

Doubling, Halving, and Fractions

Sharing with a Group

You need

- graham crackers
- paper towel

How can you share your snack with others?

STEP 1 Observing

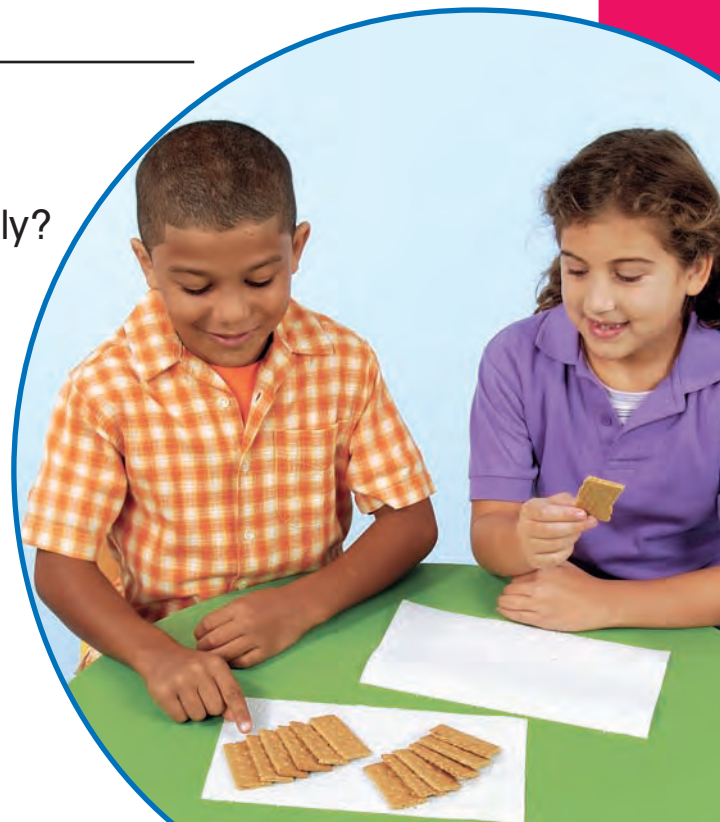
Look at your crackers. Are there enough for you and your partner to share? How do you know?

**STEP 2** Sharing

Now work with another partner team. How can you share the new group's crackers equally?

STEP 3 Getting One More

Add one more cracker. Now can you share equally? What can you do?





School-Home Connection

Dear Family,

Today we started Chapter 7 of **Think Math!** In this chapter, I will find double and half of a number. I will also identify and write fractions of an object and a set of objects. There are NOTES on the Lesson Activity Book pages to explain what I am learning every day.

Here are some activities for us to do together at home. These activities will help me understand doubles, halves, and fractions.

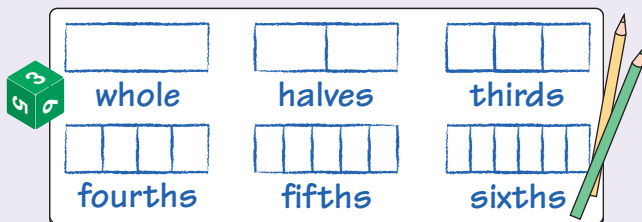
Love,

Family Fun

Share the Granola Bar!

Work with your child to play this game. Your child will play a similar game in Lesson 7.

- Prepare a gameboard like this. You also need two different-color pencils and a number cube.



- Take turns with your child. For a turn, toss the number cube. This is the number of people who share the granola bar. Find the bar divided into that many equal pieces, write the fraction in one piece, and color that piece. This shows that you ate it. For example, if you roll a 6, write $\frac{1}{6}$ in one piece of the bar for sixths, and then color it.
- If there are no uncolored pieces left for a fraction, you lose a turn.
- The winner is the last to eat a piece of granola!

Double Your Money

Work with your child to practice doubling a money amount.

- Write a money amount less than 50¢ on a slip of paper. Together, show it with coins.
- Ask your child to double that amount of money using any method. Your child can figure out the amount on a scrap of paper and then show it with coins or figure it out just using the coins.



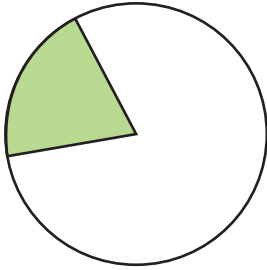
- As a challenge, you might ask your child to find half of the original amount.

Exploring One Half

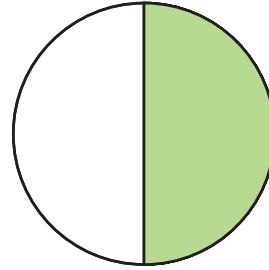
NCTM Standards 1, 6, 8, 9, 10

Circle the pictures that show one half.

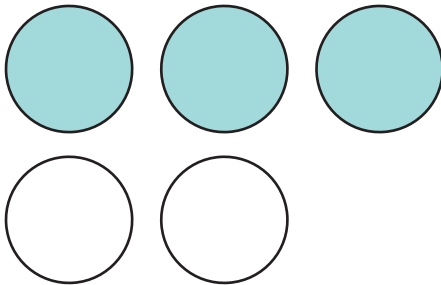
1.



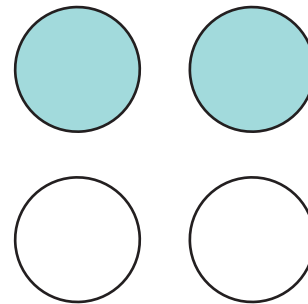
2.



3.



4.



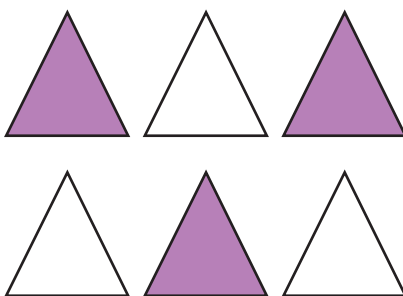
5.



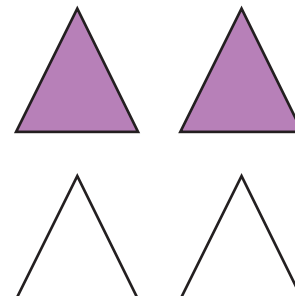
6.



7.



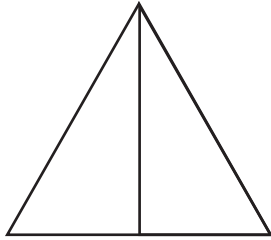
8.



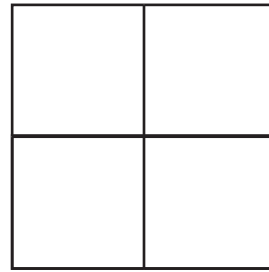
NOTE: Your child is learning
to find one half of an object
or set of objects.

Color $\frac{1}{2}$ of each picture.

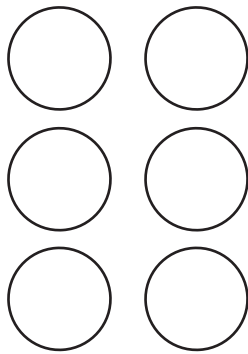
9.



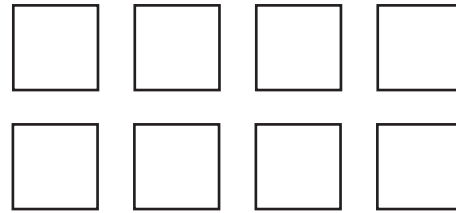
10.



11.

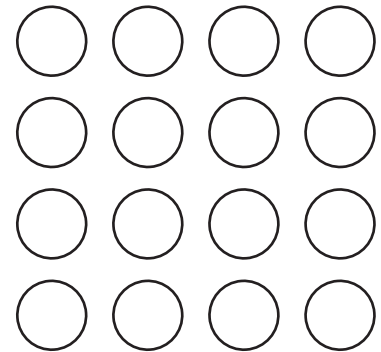


12.



13. Color $\frac{1}{2}$ of the set of circles.

Tell how you know it is $\frac{1}{2}$.



Challenge

14. Dwayne plays video games for half an hour.
How many minutes is that? Explain.

_____ minutes

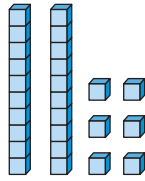


Finding Half: Even or Odd

NCTM Standards 1, 2, 6, 7, 8, 9, 10

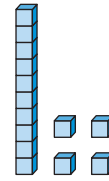
How much is half?

1.



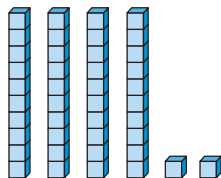
Half of 26 is 13.

2.



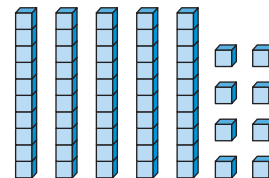
Half of 14 is _____.

3.



Half of 42 is _____.

4.



Half of 58 is _____.

	Whole	Half
5.	6	3
6.	8	
7.	10	
8.	18	
9.	24	
10.	36	
11.	70	



NOTE: Your child is learning to find half of even and odd numbers. Together, find half of 20.

What number will solve each riddle?

12. I am an even number. I am half of 44. What number am I?

22

13. I am an even number. Half of me is 14. What number am I?

14. I am an even number. Half of me is 36. What number am I?

15. I am an odd number. I am half of 50. What number am I?

16. I am an odd number. Half of me is $11\frac{1}{2}$. What number am I?

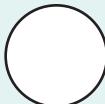

17. I am an odd number. Half of me is $9\frac{1}{2}$. What number am I?





18. Make up your own riddle. Ask a classmate to solve it.



Challenge

Write the same number in frames that are the same.

19.  +  = 86

21.  +  = 9

20.  +  = 56

22.  +  = 25

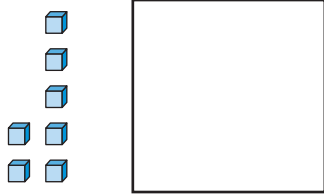
Doubling Numbers

NCTM Standards 1, 2, 6, 7, 8, 9, 10

What is the double of each number?

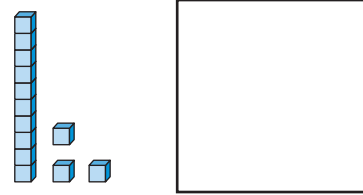
Draw symbols if you want.

1.



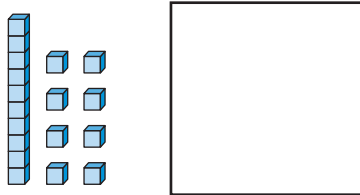
7 doubled is 14.

2.



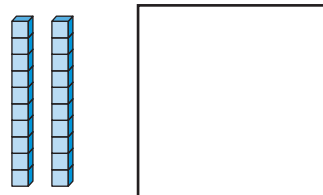
13 doubled is _____.

3.



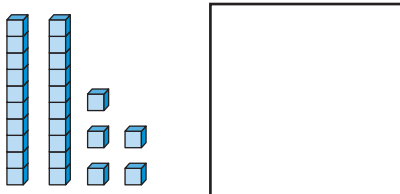
18 doubled is _____.

4.



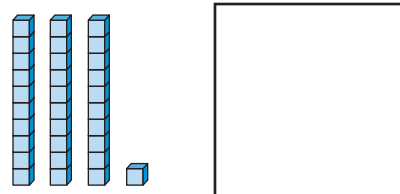
20 doubled is _____.

5.



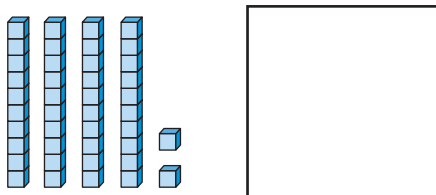
25 doubled is _____.

6.



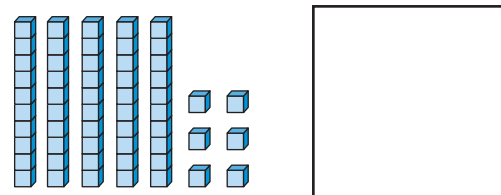
31 doubled is _____.

7.



42 doubled is _____.

8.



56 doubled is _____.



NOTE: Your child is learning to double numbers. Together, find the double of 9.

What are the missing numbers? Write each rule.

9.

0	0
1	2
2	4
3	
4	
	10
6	

Rule: _____

10.

5	9
6	11
20	39
3	
10	
11	
	29

Rule: _____

Use doubles to solve.

11. $6 + 6 =$ _____

$6 + 5 =$ _____

$6 + 7 =$ _____

12. $15 + 15 =$ _____

$15 + 14 =$ _____

$16 + 14 =$ _____

13. $50 + 50 =$ _____

$49 + 49 =$ _____

$49 + 51 =$ _____

14. $20 + 20 =$ _____

$19 + 19 =$ _____

$17 + 19 =$ _____

Problem Solving

15. Kyle has a recipe that makes 12 cups of punch. Kyle doubles the recipe. How many cups will he make?

_____ cups

Kyle doubles the recipe again. How many cups will he have now?

_____ cups

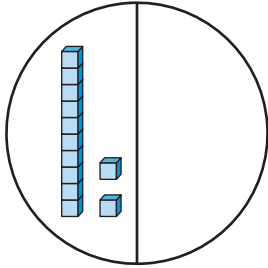


Halving and Doubling Time and Numbers

NCTM Standards 1, 2, 6, 7, 8, 9, 10

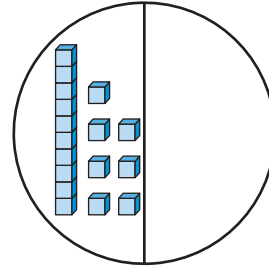
What is missing?

1.



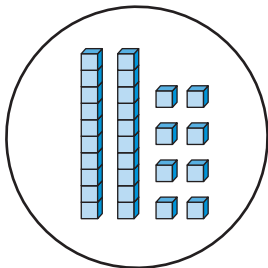
12 is half of 24.

2.



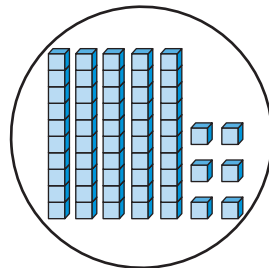
17 is half of _____.

3.



_____ is half of 28.

4.



_____ is half of 56.

	Whole	Half
5.		15
6.	46	
7.		36
8.	58	



NOTE: Your child is learning to find doubles and halves.

How long will a round trip take?

	One Way	Round Trip
9.	9 minutes	<u>18</u> minutes
10.	15 minutes	_____ minutes
11.	24 minutes	_____ minutes
12.	40 minutes	_____ minutes
13.	55 minutes	_____ minutes

A round trip is double a one-way trip.



14. How did you find the answer for Problem 13?
Use words, numbers, or pictures to explain.

Challenge

15. What time is the movie half over?
What time will the movie end?

Movie Starts



Half Over



Movie Ends

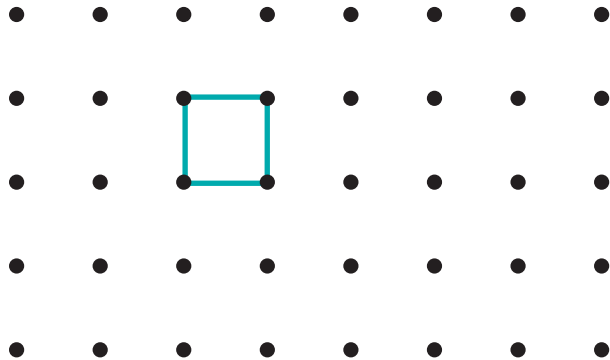


Doubling Length

NCTM Standards 1, 2, 3, 4, 6, 8, 9, 10

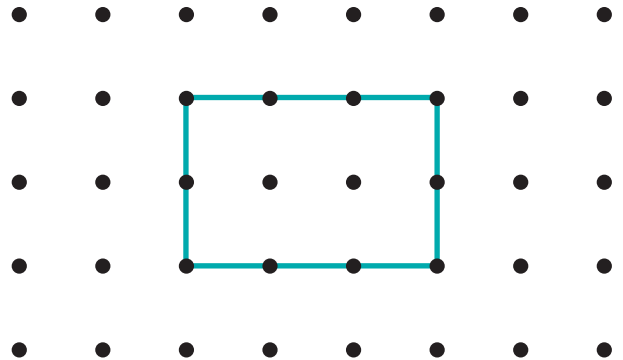
What is the distance around each figure?

1.



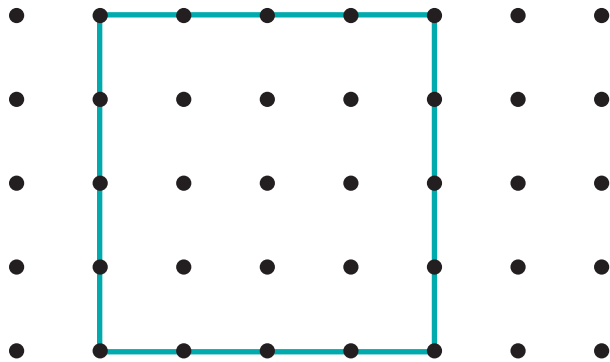
4 spaces

2.



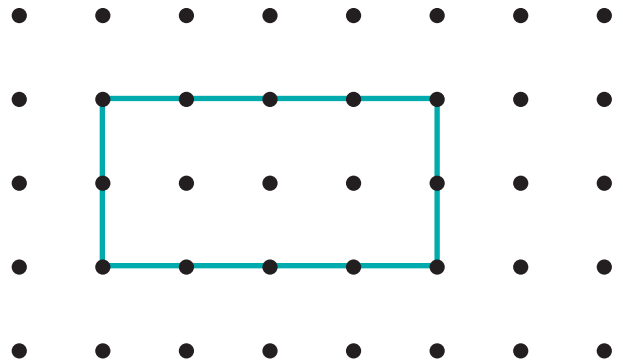
_____ spaces

3.



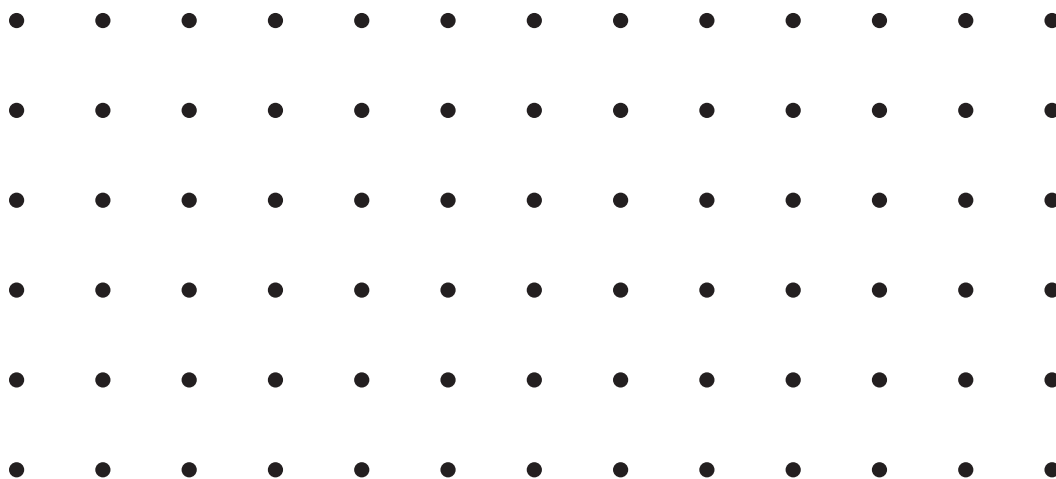
_____ spaces

4.



_____ spaces

5. Draw a figure with 4 sides. What is the distance around the figure?



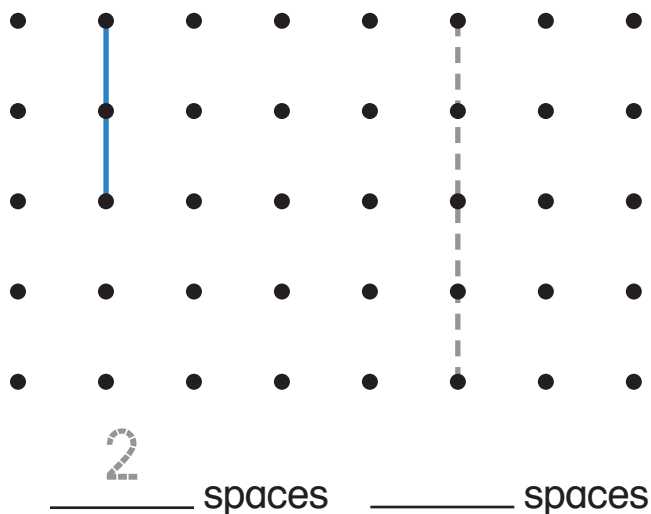
_____ spaces



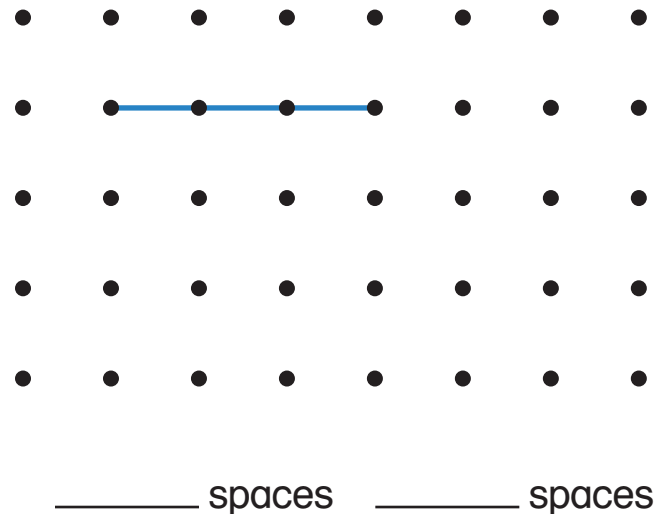
NOTE: Your child is learning to double the length of lines.

Draw a new line. Make it twice as long as the blue line.
How long is each line?

6.

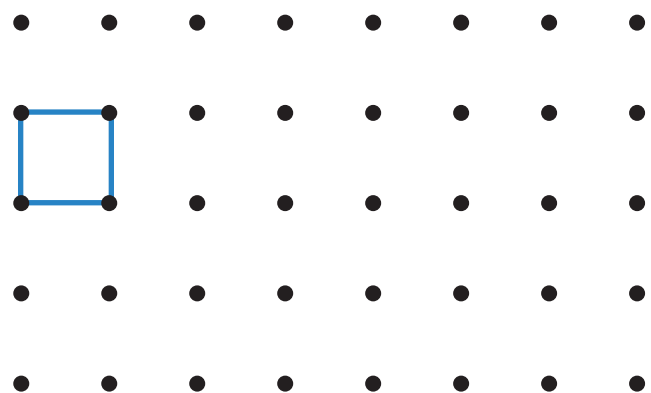


7.

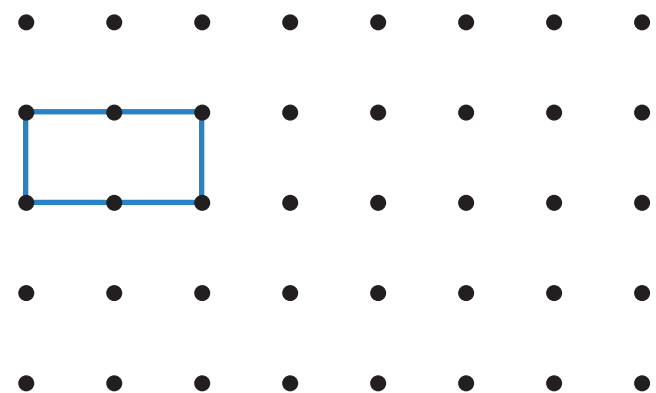


Draw a new figure. Double the sides of the blue figure.

8.



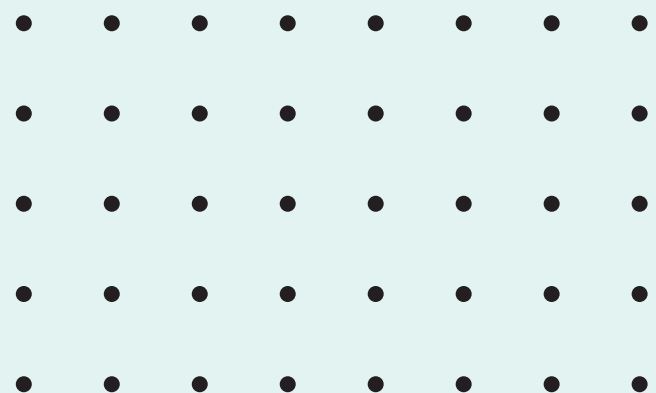
9.



Challenge

10. The distance around a square is 16 spaces. Draw the square.
How long is each side?

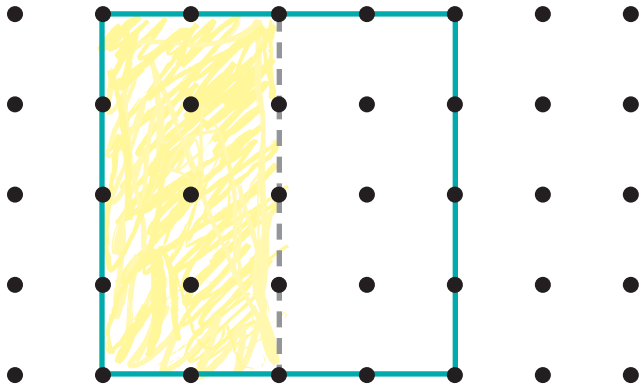
_____ spaces



Thirds and Fourths

NCTM Standards 1, 2, 6, 8, 9, 10

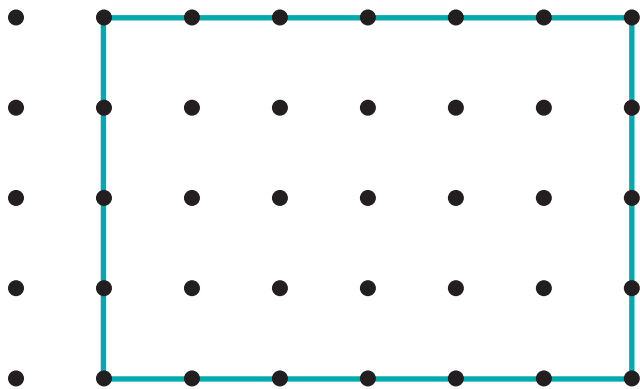
1. Color $\frac{1}{2}$ of the figure.



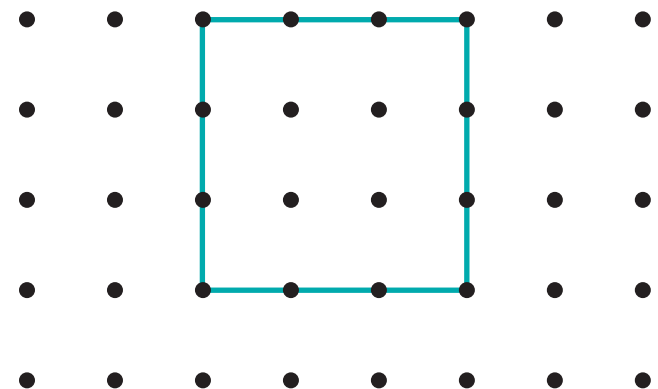
Use the dots to help you divide the whole into equal parts.

Color $\frac{1}{3}$.

2.

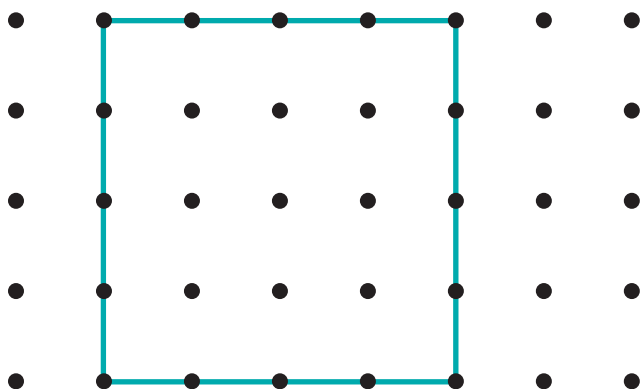


3.

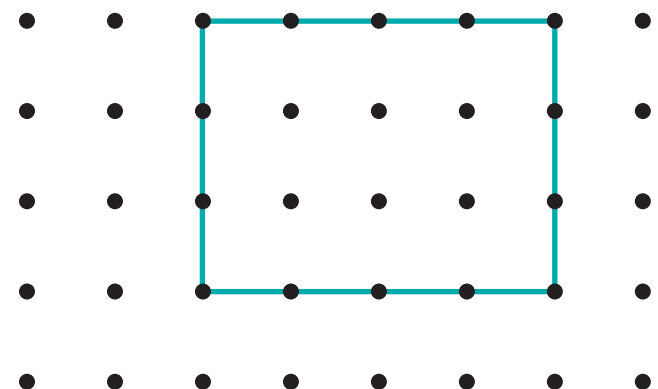


Color $\frac{1}{4}$.

4.



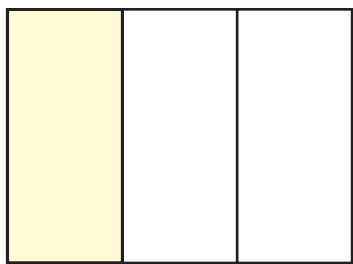
5.



NOTE: Your child is learning to identify and write fractions. Together, fold a napkin to show one third or one fourth.

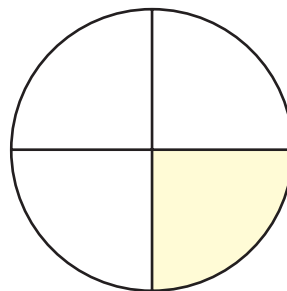
What part is colored? Write the fraction.

6.

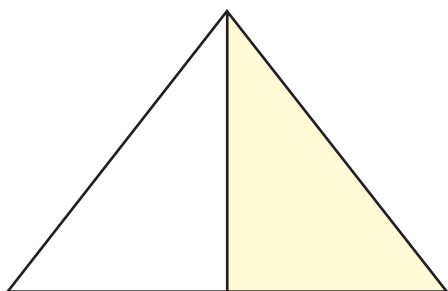


$\frac{1}{3}$

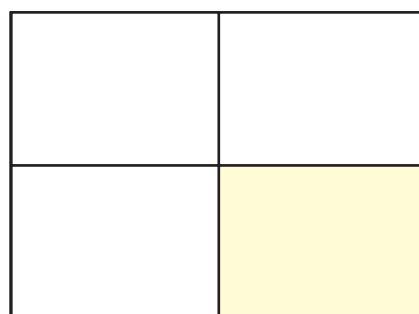
7.



8.

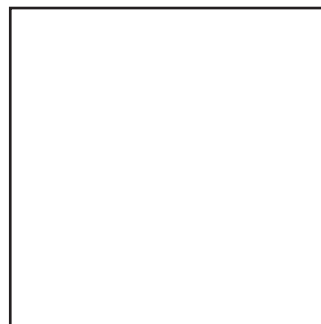
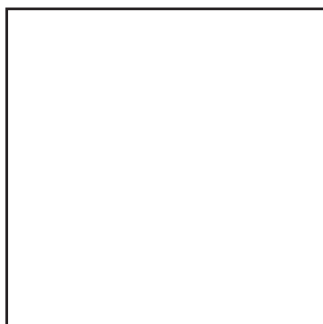
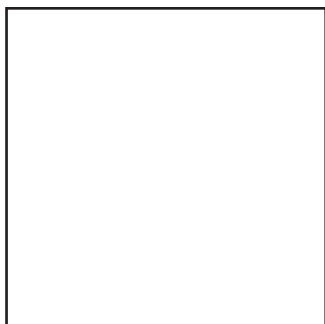


9.



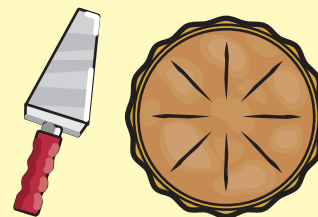
Color $\frac{1}{4}$ in three different ways.

10.



Problem Solving

11. Four friends want to share a whole apple pie. How many pieces do they need to cut the pie into? What fraction of the pie would each person get? Use words, numbers, or pictures to explain.

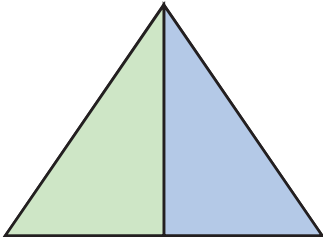


Fair Shares

NCTM Standards 1, 2, 6, 8, 9, 10

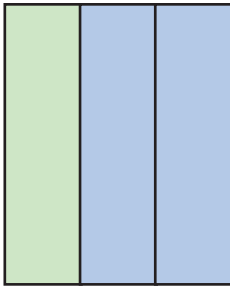
Write each fraction.

1.

What part is green? $\frac{1}{2}$

What part is blue? _____

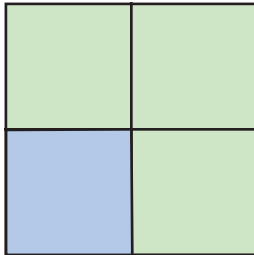
2.



What part is green? _____

What part is blue? _____

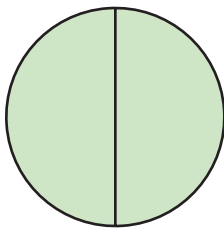
3.



What part is green? _____

What part is blue? _____

4.



What part is green? _____



NOTE: Your child is learning
to identify and write fractions
for parts of a whole.

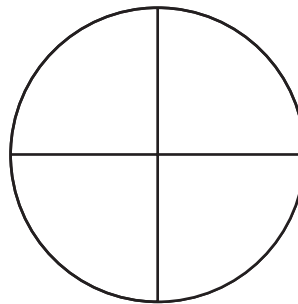
Color to show each fraction.

5.



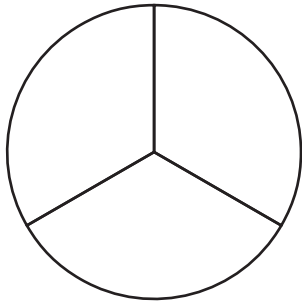
$\frac{2}{3}$

6.



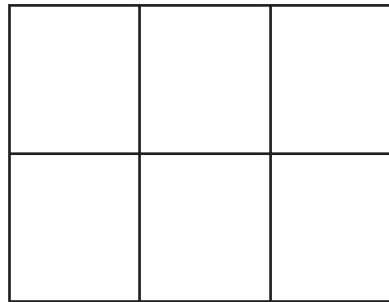
$\frac{3}{4}$

7.



$\frac{3}{3}$

8.

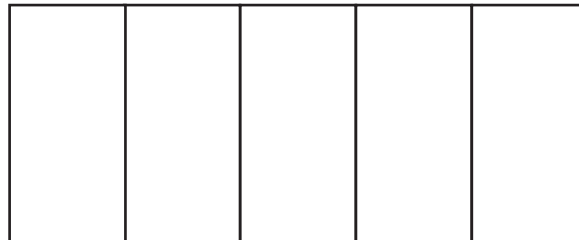


$\frac{4}{6}$

9. Color $\frac{2}{5}$ green. Color $\frac{1}{5}$ blue.

Color the rest red.

What fraction of the figure is red? _____



Problem Solving

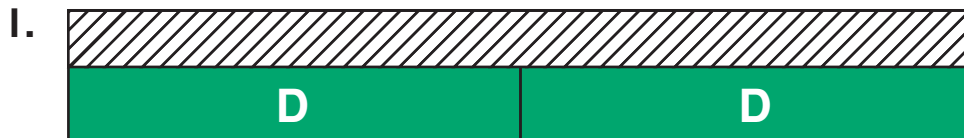
10. Erin has 4 stuffed elephants. Three of the elephants are pink. What fraction of the elephants is NOT pink?

Draw a picture to show how you found the answer.

Exploring Fractions with Cuisenaire® Rods

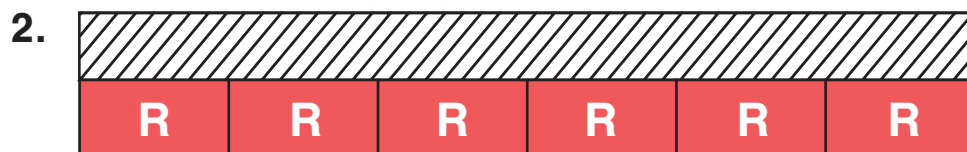
NCTM Standards 1, 2, 6, 7, 8, 9, 10

The striped rod is one whole. How much is one of the other rods? Write the fraction.



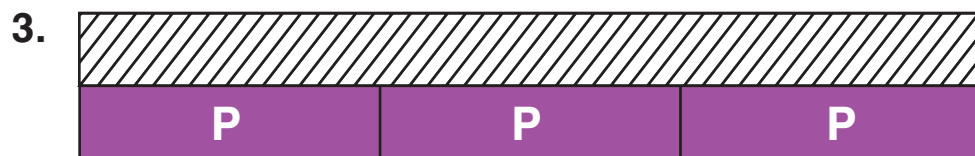
One dark green rod is

$\frac{1}{2}$.



One red rod is

_____.



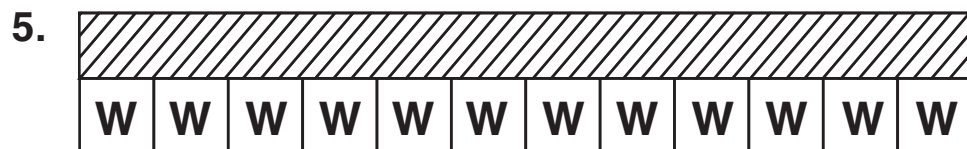
One purple rod is

_____.



One green rod is

_____.

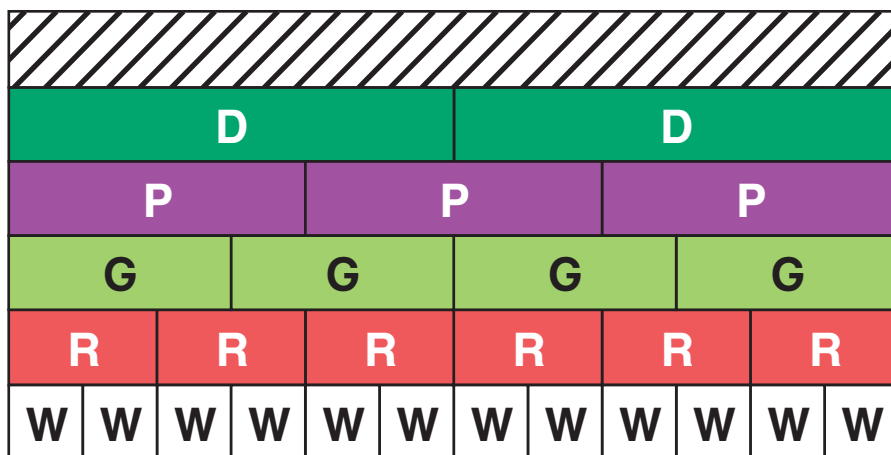


One white rod is

_____.



NOTE: Your child is learning to represent fractions with Cuisenaire® Rods. Ask your child how many green rods make up $\frac{1}{2}$ of a striped rod.



Write $<$, $>$, or $=$. Use the picture to help you.

6.

$$\frac{1}{3} \bigcirc \frac{1}{4}$$



7.

$$\frac{1}{6} \bigcirc \frac{1}{4}$$



8.

$$\frac{1}{6} \bigcirc \frac{1}{12}$$

9.

$$\frac{1}{6} \bigcirc \frac{2}{12}$$

10. Make your own. Choose a rod in two different colors. Complete the sentence.

$$\frac{1}{\square} \bigcirc \frac{1}{\square}$$

Challenge

11. $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} \bigcirc \frac{1}{3} + \frac{1}{3}$

12. $\frac{1}{3} \bigcirc \frac{1}{6} + \frac{1}{6}$

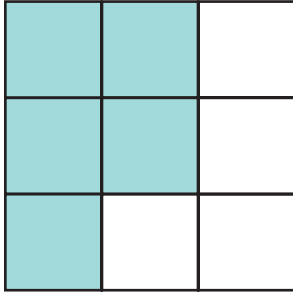


More Fractions

NCTM Standards 1, 2, 6, 7, 8, 9, 10

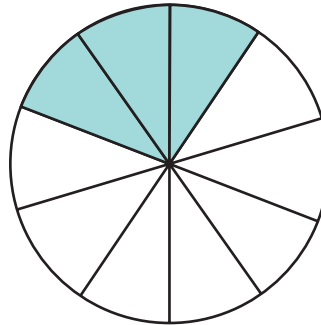
What part is colored? Write the fraction.

1.

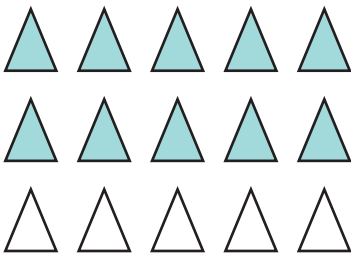


$$\frac{5}{9}$$

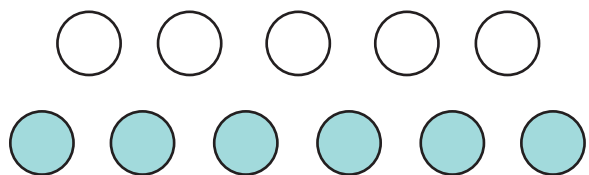
2.



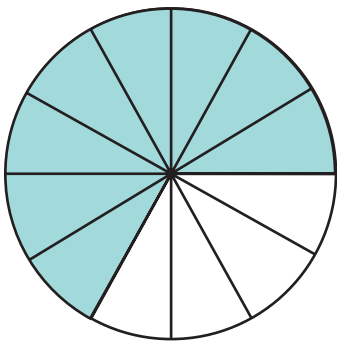
3.



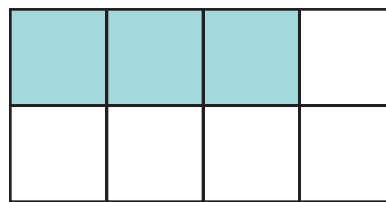
4.



5.

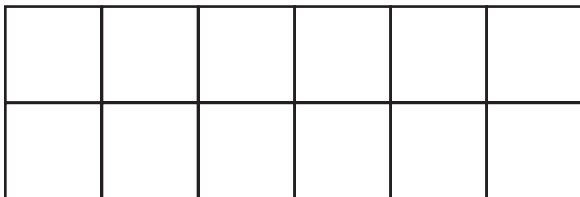


6.

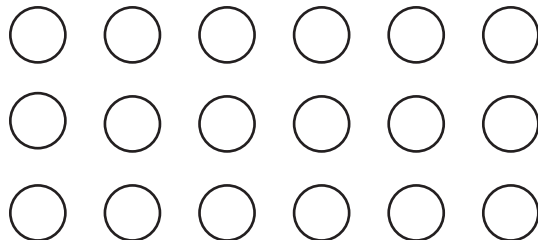


Make your own. Color part of the picture.
Write the fraction you made.

7.



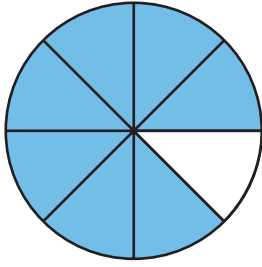
8.



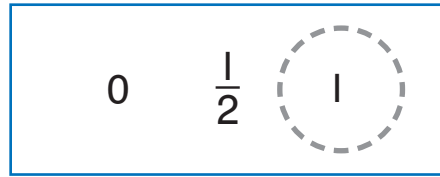
NOTE: Your child is learning
to write fractions and estimate
the relative size of fractions.

Write the fraction for the colored part.
Circle if it is closer to 0, $\frac{1}{2}$, or 1.

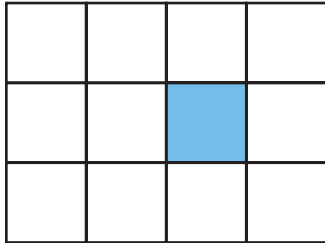
9.

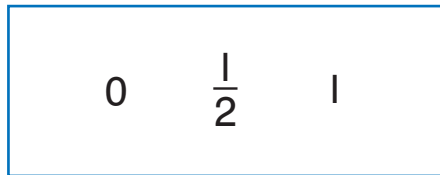


$\frac{7}{8}$

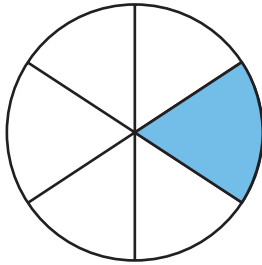


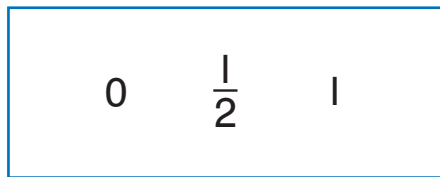
10.



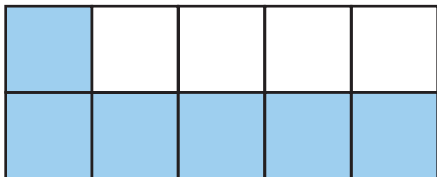


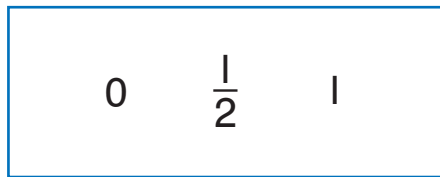
11.





12.



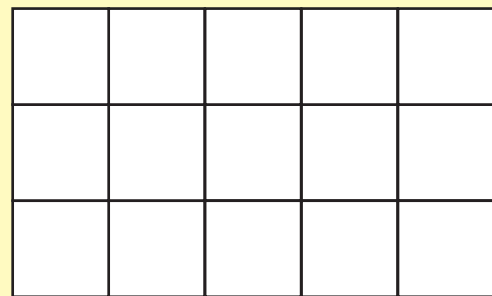


Problem Solving

13. Color the picture to show a fraction close to $\frac{1}{2}$.

What fraction did you show? _____

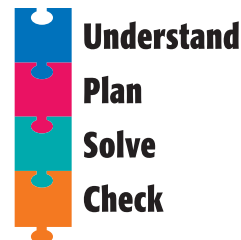
Explain how you know it is close to $\frac{1}{2}$.



Problem Solving Strategy

Guess and Check

NCTM Standards 1, 2, 4, 5, 6, 7, 8, 9, 10



1. Dan has a cup of marbles. He takes $\frac{1}{2}$ and shares the rest fairly between 2 friends. Dan gets 2 more marbles than each friend. How many marbles were in the cup? _____ marbles

How did you find the answer? _____

2. Double a number and it is half of 48.
What is the number? Explain. _____

3. There are fewer than 10 pretzels in the bag. If two children share, 1 pretzel is left over. If three children share, 2 pretzels are left over. How many pretzels are in the bag? _____ pretzels

How did you find the answer? _____



NOTE: Your child is exploring different ways to solve problems. Sometimes using the strategy, *guess and check*, is an efficient way to solve a problem.



Problem Solving Test Prep

1. Maria has pennies and dimes in a bag. She picks 3 coins. Which is NOT an amount of money she could have?

(A) 3¢
(B) 12¢
(C) 15¢
(D) 21¢

2. Sal's team scored 21 points in the second half. They had 50 points at the end of the game. How many points did the team get in the first half?

(A) 21 points
(B) 29 points
(C) 39 points
(D) 71 points



Show What You Know

3. Nicole rides her bike 1 mile every 10 minutes. She starts riding at 9:00. What time will it be after she rides 4 miles?

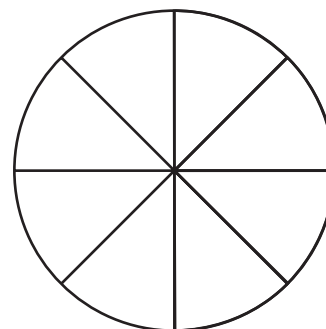
:

Miles					
Time	:	:	:	:	:

Explain your answer.

4. A pizza is cut in 8 pieces. The children eat half a pizza. How many pieces are left?

_____ pieces



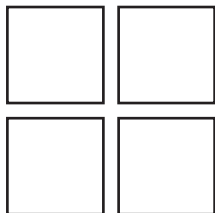
Explain your answer.

Review/Assessment

NCTM Standards 1, 2, 4, 6, 7, 8, 9, 10

Color $\frac{1}{2}$ of each picture. Lesson 1

1.

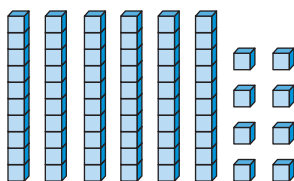


2.



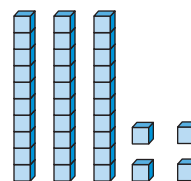
How much is half of each amount? Lesson 2

3.



Half of 68 is _____.

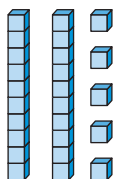
4.



Half of 34 is _____.

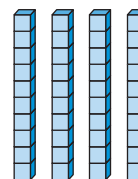
How much is double of each amount? Lesson 3

5.



25 doubled is _____.

6.



40 doubled is _____.

7. How long will a round trip take? Lesson 4

One Way	12 minutes	46 minutes	34 minutes
Round Trip	_____ minutes	_____ minutes	_____ minutes

Draw a new figure. Double the sides of the blue figure. Lesson 5

8.

9.

What part is green? Write each fraction. Lessons 6, 7

10.

11.

12.

13. Write the fraction for the colored part.
Circle if it is closer to 0, $\frac{1}{2}$, or 1. Lesson 9

0 $\frac{1}{2}$ 1

Problem Solving Lesson 10

14. Jess has a bag of cherries. She eats half. Then she gives her brother half of what is left. She is left with 5 cherries. How many cherries did she have to start?

_____ cherries