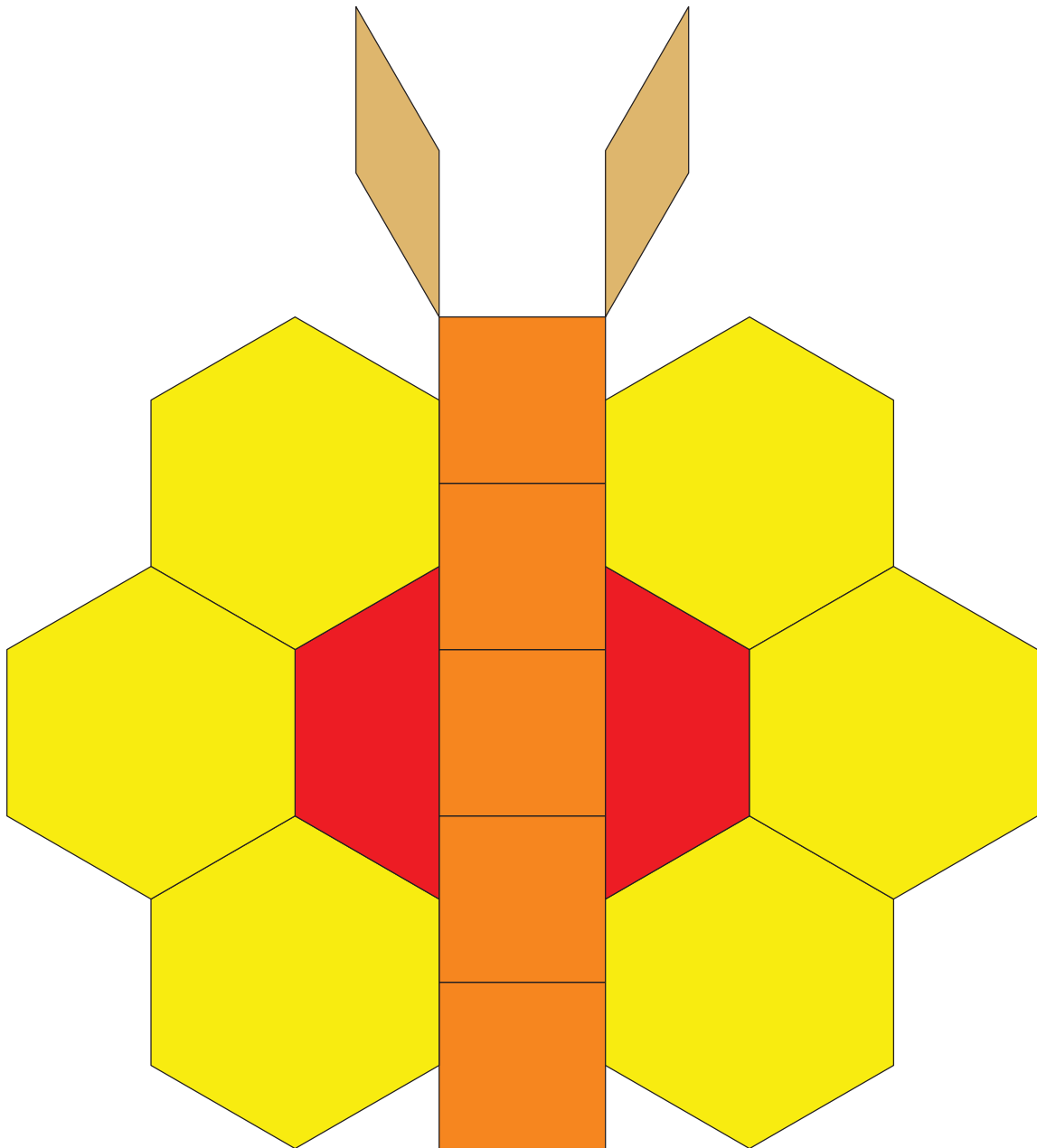
Warm-up: Notice and Wonder: A Picture of Shapes

What do you notice? What do you wonder?



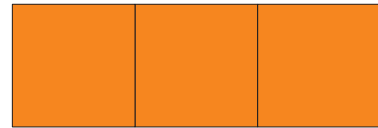
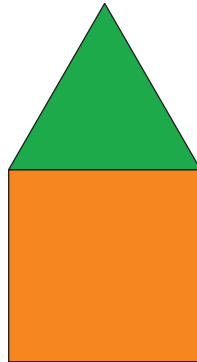
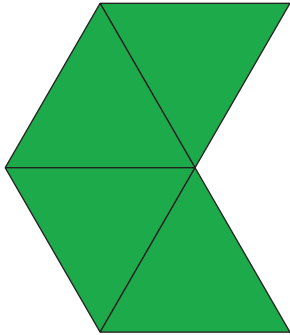
6.1: Many Ways to Compose Shapes

Mai used pattern blocks to make this design. Work with a partner to make the same design without using any yellow hexagons.



6.2: Compose Shapes with Equal-size Pieces

What is the same? What is different?



- Compose 3 different shapes using 2, 3, or 4 of the same equal-size shape.
- Show the outline of each block on the grid paper.
- Name each shape and explain how you composed it.

1. I used _____

to compose a _____.

2. I used _____

to compose a _____.

3. I used _____

to compose a _____.

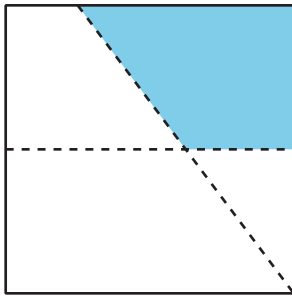
Lesson 7: Make Halves, Thirds, and Fourths

- Let's make halves, thirds, and fourths or quarters.

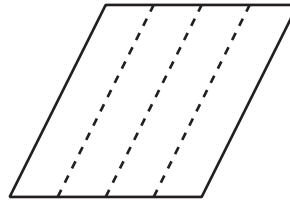
Warm-up: Which One Doesn't Belong: Compare Equal Pieces

Which one doesn't belong?

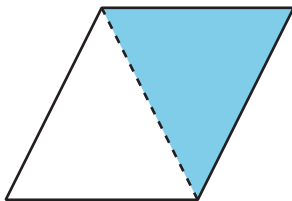
A



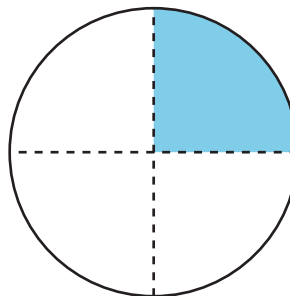
B



C



D



7.1: Fold Equal Pieces

1. Fold the rectangle to make 2 equal pieces and cut them out.

Each piece is called a _____.

Compare with your partner. Tell how you know the pieces are equal.

2. Fold the rectangle to make 4 equal pieces and cut them out.

Each piece is called a _____.

Compare with your partner. Tell how you know the pieces are equal.

3. Fold the rectangle to make 3 equal pieces and cut them out.

Each piece is called a _____.

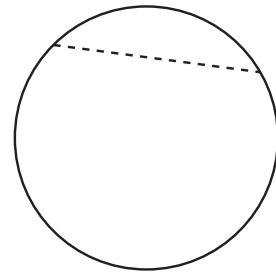
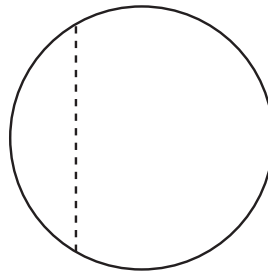
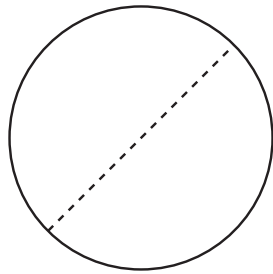
Compare with your partner. Tell how you know the pieces are equal.

7.2: That's Not It

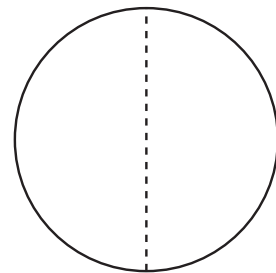
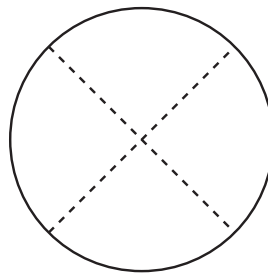
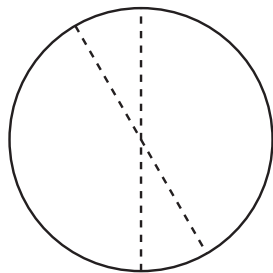
1. Noah is looking for examples of circles that have been partitioned into halves, thirds, or fourths.

a. Put an X on the 2 circles in each row that are *not* examples.

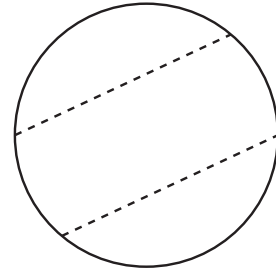
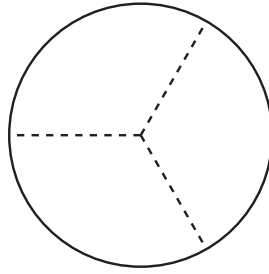
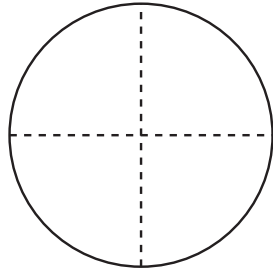
halves



fourths

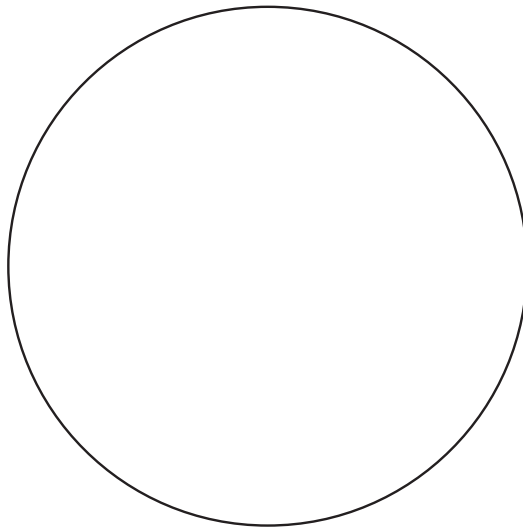


thirds



b. Explain why each of the shapes you marked is not an example of halves, fourths, or thirds.

2. Partition this circle into thirds.



Lesson 8: Are All Pieces Created Equal?

- Let's make halves, thirds, and fourths in different ways.

Warm-up: Number Talk: 5 Ones

Find the value of each expression mentally.

- $25 - 15$

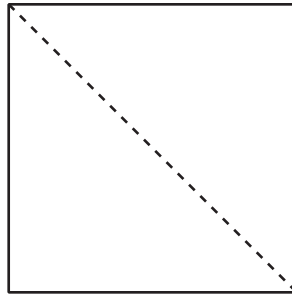
- $40 - 15$

- $65 - 25$

- $60 - 35$

8.1: Make Quarters and Halves

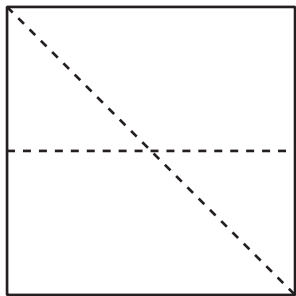
Lin wanted to partition this square into quarters. She started by splitting the square into halves.



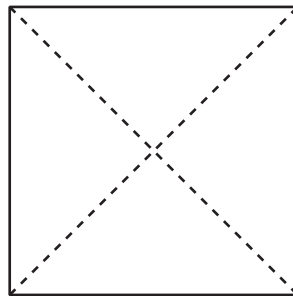
After she drew the first line, she tried 3 different ways to make fourths.

1. Which of these shows fourths or quarters? Explain and share with your partner.

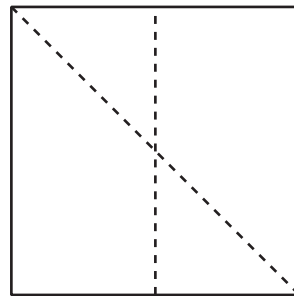
A



B

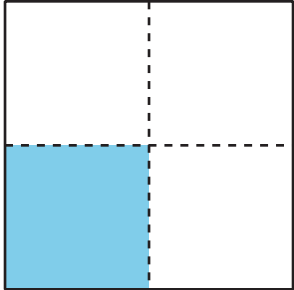


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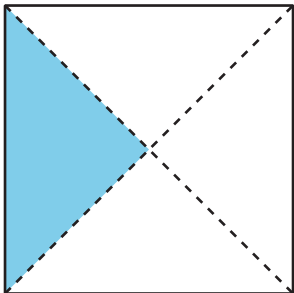
2. Name the shaded piece.

A



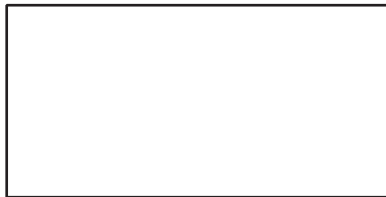
Shape A has a _____ shaded.

B

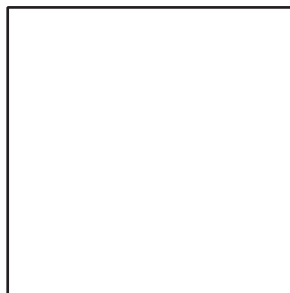
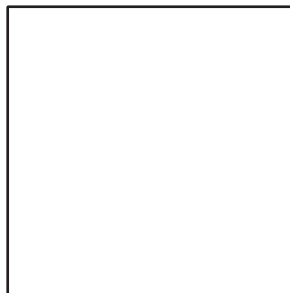


Shape B has a _____ shaded.

3. Show 2 different ways to partition the rectangle into quarters or fourths. Shade in a fourth of each rectangle.

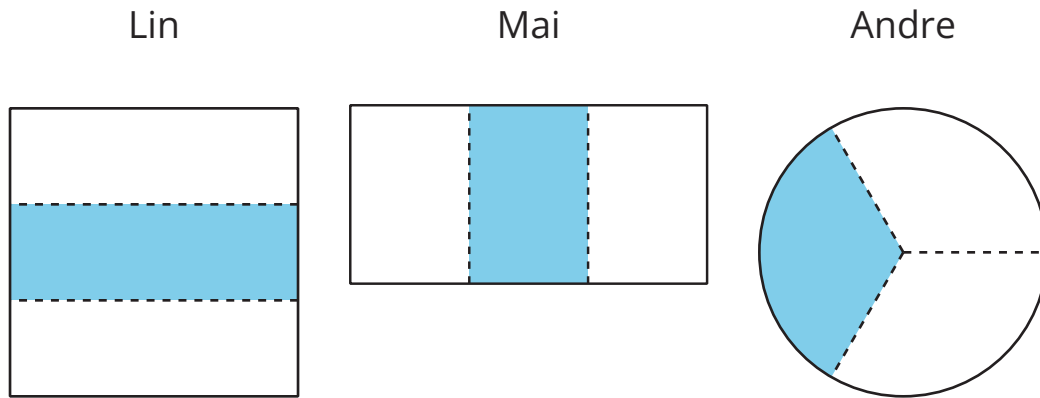


4. Show 2 different ways to partition the square into halves. Shade in a half of each square.



8.2: Make Equal Pieces

1. Lin, Mai, and Andre were asked to shade in a third of a shape.



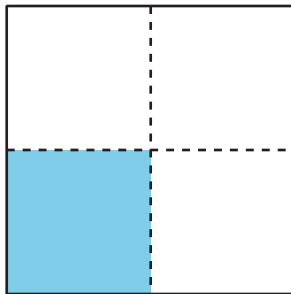
Do all their shapes show a third shaded? Explain and share with a partner.

2. Partition the rectangle into thirds and shade a third of the shape.

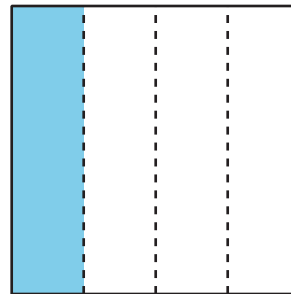


3. Diego's dad made 2 square pans of cornbread and sliced them up for the family.

Diego's Brother



Diego's



Diego's little brother was upset because he thought his piece of cornbread was smaller than Diego's. What would you tell him?

Lesson 9: You Ate the Whole Thing

- Let's talk about the whole.

Warm-up: Number Talk: What's the Sum?

Find the value of each expression mentally.

- $20 + 10 + 10 + 5$

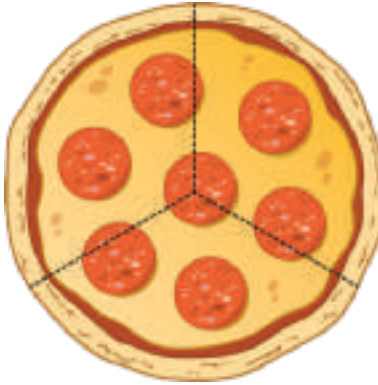
- $30 + 25$

- $35 + 15$

- $15 + 25 + 15$

9.1: Pizza to Share

Clare's friends were going to share a pizza. The image shows how they cut the pizza.



1. Clare ate 3 slices and her friends got upset with her.

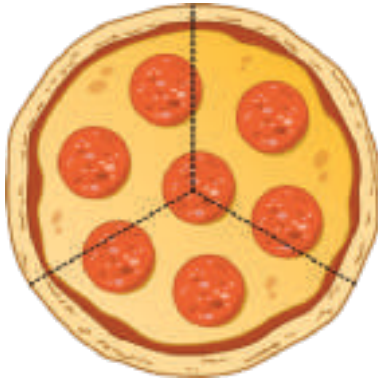
a. Why are her friends upset?

b. How many thirds did Clare eat?

c. How much of the pizza was left?

2. Pizza Parts

Group



Priya

Han

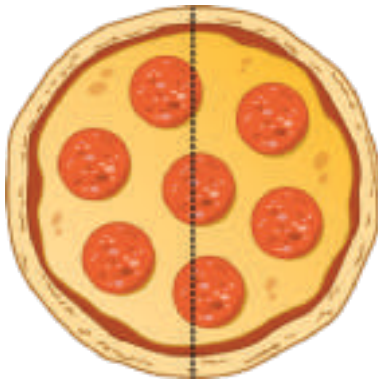
Diego

a. Priya will eat _____ of the pizza.

b. Together they will eat _____ of the pizza.

3. Pizza Parts

Group



Jada

Mai

a. Each girl will eat _____ of the pizza.

b. Together they will eat _____ of the pizza.

4. Pizza Parts

Group



Elena

Tyler

Lin

Kiran

a. How much pizza will each child eat? _____

b. How much pizza will they eat in all? _____

9.2: Equal Shares of the Pie

Write the letter of each image next to the matching story.

A



B



C



D



1. Noah ate most of the pie. He left a quarter of the pie for Diego.

2. Lin gave away a half of her pie and kept a half of the pie for herself.

3. Tyler cut a pie into four equal pieces. He ate a quarter of the pie.

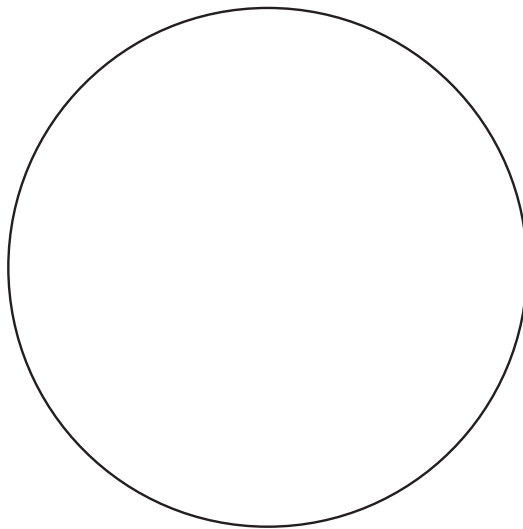
4. Mai sliced the pie to share it equally with Clare and Priya.

a. How much of the pie will they each get? a _____

b. How much of the pie will they eat in all? _____

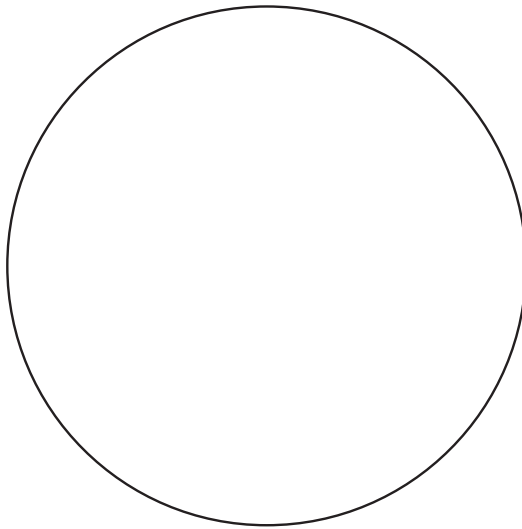
5. Now you try.

- Partition the circle into four equal pieces.
- Shade in a quarter of the circle red.
- Shade in the rest of the circle blue.



How much of the circle is shaded? _____

6. ○ Partition the circle into 2 equal pieces.
- Shade one half of the circle blue.
- Color the other piece yellow.



How much of the circle is yellow? _____

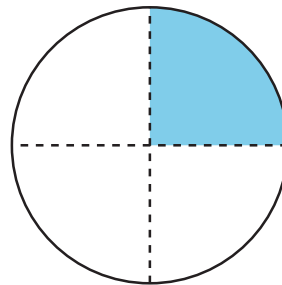
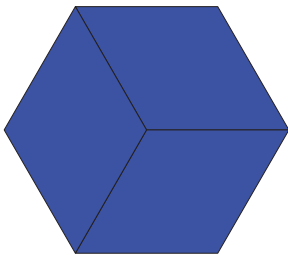
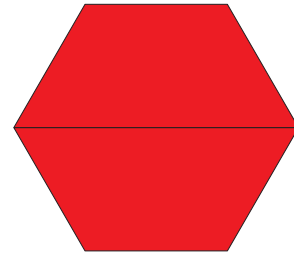
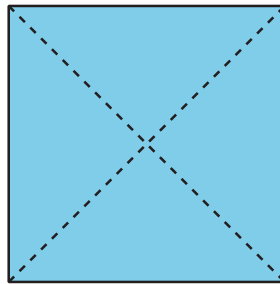
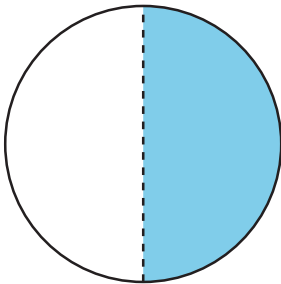
How much of the circle is shaded? _____

Section Summary

Section Summary

We have learned a lot about composing and decomposing shapes. Sometimes the pieces make up a whole shape, but all of the pieces are not the same size. Sometimes the whole is partitioned into equal pieces and they have special names. We practiced partitioning shapes into halves, thirds, and fourths. We learned that halves, thirds, and fourths of the same shape can look different. We learned that we can say the whole shape is 2 halves, 3 thirds, 4 fourths, or 4 quarters.

How can you use halves, thirds, fourths, or quarters to describe the pieces of these shapes? How can you use halves, thirds, fourths, or quarters to describe the whole shape?

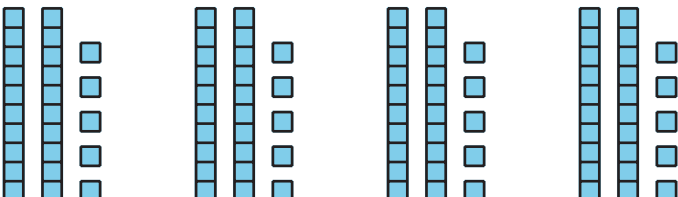
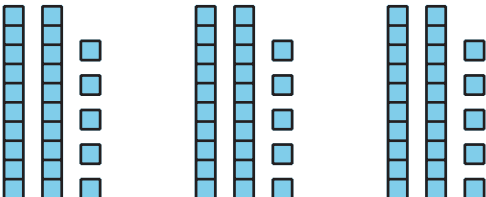
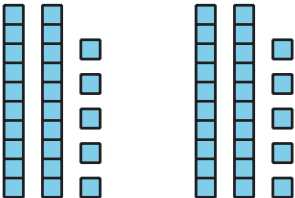
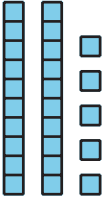


Lesson 10: Center Day 2

- Let's work with shapes.

Warm-up: How Many Do You See: Base-Ten Blocks

How many do you see? How do you see them?



10.2: Centers: Choice Time

Choose a center:

How Are They the Same?



Which One?



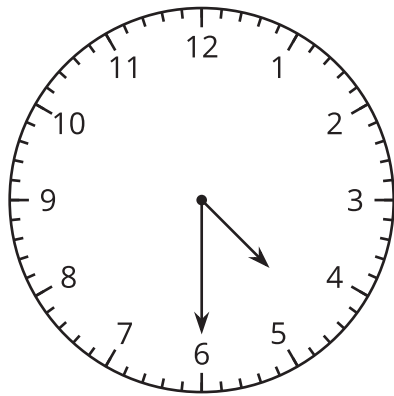
Can You Draw It?



Lesson 11: Tell Time with Halves and Quarters

- Let's tell time with halves and quarters.

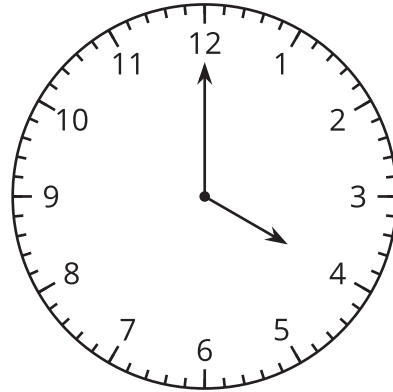
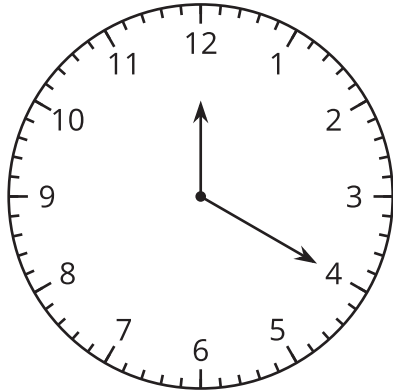
Warm-up: What Do You Know About Ways to Tell Time?



What do you know about ways to tell time? What words do you use to talk about time?

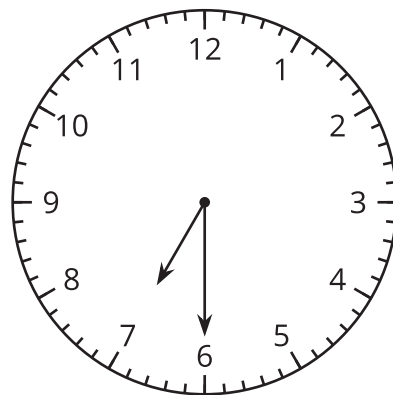
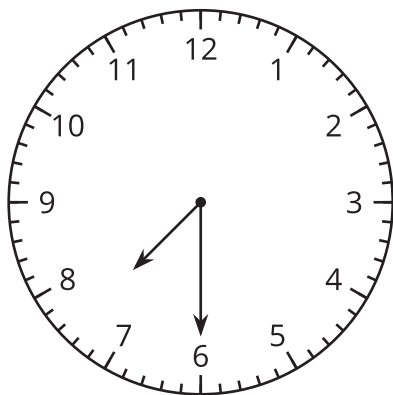
11.1: Tell Time to the Hour and Half-hour

1. Circle the clock that shows 4 o'clock.



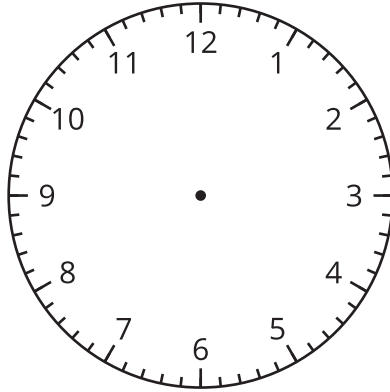
Why doesn't the other clock show 4 o'clock?

2. Circle the clock that shows half past 7.

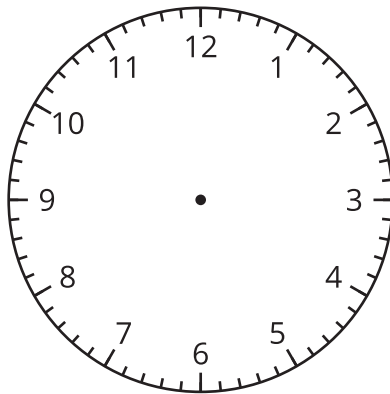


Why doesn't the other clock show half past 7?

3. Draw the hands on the clock to show 10:00.



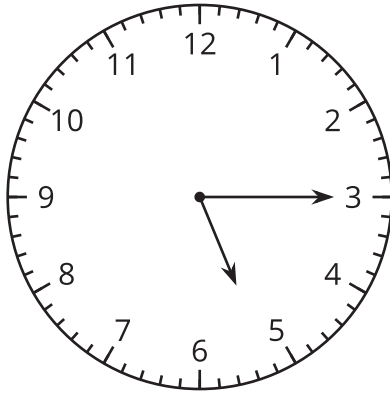
4. Draw the hands on the clock to show 1:30.



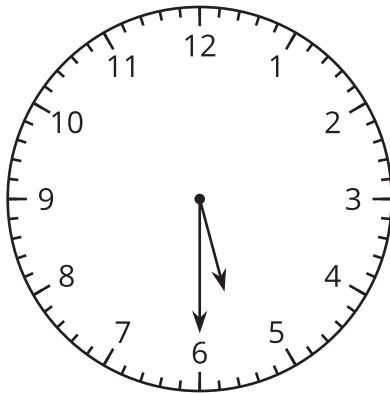
11.2: Card Sort: Halves and Quarters

1. Find matching sets of cards. Each set should have 3 cards. Be prepared to explain why they match.
2. Write the time shown on each clock using the words half past, quarter past, or quarter till.

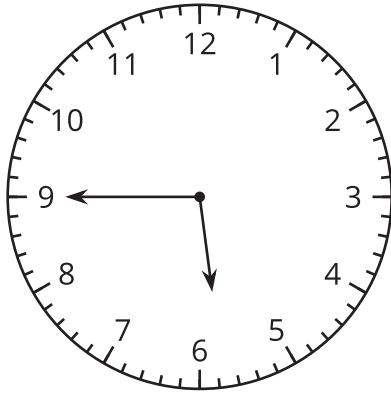
a.



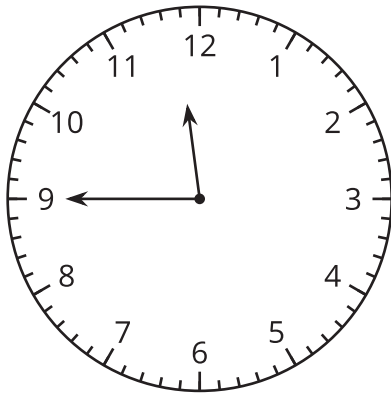
b.



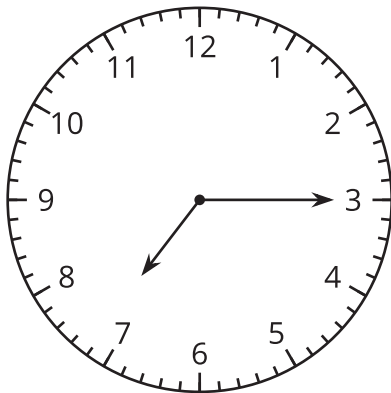
c.



d.



e.

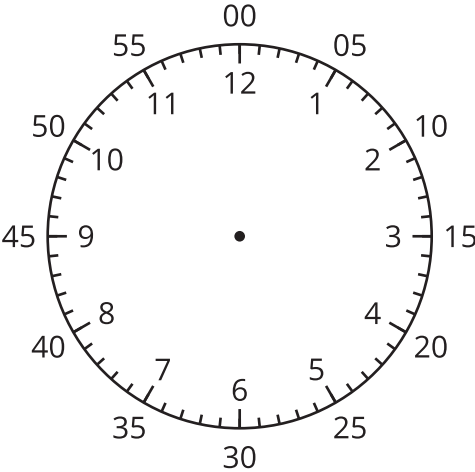


Lesson 12: Count by 5 to Tell Time

- Let's tell time.

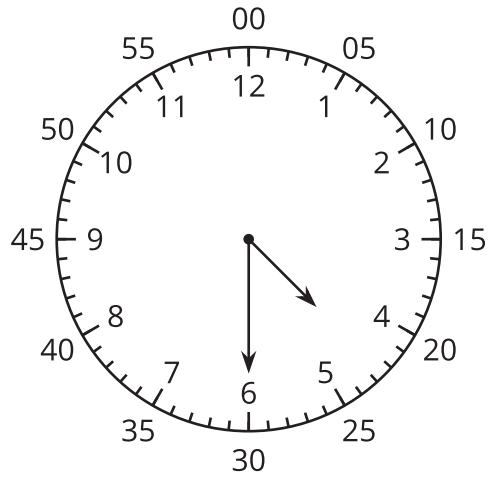
Warm-up: Notice and Wonder: Number Line and Clock

What do you notice? What do you wonder?

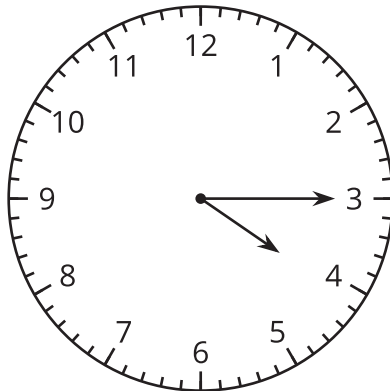


12.1: Count by 5 on the Clock

1. Discuss 2 ways to read the time on this clock.



2. What time does this clock show?

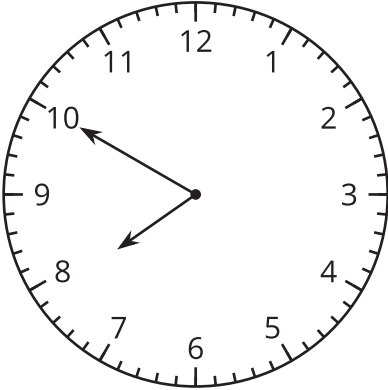


3. Read the time on each clock card with your partner. Put the clocks in order based on the times they show.

12.2: Write the Time

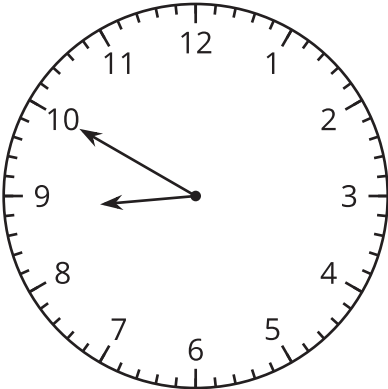
Write the time shown on each clock.

1.



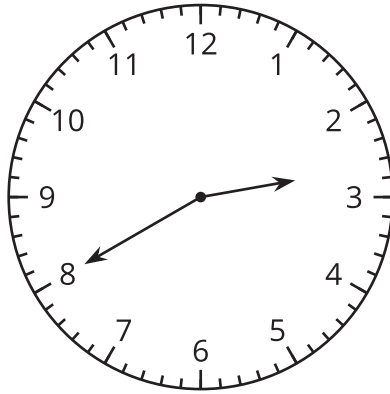
	:	
—	:	—

2.



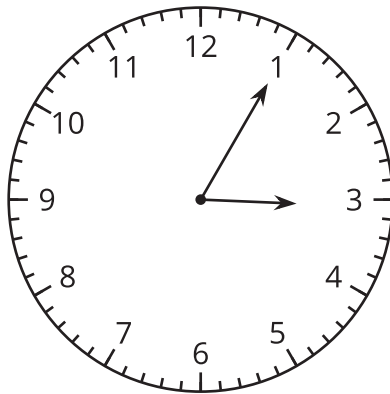
	:	
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3.



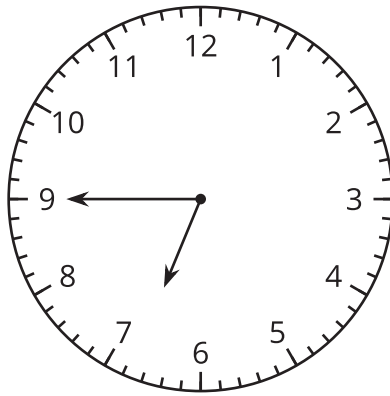
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4.



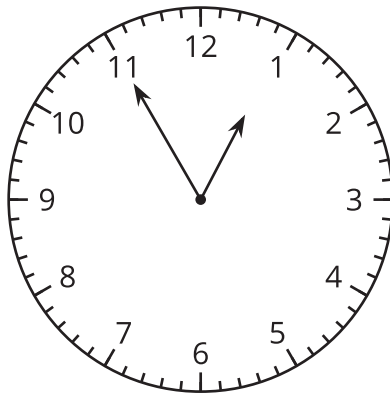
	:	
—	:	—

5.



	:	
—	:	—

6.



	:	
—	:	—

Lesson 13: Is It a.m. or p.m.?

- Let's read and write times using a.m. or p.m.

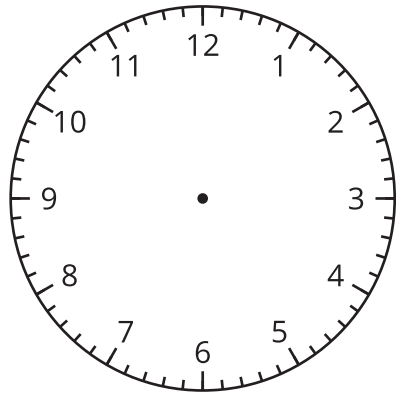
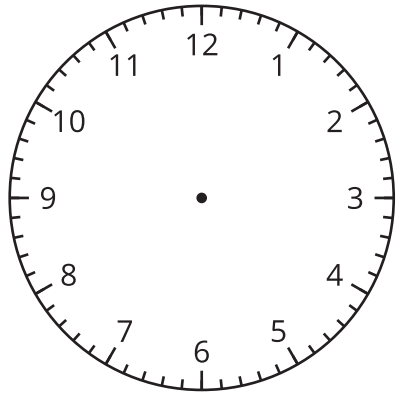
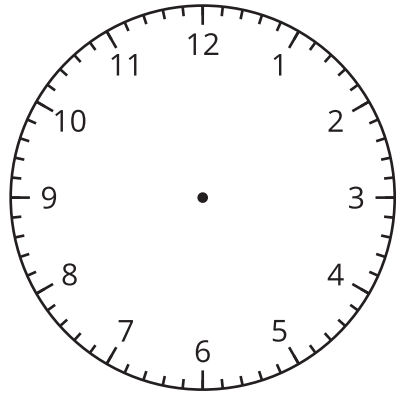
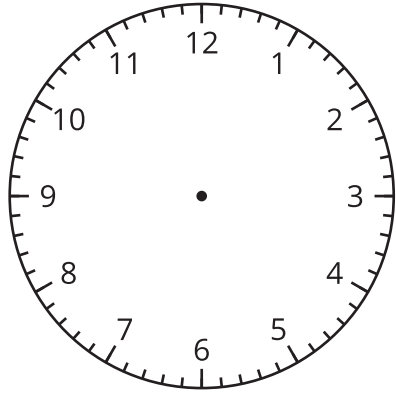
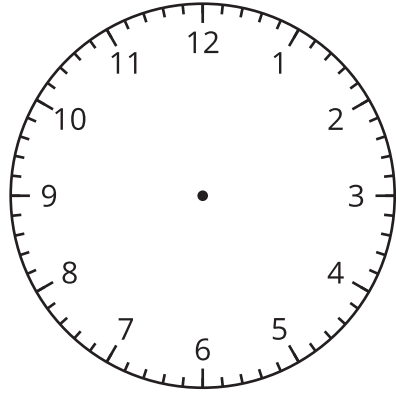
13.1: What is the Time of Day?

1. Use the materials your teacher gives you to create your own representation for the hours in a day.
 - Circle and label when you eat breakfast, lunch, and dinner on the diagram.
 - Shade in when you might be sleeping.
2. Fill in the blank with a.m. or p.m. to show the time of day for each activity. Explain your thinking to your partner.
 - a. Diego goes to baseball practice at 3:00 _____.
 - b. Mai eats breakfast at 7:00 _____.
 - c. Tyler eats lunch at 12:00 _____.
 - d. Elena walks her dog at 2:00 _____.
 - e. Han gets on the bus to go to school at 8:00 _____.
 - f. The second-grade class has a snack at 10:00 _____.

13.2: Tell Time with a.m. and p.m.

- Label each activity with a.m. or p.m.
- Draw a line to the time when the activity could take place.
- Draw the hands on the clock to show the time.

activity	time
do homework _____	1:50
get ready for bed _____	12:05
eat lunch _____	4:35
on the way to school _____	8:10
in bed sleeping _____	7:55



Section Summary

Section Summary

In this section, we learned to read clocks to tell and write time to the nearest 5 minutes. By counting by 5 starting at the number 1, we can tell the time in hours and minutes. We can also use half past, quarter past, or quarter till to tell time when the minute hand is in certain positions. To show the time of day, we use a.m. and p.m. when we tell and write time.



Lesson 14: Center Day 3

- Let's notice shapes in books and practice adding and subtracting.

Warm-up: Number Talk: Adding Up to 4 Two-digit Numbers

Find the value of each expression mentally.

- $10 + 15 + 20 + 10$

- $5 + 30 + 20$

- $15 + 20 + 30$

- $25 + 15 + 5 + 15$

14.2: Centers: Choice Time

Choose a center.

Capture Squares



Number Puzzles

$$14 = 8 + \square$$

Picture Books



Lesson 15: Identify Pennies, Nickels, and Dimes

- Let's learn about coins and their values.

Warm-up: What Do You Know About Money?

What do you know about money?

15.1: Show Me the Money

Name the coins in each group and find the value in cents. Show your thinking using numbers, words, drawings, or equations.

1. Andre's coins:



a. Circle the name of the coins in this collection:

dimes

nickels

pennies

b. What is the value of the coins?

2. Clare's coins:



a. Circle the name of the coins in this collection:

dimes

nickels

pennies

b. What is the value of the coins?

3. Han's coins:



a. Circle the name of the coins in this collection:

dimes

nickels

pennies

b. What is the value of the coins?

4. Show 2 different ways to make 10¢ using numbers, words, or drawings.

15.2: Compare Coins

Name the coins in each group and find the value in cents. Show your thinking using numbers, words, drawings, or equations.

1. Mai's coins:



a. Circle the names of the coins in this collection:

dimes

nickels

pennies

b. What is the value of the coins?

2. Andre's coins:



a. Circle the names of the coins in this collection:

dimes

nickels

pennies

b. What is the value of the coins?

3. Clare's coins:



a. Circle the names of the coins in this collection:

dimes

nickels

pennies

b. What is the value of the coins?

4. Priya's coins:



a. Circle the names of the coins in this collection:

dimes

nickels

pennies

b. What is the value of the coins?

5. Compare your coin names and how you found the values with your partner.

6. Whose group of coins has the least value?









7. Who has the most coins? Does this group of coins have the greatest value? Explain.

Lesson 16: Identify Quarters








- Let's learn about quarters and find the value of different sets of coins.

16.1: How Much is a Quarter Worth?

Write the names and values of the coins you know.

name	front	back	value
			
			
			
			

Complete the table so each row shows a value in cents and two different groups of coins that have that value.

coins	value in cents	coins with same value
1. 		
2. 	50¢	
3. 		
4. 		
5. 		
6. 	80¢	

16.2: More Coins to Compare

1. Elena's Coins



How many cents? Show your thinking.

Elena has:

quarters

dimes

nickels

pennies

2. Tyler's Coins



How many cents? Show your thinking.

Tyler has:

quarters

dimes

nickels

pennies

3. Make your own set of coins with a value of 97¢.

I used:

quarters

dimes

nickels

pennies

4. Make your own set of coins with a value of 66¢. Use the fewest number of coins possible.

I used:

quarters

dimes

nickels

pennies

Lesson 17: Let's Make a Dollar

- Let's make a dollar.

Warm-up: Number Talk: Add 25

Find the value of each expression mentally.

- $25 + 10 + 10 + 5$

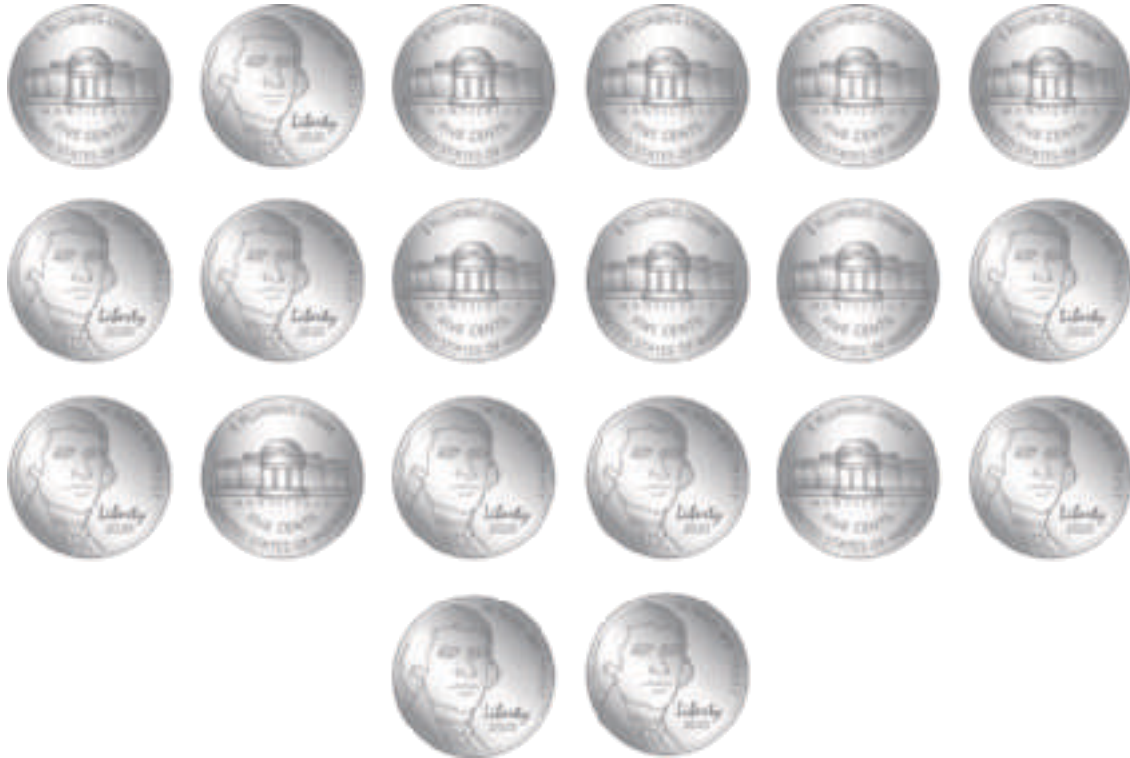
- $25 + 25$

- $25 + 25 + 25$

- $25 + 25 + 25 + 25$

17.1: Many Many Cents

1. Coin Collection A



Circle the coins
in this collection.

quarters

dimes

nickels

pennies

How many coins? _____

What is the value in cents?
Show your thinking.

2. Coin Collection B



Circle the coins
in this collection.

quarters

dimes

nickels

pennies

How many coins? _____

What is the value in cents?
Show your thinking.

3. Coin Collection C

Make a collection using only dimes that has the same value as Collection A.

Glue or draw coins here.

How many coins? _____

What is the value in cents?

Show your thinking.

17.2: The Value of a Dollar



1. Andre emptied his pockets and found these coins.



How much money does he have? Show your thinking.

2. Han emptied his pockets and found these coins.



How much money does he have? Show your thinking.

3. Priya has \$1 and 18¢ in her pocket.

a. If Priya only had coins in her pocket, what coins could she have?

Represent Priya's coins:

b. If Priya had 1 dollar bill and some coins, what coins could she have?

Represent Priya's money:

Lesson 18: Money Problems

- Let's solve problems with money.

Warm-up: How Many Do You See: Groups of Coins

How many coins do you see? How do you see them?







18.1: Shop for School Supplies

items	cost
pack of pencils	75¢
pencil sharpener	35¢
eraser	45¢
pens	18¢

1. Lin has these coins:



a. How much money does Lin have for supplies?

b. If Lin buys an eraser, how much money will she have left?
Show your thinking.

2. Diego has these coins:



a. How much money does Diego have for supplies?

b. If Diego buys a pack of pencils, how much money will he have left? Show your thinking.

18.2: Shop with a Dollar

Show your thinking for each problem.

supplies	cost
notebooks	26¢
colored pencils	18¢
pencil box	39¢
glue stick	44¢

1. Clare wants to buy a pencil box and colored pencils.

a. How much money will it cost?

b. Clare has \$1. How much will she have left?

2. Tyler wants to buy a notebook and a pencil box. He has \$1. How much will he have left?

3. Andre has \$1. He wants to buy a glue stick, a pencil box, and colored pencils. Does Andre have enough money?

Lesson 19: More Money Problems

- Let's solve money problems with lots of dollars.

Warm-up: Number Talk: Use Ten to Add Within 100

Find the value of each expression mentally.

- $18 + 32$

- $28 + 32$

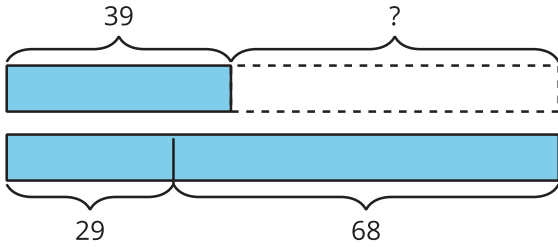
- $28 + 34$

- $38 + 35$

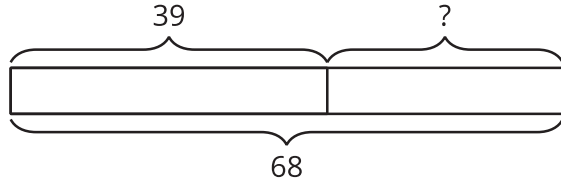
19.1: Shop with Friends

Write the letter next to the story problem it represents.

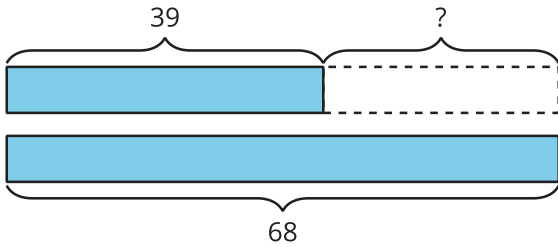
A



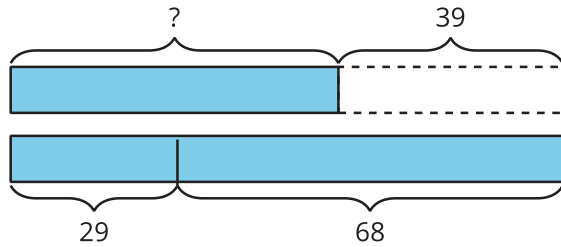
B



C



D



1. A basketball costs \$39 less than a soccer ball and football combined.

The soccer ball costs \$29 and the football costs \$68.

How many dollars does the basketball cost? _____

2. Jada is saving to buy a gift for her dad. The gift costs \$68. So far she has \$39.

How much more does she need? _____

3. A pair of pants costs \$39.

A shirt costs \$29 and a pair of shoes cost \$68.

How many more dollars do the shirt and shoes cost than the pants? _____

4. Diego has \$39. His mom gave him some money for his birthday. Now he has \$68.

How much money did he get for his birthday? _____

19.2: Money Among Friends

For each problem, show your thinking. Write your final answer using the \$. Use a diagram if it helps.

1. Mai has \$27, Elena has \$48, and Jada has \$16. How much money do they have altogether?











2. Tyler has \$45, Andre has \$36, and Noah has \$28. How much less money does Tyler have than Andre and Noah combined?

3. Lin has \$19. Together, Lin and Han have \$45. Then Han gets \$17 more. How much money does Han have now?

Section Summary

Section Summary

In this section we learned the value of quarters, dimes, nickels, and pennies and how to recognize each coin. We used addition and counting strategies to find the values of mixed sets of coins. We learned that a dollar has the same value as 100 cents and combined coins to make \$1. We also solved story problems about money.

name	front	back	value
	    	    	

Lesson 20: Center Day 4

- Let's compare coin collections and work with shapes.

Warm-up: Number Talk: Coin Counting Connections

Find the value of each expression mentally.

- $20 + 25 + 5 + 5$

- $15 + 25 + 25$

- $25 + 15 + 25 + 6$

- $20 + 15 + 30 + 7$

20.2: Centers: Choice Time

Choose a center.

Would You Rather?



How Are They the Same?



Picture Books

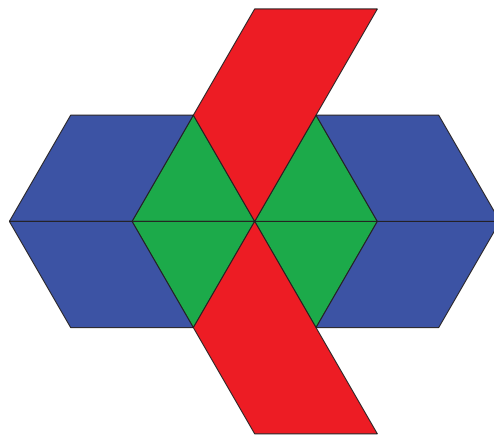
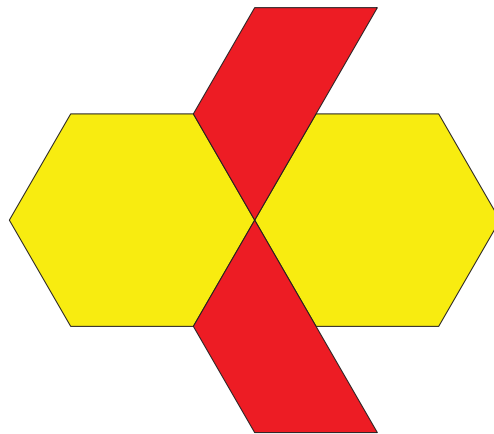


Lesson 21: Pattern Block Puzzles

- Let's make pattern block puzzles.

Warm-up: Notice and Wonder: Pattern Block Bees

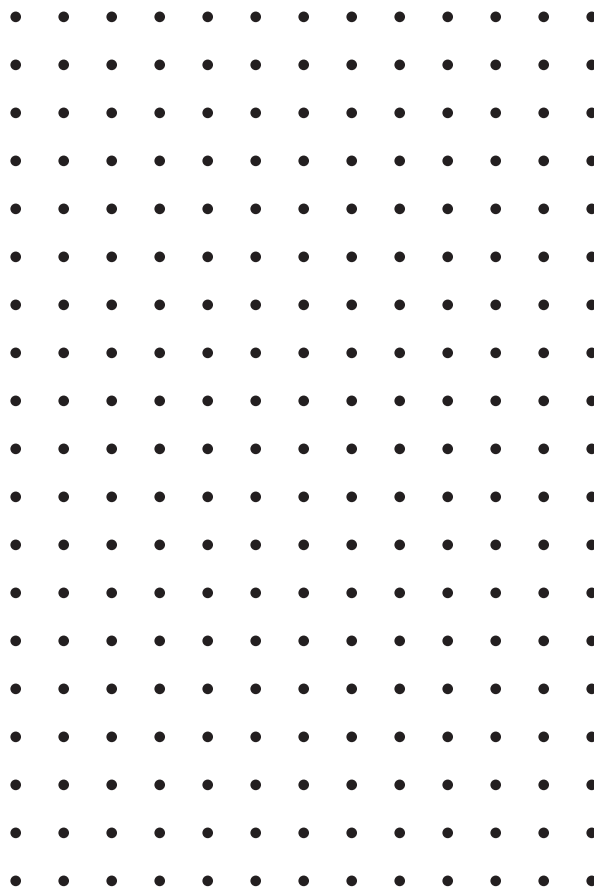
What do you notice? What do you wonder?



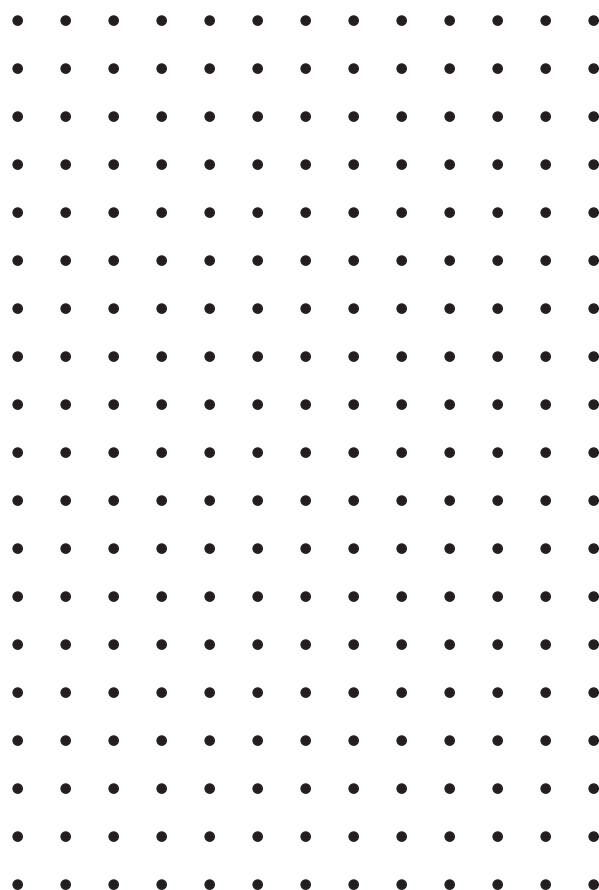
21.1: Pattern Block Puzzles

1. Make a puzzle using 4 pattern blocks. Use at least 1 hexagon.
2. Trace each pattern block on the blank puzzle paper.
3. Trade the puzzle paper with another person in your group.
4. Use the pattern blocks to show two different ways to make your partner's puzzle. Sketch the two ways.

Puzzle 1

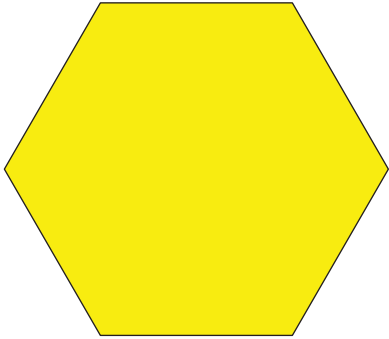



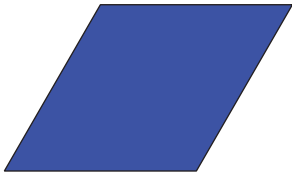

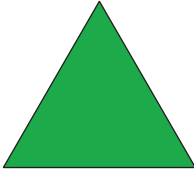



Puzzle 2



5. Share one thing you notice about the puzzles.

21.2: The Pattern Block Store

shape	cost
	
	
	
	

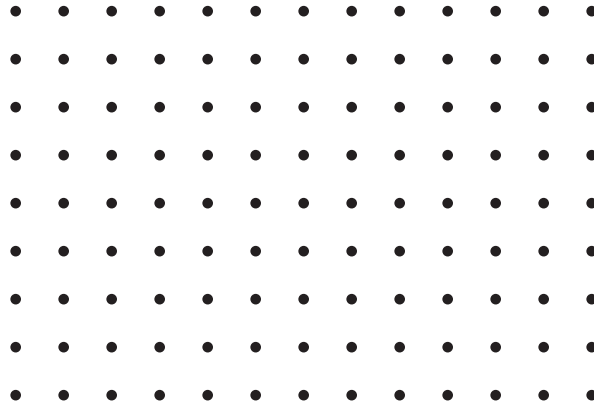
How much would the two puzzles you sketched cost at the Pattern Block Store? Show or explain your reasoning.

1. Puzzle 1:

2. Puzzle 2:

Section A: Practice Problems

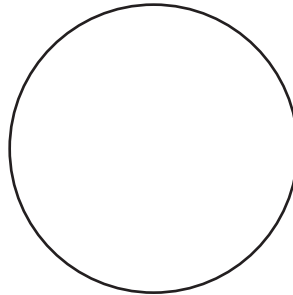
1. Pre-unit



- a. Draw a rectangle and label it A.
- b. Draw a triangle and label it B.

2. Pre-unit

- a. Split the circle into 2 equal parts.



- b. Split the rectangle into 4 equal parts.

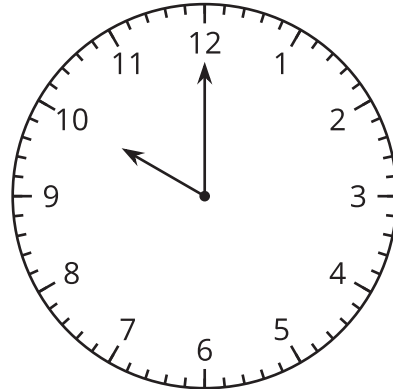


3. Pre-unit

Write the time each clock shows.

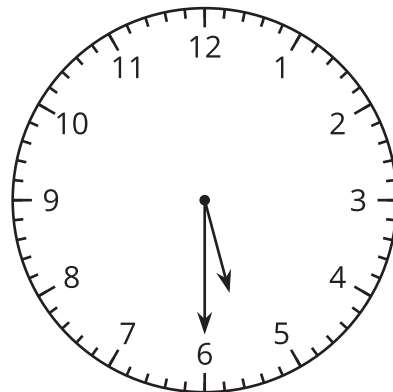
a.

.
: .
_ _



b.

.
: .
_ _



4. Pre-unit

Find the value of each expression.

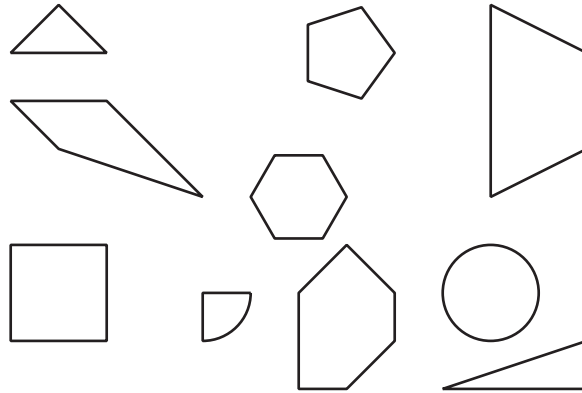
a. $25 + 25 + 10 + 5$

b. $83 - 42$

c. $37 + 54$

d. $66 - 49$

5. Here are some shapes.

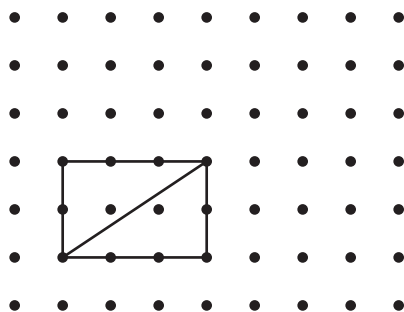


a. Find a triangle and label it A. Explain why the shape is a triangle.

b. Find a pentagon and label it B. Explain why the shape is a pentagon.

(From Unit 6, Lesson 1.)

6. a. Diego drew this shape and said that it is a pentagon. Do you agree with Diego? Explain your reasoning.



- b. Draw a pentagon on the grid.

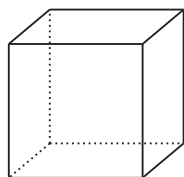
(From Unit 6, Lesson 2.)

7. a. Draw a quadrilateral that has 3 sides that are 2 inches long.

b. Draw a different quadrilateral that has 3 sides that are 2 inches long.

(From Unit 6, Lesson 3.)

8. This image represents a solid shape. Describe this shape.



(From Unit 6, Lesson 4.)

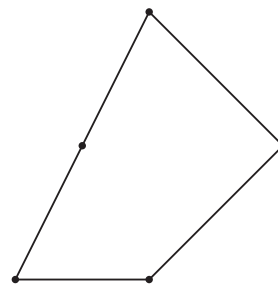
9. Exploration

Priya says this shape is a quadrilateral.

Han says this shape is a pentagon.

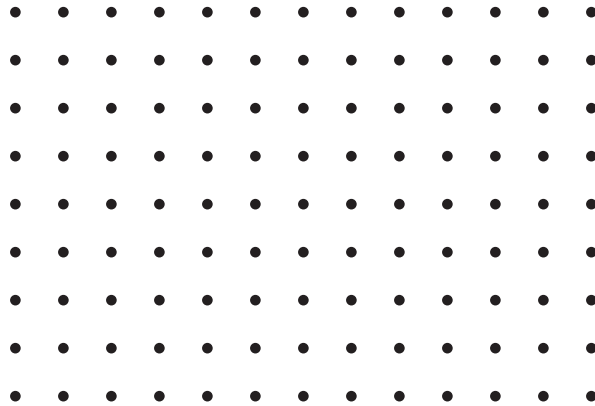
Who do you agree with?

Explain your reasoning.

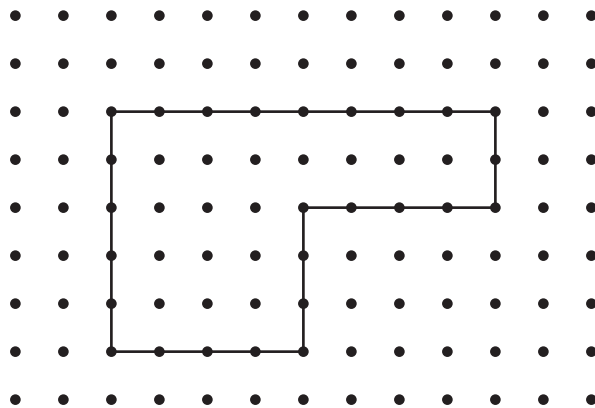


10. Exploration

- a. Can you draw a pentagon with 5 square corners? Use the dots if they are helpful.

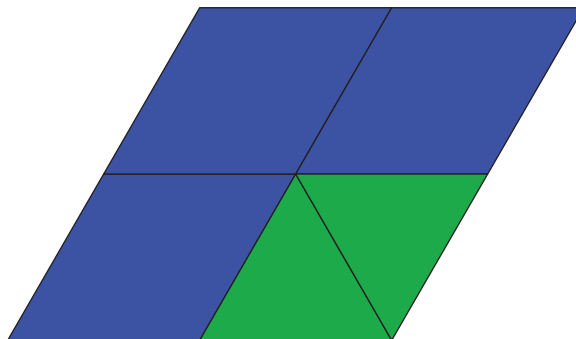


- b. Elena says this hexagon has 6 square corners. Do you agree with Elena? Explain your reasoning.



Section B: Practice Problems

1. Here is a pattern block shape Lin made.

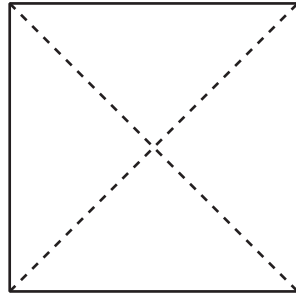


a. Describe the blocks Lin used to make her shape.

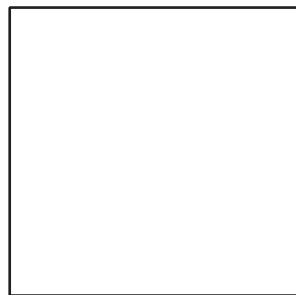
b. Build Lin's shape using only equal-size shapes.

(From Unit 6, Lesson 6.)

2. a. Andre drew this picture and said each part of the square is a fourth. Do you agree with Andre? Explain.

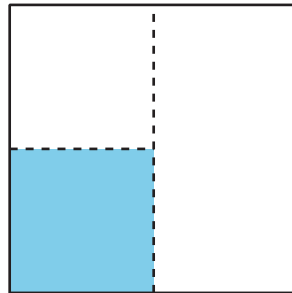


- b. Partition the square into 4 equal parts in a different way.



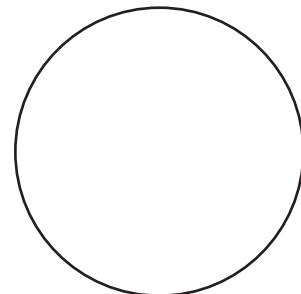
(From Unit 6, Lesson 7.)

3. Diego cut a square into two equal pieces and then cut one of the pieces into two equal pieces. He says the shaded part is a third of the square. Do you agree with Diego? Explain your reasoning.



(From Unit 6, Lesson 8.)

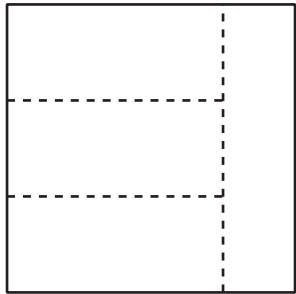
4. a. Partition the circle into 4 equal parts.
b. Shade 3 parts blue and one part red.
c. How much of the circle is shaded?



(From Unit 6, Lesson 9.)

5. Exploration

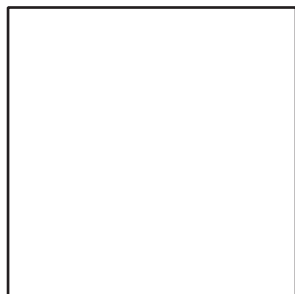
Is the square divided into fourths? Show your reasoning.



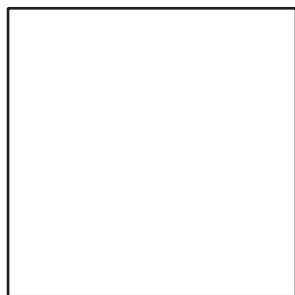
6. Exploration

Can you divide the square into equal parts?

a. 4 equal parts with 3 of the parts different shapes

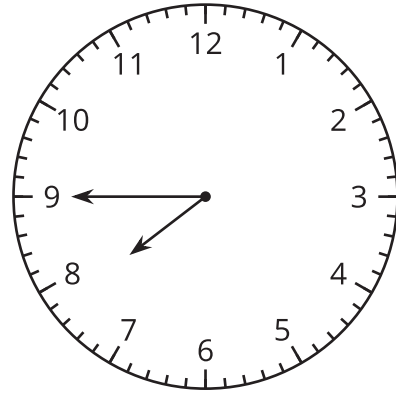
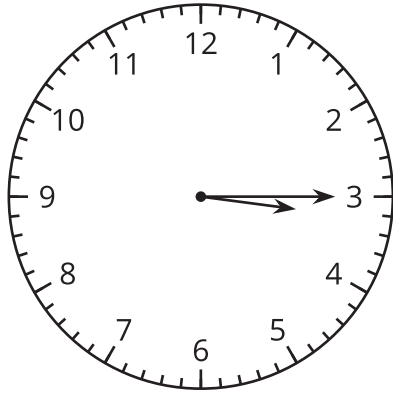


b. 4 equal parts with 4 of the parts different shapes

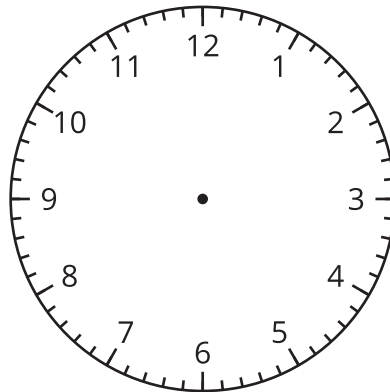


Section C: Practice Problems

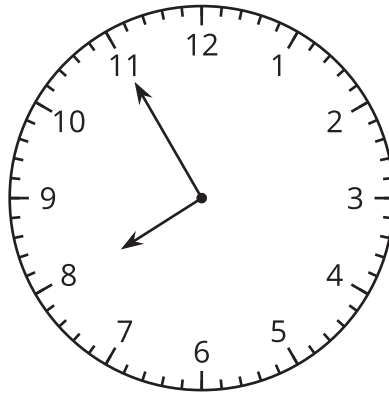
1. a. Write the time shown on the clocks using the words half past, quarter past, or quarter till.



- b. Draw hands on the clock face to show half past 5.



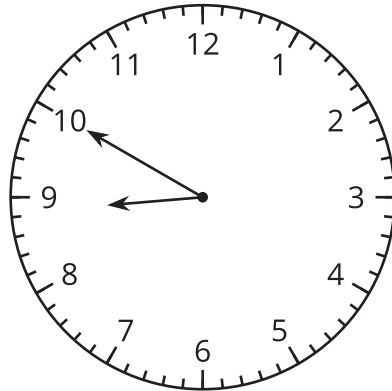
(From Unit 6, Lesson 11.)



2. Priya says that the clock shows that it's 7:11. Do you agree with Priya? Explain your reasoning.

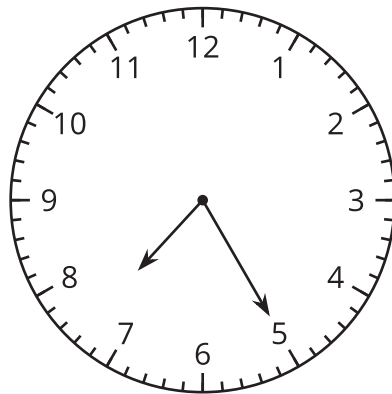
(From Unit 6, Lesson 12.)

3. a.



The clock shows when Clare went to bed. Write the time, including a.m. or p.m. _____

b.



The clock shows when Noah got to school. Write the time, including a.m. or p.m. _____

(From Unit 6, Lesson 13.)

4. Exploration

Mai got to school at 7:35 a.m. She left school to go home 375 minutes later. What time did Mai leave to go home? Explain your reasoning.

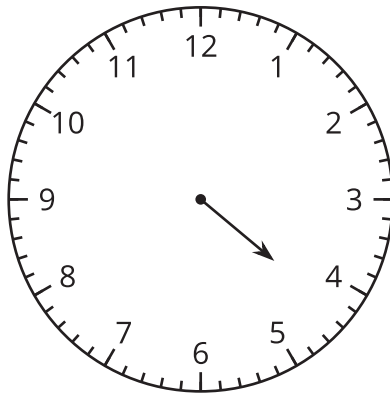
5. Exploration

Fill out the table with some of the things you do during the day and the time for each activity.

activity	time
wake up	
leave for school	

6. Exploration

This clock only has an hour hand.



What can you say about the time shown on the clock?

Section D: Practice Problems



1. a. Which coins are shown in the picture?

b. What is the value of the coins altogether?

(From Unit 6, Lesson 15.)

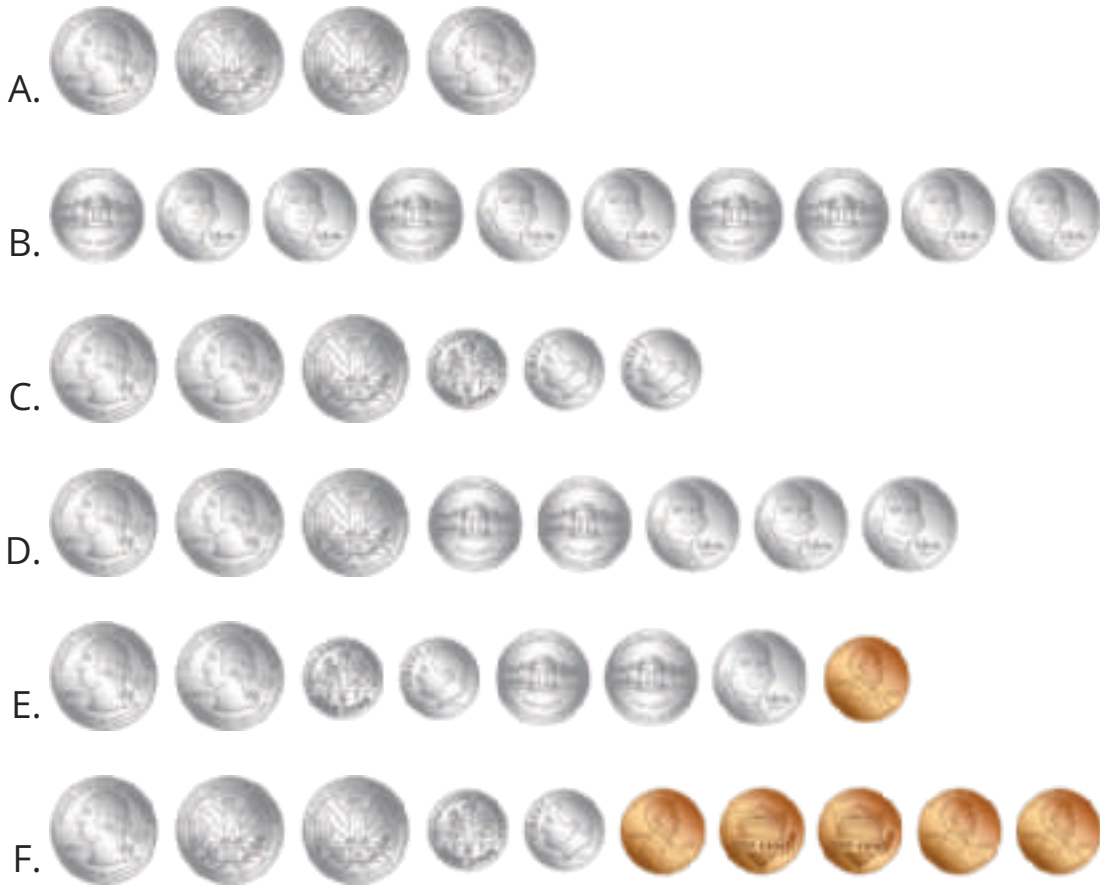


2. a. Which coins are shown in the picture?

b. What is the value of the coins altogether?

(From Unit 6, Lesson 16.)

3. Select 3 collections of coins that show a dollar.



(From Unit 6, Lesson 17.)

4. Mai has 92 cents. She gives Lin 38 cents. How many cents does Mai have now?

(From Unit 6, Lesson 18.)

7. Exploration

item	cost (cents)
notebook	25
colored pencil	18
pencil box	39
glue stick	4

Jada spent exactly one dollar on school supplies. What could Jada have bought? Find 2 different solutions.

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