NEW JERSEY CENTER
FOR TEACHING & LEARNING

2nd Grade

Geometry Presentation Part 2

2015-11-30

www.njctl.org

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Standards for Mathematical Practices

MP1 Make sense of problems and persevere in solving them.

MP2 Reason abstractly and quantitatively.

MP3 Construct viable arguments and critique the reasoning of others.

MP4 Model with mathematics.

MP5 Use appropriate tools strategically.

MP6 Attend to precision.

MP7 Look for and make use of structure.

MP8 Look for and express regularity in repeated reasoning.

Click on each standard to bring you to an example of how to meet this standard within the unit.

COMMON CORE STATE STANDARDS INITIATIVE
PREPARING AMERICA'S STUDENTS FOR COLLEGE & CAREER

Dividing Rectangles into Rows and Columns Part 1

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Column

a line or objects that go up and down

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Row

a line or objects that go side to side

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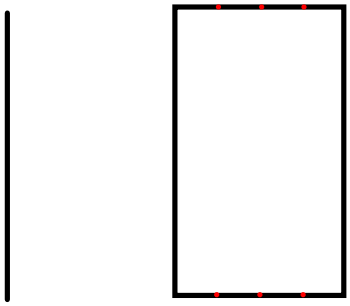
Columns and Rows

Use the line and line up the red dots to divide the rectangle into equal columns.



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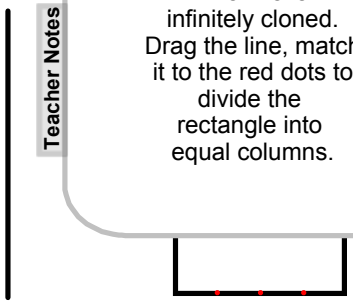
Columns and Rows

Use the line and line up the red dots to divide the r



Teacher Notes

The line is infinitely cloned. Drag the line, match it to the red dots to divide the rectangle into equal columns.

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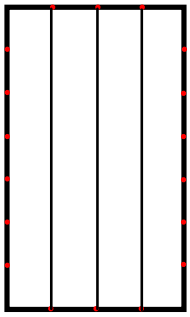
Columns and Rows

Use the line and line up the red dots to divide the rectangle into equal rows.



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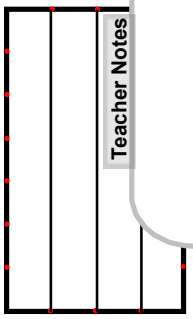
Columns and Rows

Use the line

divide the

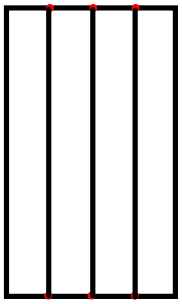


Teacher Notes

The line is infinitely cloned. Drag the line, match it to the red dots to divide the rectangle into equal rows.

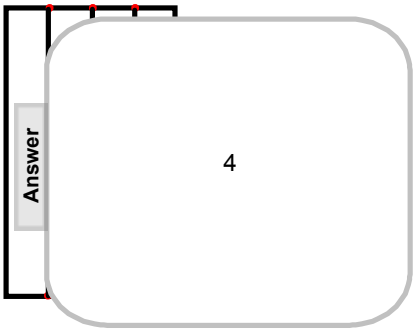
Slide 11 / 201

1 How many equal columns does this rectangle have?



Slide 11 (Answer) / 201

1 How many equal columns does this rectangle have?



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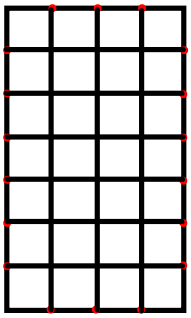
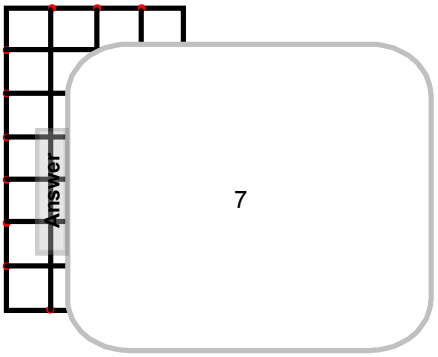
2 How many equal rows does this rectangle have?



Slide 12 (Answer) / 201

2 How many equal rows does this rectangle have?



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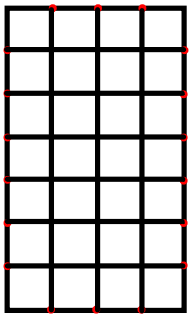
3 How many squares are inside this rectangle?

- A 4
- B 20
- C 28
- D 7



Slide 13 (Answer) / 201

3 How many squares are inside this rectangle?

- A 4
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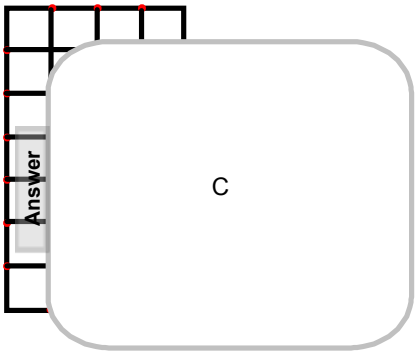
- C 28
- D 7



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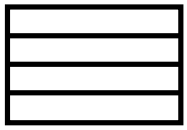
4 Is this rectangle split into rows or columns?

A columns

B rows



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4 Is this rectangle split into rows or columns?

A columns

B rows

Answer

B

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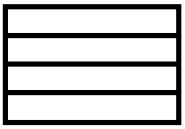
5 How many rows are in this rectangle?



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5 How many rows are in this rectangle?

Answer

4

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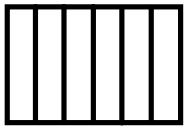
6 Is this rectangle split into rows or columns?

A columns

B rows



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6 Is this rectangle split into rows or columns?

A columns

B rows

Answer

A

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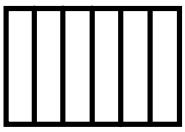
7 How many columns are in this rectangle?



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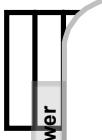
7 How many columns are in this rectangle?



Answer

6

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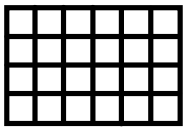
8 How many equal squares are in this rectangle?



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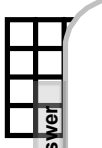
8 How many equal squares are in this rectangle?



Answer

24

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Name: _____

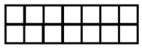
Geometry – Dividing Rectangles into Rows and Columns - Part I

Classwork

Match the rectangles to the number of rows, columns or equal squares.

1. 

● a rectangle with five columns

2. 

● a rectangle with twelve equal squares

3. 

● a rectangle with five rows

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Name: _____

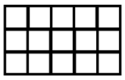
Geometry – Dividing Rectangles into Rows and Columns - Part I

Homework

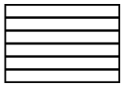
Circle the correct answer in each row.

1. 

six rows six columns

2. 

fifteen equal squares twelve equal squares

3. 

six rows six columns

Write the number of equal squares.

Dividing Rectangles into Rows and Columns Part 2

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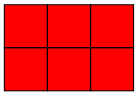
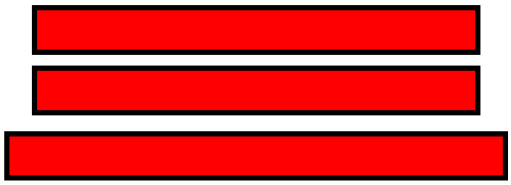
Columns and Rows

I used the squares to make a rectangle.



click each rectangle for a question.

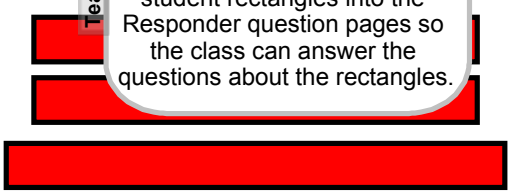


Columns and Rows

I used

Teacher Notes

Have students make rectangles using the square pattern blocks. Then choose students to come up and replicated their rectangles on the board. Copy and paste the student rectangles into the Responder question pages so the class can answer the questions about the rectangles.



Columns and Rows

Show one rectangle a student made from the squares.

Group together, copy and paste onto the next 3 pages to answer formative assessment questions about this rectangle

9 How many rows does this rectangle have?

9 How many rows does this rectangle have?

Answer

Answers vary

10 How many columns does this rectangle have?

10 How many columns does this rectangle have?

Answer

Answers vary

11 How many total squares are in this rectangle?

11 How many total squares are in this rectangle?

Answer

Answers vary

Show one rectangle a student made from the squares.

Group together, copy and paste onto the next 3 pages to answer formative assessment questions about this rectangle.

12 How many rows in this rectangle?

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12 How many rows in this rectangle?

Answer

Answers vary

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13 How many columns in this rectangle?

Slide 29 (Answer) / 201

13 How many columns in this rectangle?

Answer

Answers vary

Slide 30 / 201

14 How many total squares in this rectangle?

Slide 30 (Answer) / 201

14 How many total squares in this rectangle?

Answer

Answers vary

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Show one rectangle a student made from the squares.

Group together, copy and paste onto the next 3 pages to answer formative assessment questions about this rectangle.

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15 How many rows in this rectangle?

Slide 32 (Answer) / 201

15 How many rows in this rectangle?

Answer

Answers vary

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16 How many columns in this rectangle?

Slide 33 (Answer) / 201

16 How many columns in this rectangle?

Answer

Answers vary

Slide 34 / 201

17 How many total squares in this rectangle?

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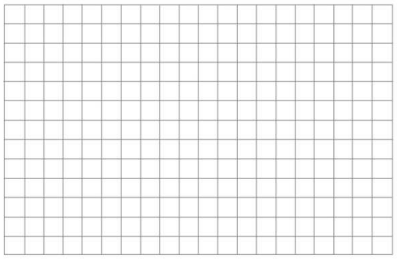
17 How many total squares in this rectangle?

Answer

Answers vary

Name: _____
Geometry – Dividing Rectangles into Rows and Columns - Part II
Classwork

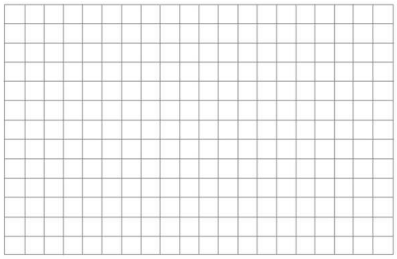
Draw a rectangle with 8 equal squares on the grid.
Answer the questions.



1. How many rows does your rectangle have? _____

Name: _____
Geometry – Dividing Rectangles into Rows and Columns - Part II
Homework

Draw a rectangle with 15 equal squares on the grid.
Answer the questions.



1. How many rows does your rectangle have? _____

Area

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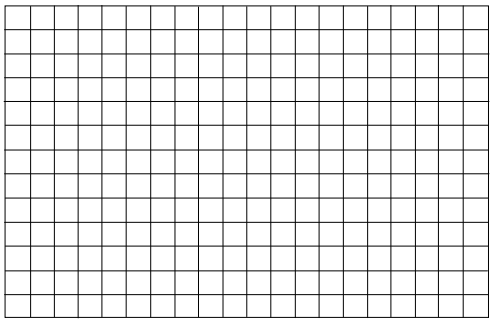
Area

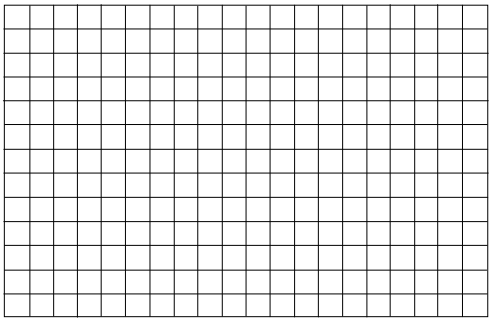
The number of equal squares inside a rectangle is called the area.

To find the area of this rectangle, we can move it onto the grid to see how many equal squares it covers.



How many rows?
How many columns?
What is the area of the rectangle?

Move the rectangle onto the grid to find the area.



How many rows?
How many columns?
What is the area of the rectangle?

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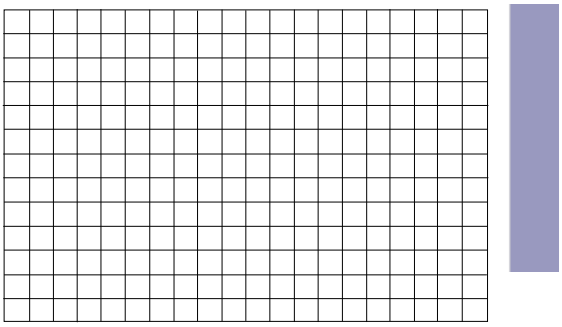
Move the rectangle onto the grid to find the area.



How many rows?
How many columns?
What is the area of the rectangle?

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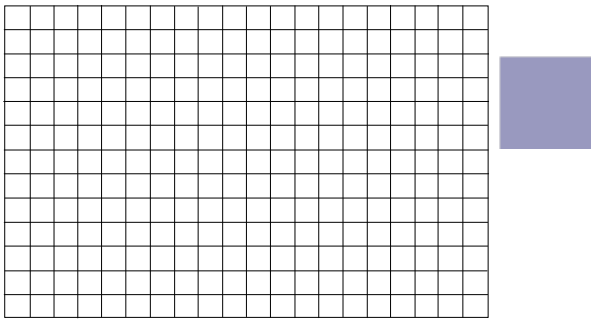
Move the rectangle onto the grid to find the area.



What is the area of the rectangle?
Can you think of a short cut to find the answer?

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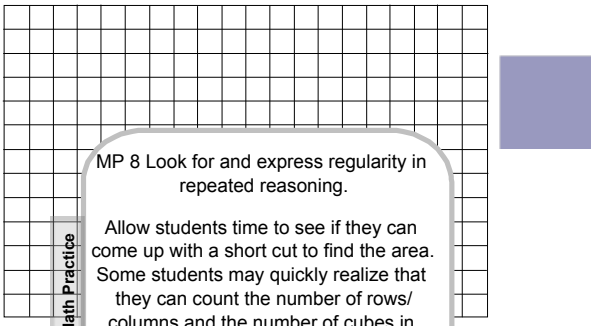
Move the rectangle onto the grid to find the area.



Math Practice

MP 8 Look for and express regularity in repeated reasoning.

Allow students time to see if they can come up with a short cut to find the area. Some students may quickly realize that they can count the number of rows/ columns and the number of cubes in each row/column and then add instead of counting each cube. Since this shape covers 4 rows and each row has 4 cubes, they can add 4 + 4 + 4 + 4.

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Give students centimeter grid paper and different rectangular shapes. Have them trace the shapes onto the paper and find the area of each one.

Click on the square below to download and print free centimeter grid paper.

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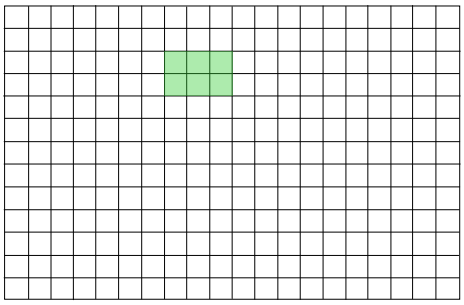
18 The area of this rectangle is 3

- Yes
- No



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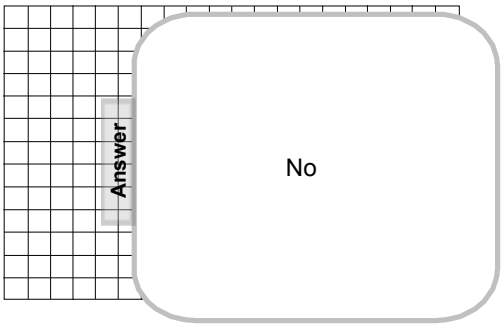
18 The area of this rectangle is 3

- Yes
- No



Answer

No

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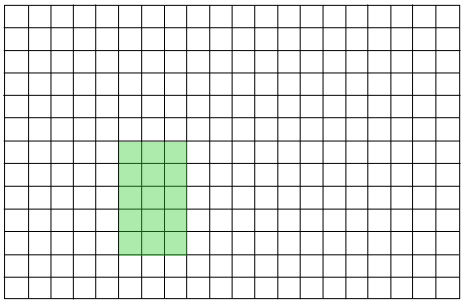
19 The area of this rectangle is

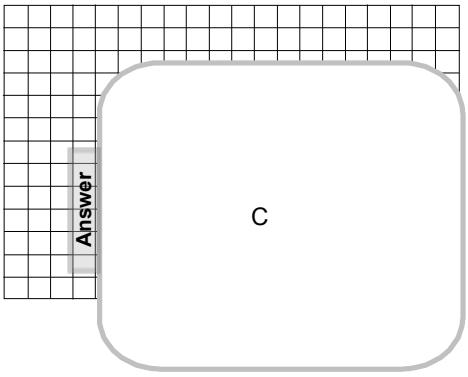
- A 3
- B 5
- C 15
- D 8



Slide 45 (Answer) / 201

19 The area of this rectangle is

- A 3
- B 5
- C 15
- D 8



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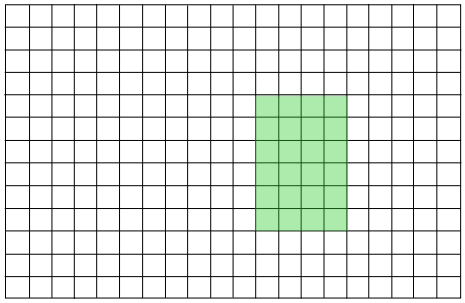
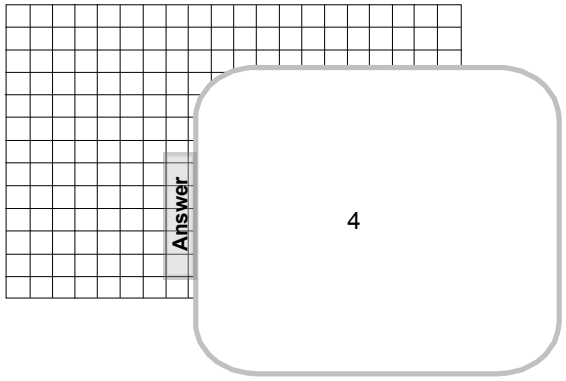
20 How many rows are in this rectangle?



Slide 46 (Answer) / 201

20 How many rows are in this rectangle?



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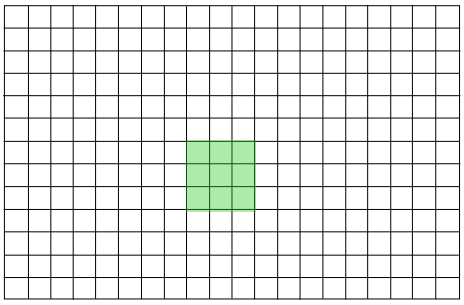
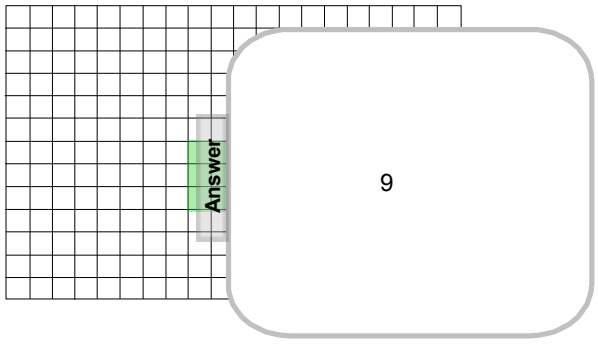
21 What is the area of this rectangle?

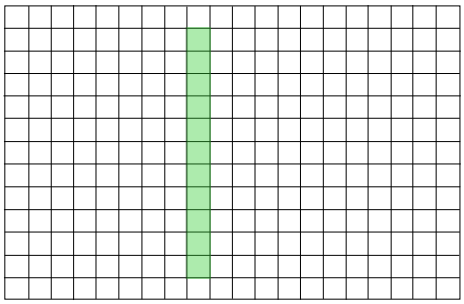


Slide 47 (Answer) / 201

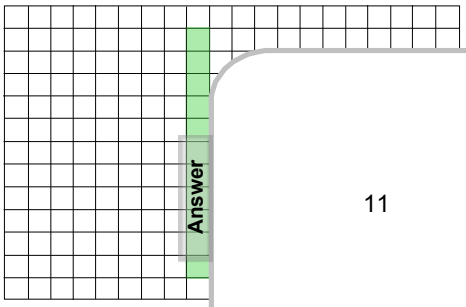
21 What is the area of this rectangle?



22 What is the area of this rectangle?



22 What is the area of this rectangle?



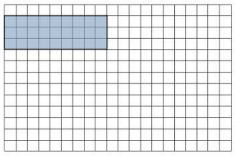
Answer

11

Name: _____
Geometry – Dividing Rectangles into Rows and Columns- Part III
Classwork

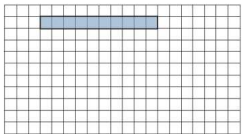
Find the area of each rectangle. Fill in each chart.

1.



Area of Rectangle	Number of Rows	Number of Columns

2.

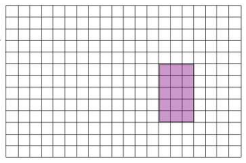


Area of Rectangle	Number of Rows	Number of Columns

Name: _____
Geometry – Dividing Rectangles into Rows and Columns- Part III
Homework

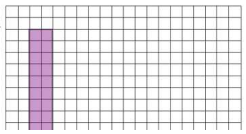
Find the area of each rectangle. Fill in each chart.

1.



Area of Rectangle	Number of Rows	Number of Columns

2.



Area of Rectangle	Number of Rows	Number of Columns

Dividing Shapes into Equal Parts Halves

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Fractions

When you divide something into *two equal* parts, you divide it into *half*.

=

=

2 halves = 1 whole

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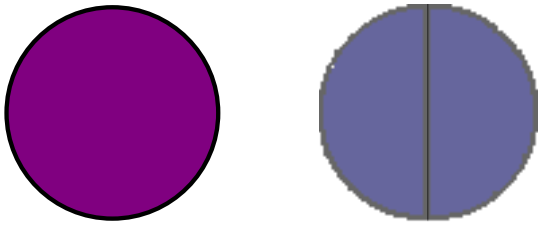
Fractions

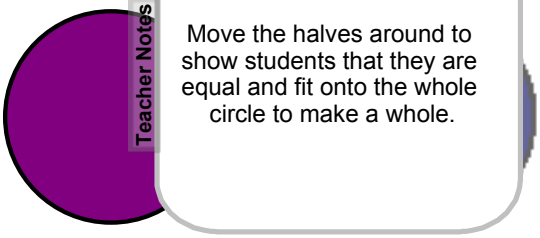
When a circle is divided into two halves, each half has to be equal.



Slide 53 (Answer) / 201

Fractions

When a circle is divided into two halves, e

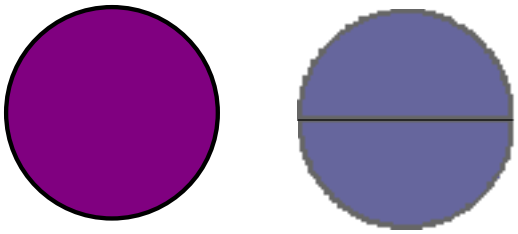


Teacher Notes

Move the halves around to show students that they are equal and fit onto the whole circle to make a whole.

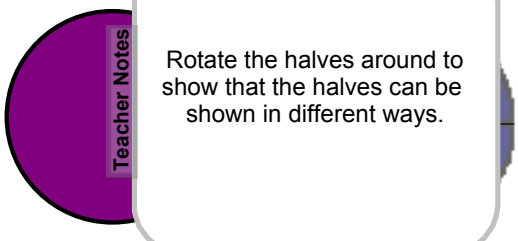
Slide 54 / 201

Fractions



Slide 54 (Answer) / 201

Fractions



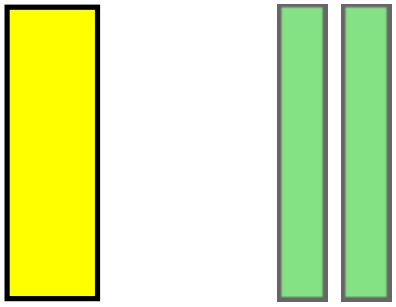
Teacher Notes

Rotate the halves around to show that the halves can be shown in different ways.

Slide 55 / 201

Fractions

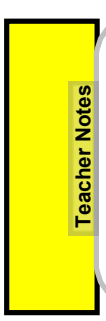
A rectangle can be divided into 2 halves.



Slide 55 (Answer) / 201

Fractions

A rectangle can be divided into 2 halves.



Teacher Notes

Move the halves around to show students that they are equal and fit onto the whole rectangle to make a whole.

Fractions

A rectangle can also be divided into 2 halves this way.

Fractions

A part of a whole is called a *fraction*.

This fraction shows one-half.

$\frac{1}{2}$

The top number shows how many parts you are talking about.

The bottom number shows how many parts there are in all.

Fractions

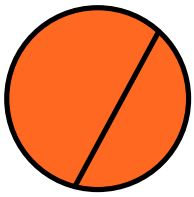
1 part is yellow

2 parts is the total

$\frac{1}{2}$

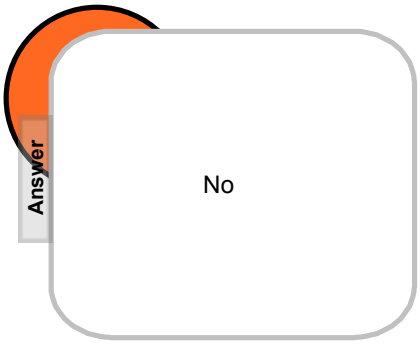
23 Is this shape divided into 2 equal parts?

- Yes
- No



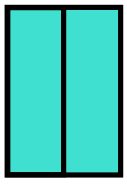
23 Is this shape divided into 2 equal parts?

- Yes
- No



24 Is this shape divided into 2 equal parts?

- Yes
- No

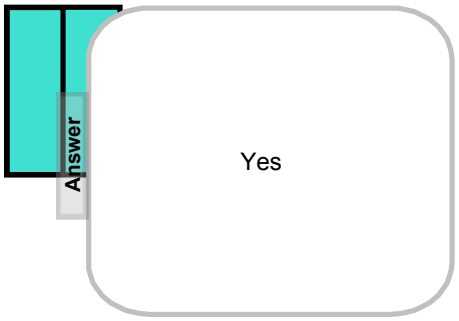


Slide 60 (Answer) / 201

24 Is this shape divided into 2 equal parts?

○ Yes

○ No



Answer

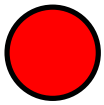
Yes

Slide 61 / 201

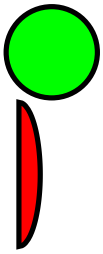
25 Which shows $\frac{1}{2}$ of this circle?

○ A

○ B



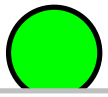
○ C



○ D

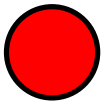
Slide 61 (Answer) / 201

25 Which shows $\frac{1}{2}$ of this circle?



○ A

○ B



Answer

D

Slide 62 / 201

26 Which shows $\frac{1}{2}$ of this rectangle?

○ A

○ B

○ C

○ D

Slide 62 (Answer) / 201

26 Which shows $\frac{1}{2}$ of this rectangle?

○ A

○ C

○ B

Answer

A

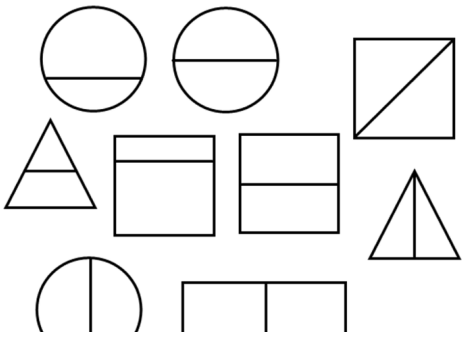
Slide 63 / 201

Name: _____

Geometry – Dividing Shapes into Equal Parts - Halves

Classwork

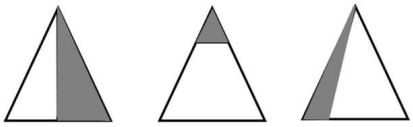
1. Put an X on all shapes divided into two equal parts.



Name: _____
Geometry – Dividing Shapes into Equal Parts - Halves
Homework

1. Draw a line to divide each shape into two equal parts.

2. Which triangle shows $\frac{1}{2}$ shaded in? Circle it.



Dividing Shapes into Equal Parts Thirds

Click to Return to Table of Contents

Thirds

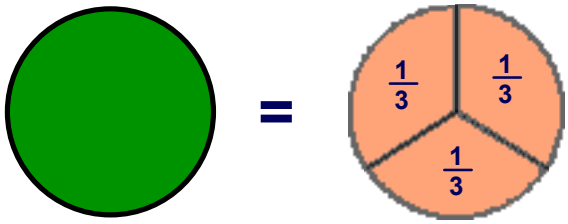
When you divide something into *three equal* parts, you divide it into *thirds*.

A third is one of three equal parts.

$$\frac{1}{3}$$

Thirds

1 whole circle can be divided into three equal parts.
Each part is one part out of 3.

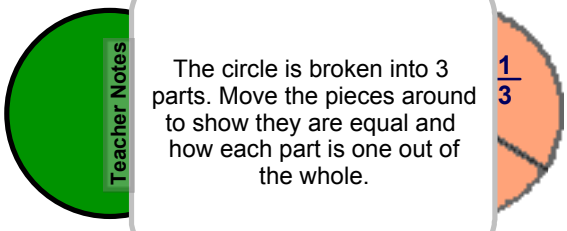


Thirds

1 whole circle can be divided into three equal parts.
Eac

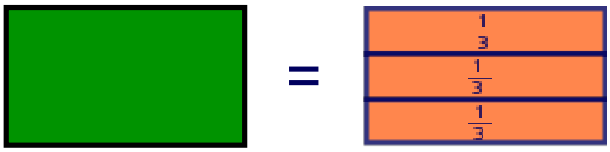
Teacher Notes

The circle is broken into 3 parts. Move the pieces around to show they are equal and how each part is one out of the whole.



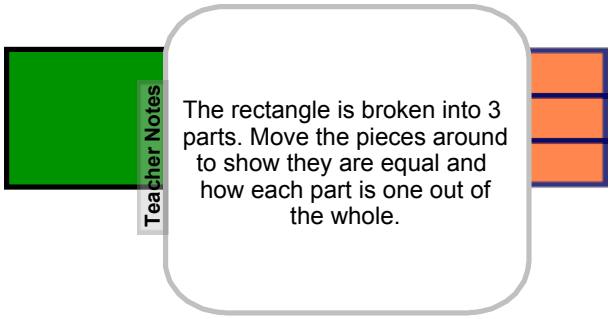
Thirds

1 whole rectangle can be divided into three equal parts.
Each part is one part out of 3.



Thirds

1 whole rectangle can be divided into three equal parts.
Each part is one part out of 3.



Teacher Notes

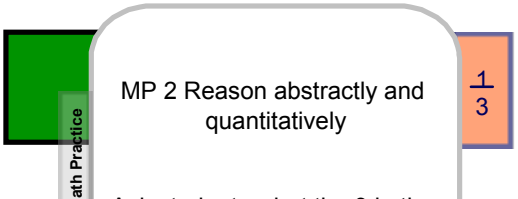
The rectangle is broken into 3 parts. Move the pieces around to show they are equal and how each part is one out of the whole.

Thirds

A rectangle can also be divided into three parts this way.

Thirds

A rectangle can also be divided into three parts this way.



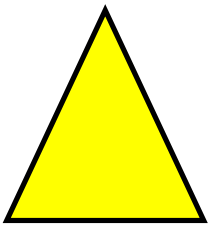
Math Practice

MP 2 Reason abstractly and quantitatively

Ask students what the 3 in the fractions represents.

Thirds

Can a triangle be divided into 3 equal parts?



Thirds

3 equal parts?

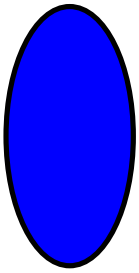
Math Practice

MP1 Make sense of problems and persevere in solving them.

Ask students to repeat the question back and then verbally talk through the steps they will take to solve the problem.

Thirds

Can an oval be divided into 3 equal parts?

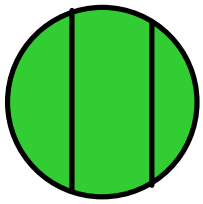


Slide 72 / 201

27 Is this circle divided into 3 equal parts?

Yes

No

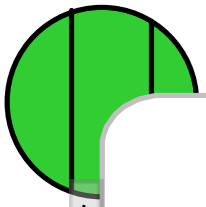


Slide 72 (Answer) / 201

27 Is this circle divided into 3 equal parts?

Yes

No



Answer

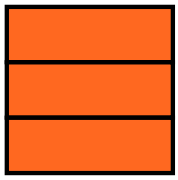
No

Slide 73 / 201

28 Is this square divided into 3 equal parts?

Yes

No

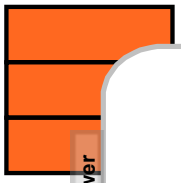


Slide 73 (Answer) / 201

28 Is this square divided into 3 equal parts?

Yes

No



Answer

Yes

Slide 74 / 201

29 Which shows $\frac{1}{3}$ of a circle?

A

C

B

D

Slide 74 (Answer) / 201

29 Which shows $\frac{1}{3}$ of a circle?

A

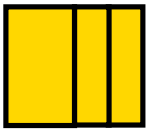
B

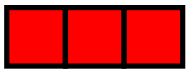
Answer

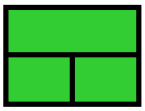
C

30 Which rectangle is divided equally into thirds?

A 

C 

B 

D 

30 Which rectangle is divided equally into thirds?

A 

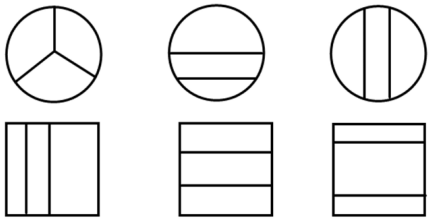
B 

Answer

B

Name: _____
Geometry – Dividing Shapes into Equal Parts - Thirds
Classwork

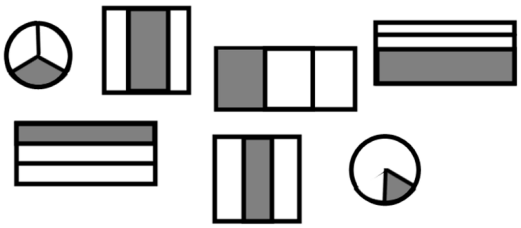
1. Put an X on the circle that is divided into three equal parts.



3. Put an X on the parallelogram that shows three equal parts.

Name: _____
Geometry – Dividing Shapes into Equal Parts - Thirds
Homework

1. Put an X on all shapes that show $\frac{1}{3}$ shaded in.



2. Draw lines to divide each shape into three equal parts.

Dividing Shapes into Equal Parts
Fourths

Click to Return to Table of Contents

Fourths

When you divide something into *four equal* parts, you divide it into *fourths*.

A fourth is one of four equal parts.

$$\frac{1}{4}$$

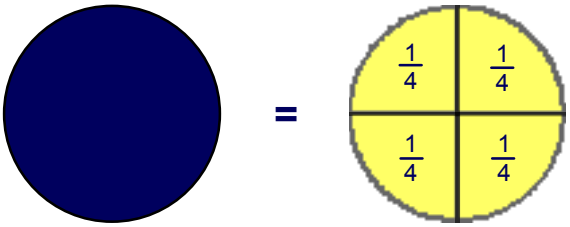
Fourths

If you cut something into fours, each part is *one-fourth.*

What might be something you would cut into fourths?

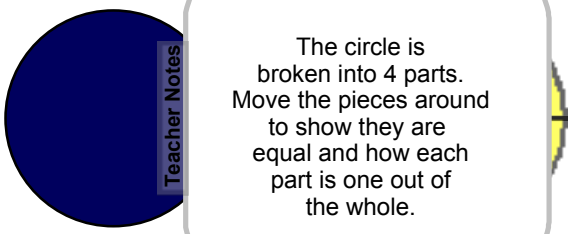
Fourths

1 whole circle can be divided into four equal parts.
Each part is one part out of 4.



Fourths

1 whole circle can be divided into four equal parts.
Each p

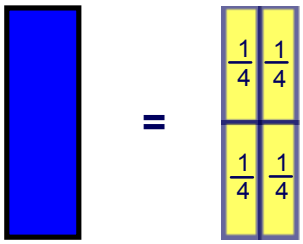


Teacher Notes

The circle is broken into 4 parts. Move the pieces around to show they are equal and how each part is one out of the whole.

Fourths

1 whole rectangle can be divided into *four equal* parts.
Each part is one part out of 4.



Can a rectangle be divided into fourths in another way?

Fourths

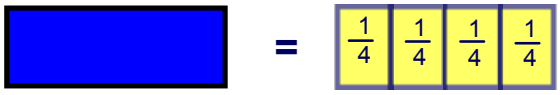
1 whole rectangle can be divided into *four equal* parts.
Ea

Teacher Notes

The rectangle is broken into 4 parts. Move the pieces around to show they are equal and how each part is one out of the whole. Rotate the shape to show how it is the same if the rectangle is positioned a different way. The next two pages show 3 different ways a rectangle can be divided. Give the students a piece of scrap paper or white board first to see if they can figure out the other ways to divide a rectangle equally.

Can a rectangle be divided into fourths in another way?

Fourths



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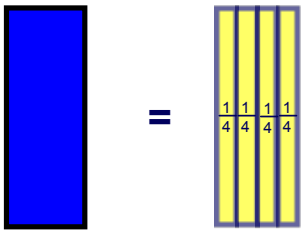
Fourths



Slide 85 / 201

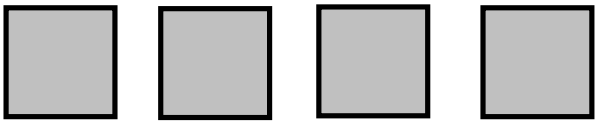
Fourths

Slide 86 / 201

Fourths

How many ways can you divide a square into fourths?

click each square to find out



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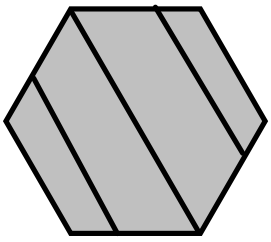
Fourths

Karen said she could divide any shape into fourth. Her friend drew a shape and Karen showed her how to divide it into fourth. Karen told her friend that it is as easy as just making 4 parts. Is she correct?



Slide 87 (Answer) / 201

Fourths

Karen said she could divide any shape into fourth. Her friend drew a shape and Karen showe
Karen t st
m

Math Practice

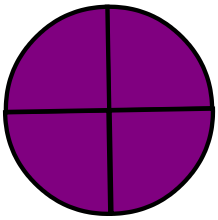
MP 3 Construct viable arguments and critique the reasoning of others

Ask students to discuss their thoughts with a partner. After a few minutes bring the class together to discuss their opinions. Ask students what is wrong with Karen's thinking.

Slide 88 / 201

31 This circle is divided into four equal parts.

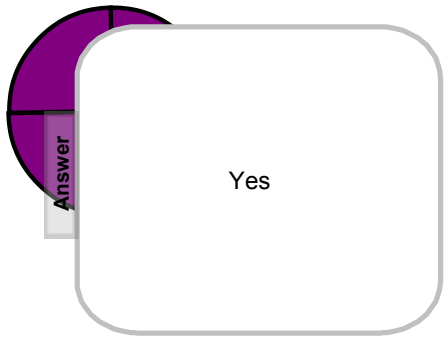
- Yes
- No



Slide 88 (Answer) / 201

31 This circle is divided into four equal parts.

- Yes
- No



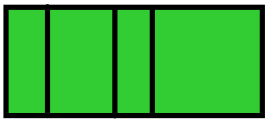
Answer

Yes

Slide 89 / 201

32 This rectangle is divided into four equal parts.

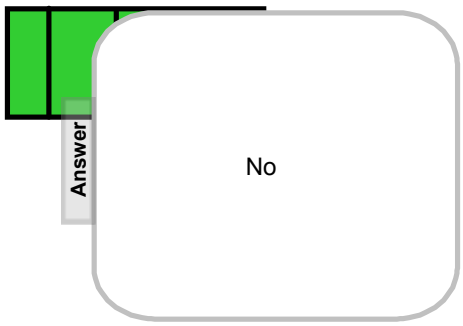
- Yes
- No



Slide 89 (Answer) / 201

32 This rectangle is divided into four equal parts.

- Yes
- No



Answer

No

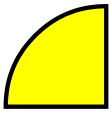
Slide 90 / 201

33 Which shows $\frac{1}{4}$ of a circle?

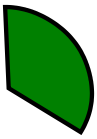
- A

- C

- B



- D

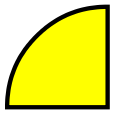


Slide 90 (Answer) / 201

33 Which shows $\frac{1}{4}$ of a circle?

- A

- B



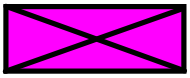
Answer

B

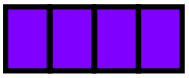
Slide 91 / 201

34 Which <u>two</u> rectangles are divided into fourths?

- A



- C

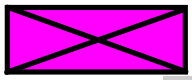


- B

- D

34 Which two rectangles are divided into fourths?

❑A



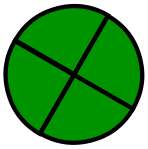
❑B

Answer

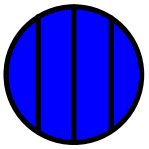
A & C

35 Which shows a circle divided into fourths?

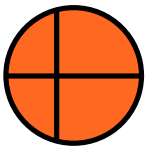
❍A



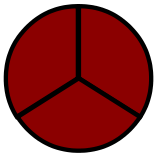
❍C



❍B

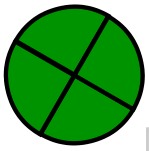


❍D

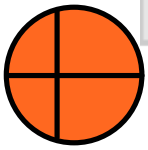


35 Which shows a circle divided into fourths?

❍A



❍B



Answer

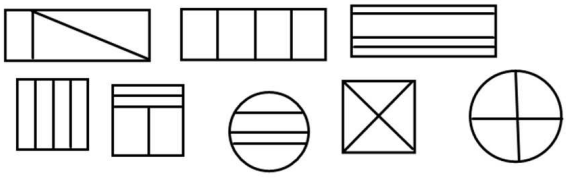
A

Name: _____

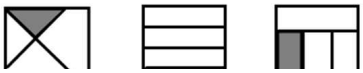
Geometry – Dividing Shapes into Equal Parts - Fourths

Classwork

1. Color the shapes that show four equal parts.



2. Put an X on the square that shows $\frac{1}{4}$ shaded in.

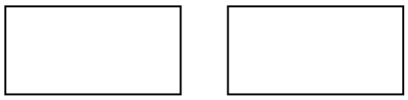


Name: _____

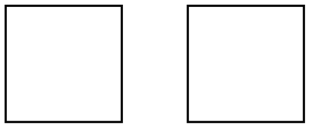
Geometry – Dividing Shapes into Equal Parts - Fourths

Homework

1. Show two ways to divide the rectangles into four equal parts.



2. Show two ways to divide the squares into four equal parts.



3. Divide the shapes into four equal parts.

Dividing Shapes into Equal Parts Pattern Blocks

Click to Return to Table of Contents

Slide 96 / 201

Equal Parts

What shape is this?

Slide 96 (Answer) / 201

Equal Parts

Teacher Notes

Give students pattern blocks to use for this lesson. They have to figure out how many smaller shapes fit into a bigger shape to explore fractions of pattern blocks.

Slide 97 / 201

Equal Parts

Use your pattern blocks to see how many triangles fit onto the trapezoid.

Slide 97 (Answer) / 201

Equal Parts

Use your pattern blocks to see how many triangles fit onto the trapezoid.

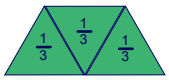
Teacher Notes

The triangle is infinitely cloned to click and drag onto the trapezoid. Show students how to move the triangles around to fit onto the trapezoid.

Slide 98 / 201

Equal Parts

Each triangle is one part out of the 3 that make up the trapezoid.



Slide 99 / 201

Equal Parts

What shape is this?

Slide 100 / 201

Equal Parts

Use your pattern blocks to see how many triangles fit onto the rhombus.

Slide 100 (Answer) / 201

Use you
tri

Teacher Notes

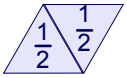
The triangle is infinitely cloned to click and drag onto the rhombus. Show students how to move the triangles around to fit onto the rhombus.

Slide 101 / 201

Equal Parts

Each triangle is one part out of the 2 that make up the rhombus.

1 Whole



Slide 102 / 201

Equal Parts

What shape is this?

Slide 103 / 201

Equal Parts

Use your pattern blocks to see how many trapezoids fit onto the hexagon.

Slide 103 (Answer) / 201

Equal Parts

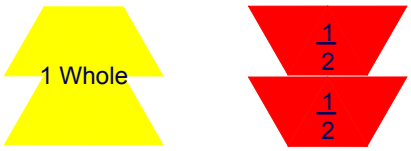
Use your pattern blocks to see how many trapezoi

Teacher Notes

The trapezoid is infinitely cloned to click and drag onto the hexagon. Show students how to move the trapezoid around to fit onto the hexagon.

Slide 104 / 201

Equal Parts



Each trapezoid is one part out of the 2 that make up the hexagon.

Slide 105 / 201

Equal Parts

Use your pattern blocks to see how many rhombuses fit onto the hexagon.

Slide 105 (Answer) / 201

Equal Parts

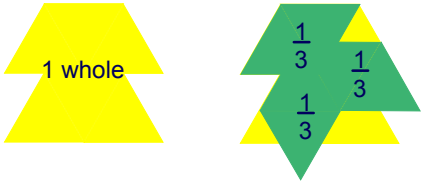
Teacher Notes

The rhombus is infinitely cloned to click and drag onto the hexagon. Show students how to move the rhombus around to fit onto the hexagon.

Use your pattern blocks to see how many rhombuses fit onto the hexagon.

Slide 106 / 201

Equal Parts



Each rhombus is one part out of the 3 that make up the hexagon.

Slide 107 / 201

36 A rhombus is $\frac{1}{2}$ of a hexagon.

- Yes
- No

Slide 107 (Answer) / 201

36 A rhombus is $\frac{1}{2}$ of a hexagon.

- Yes
- No

Answer

No

Slide 108 / 201

37 A triangle is $\frac{1}{2}$ of a trapezoid.

- Yes
- No

Slide 108 (Answer) / 201

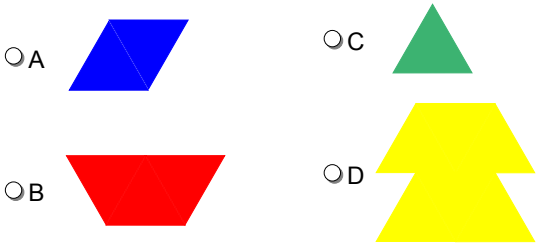
37 A triangle is $\frac{1}{2}$ of a trapezoid.

- Yes
- No

Slide 109 / 201

38 Which shape is $\frac{1}{2}$ of a hexagon?

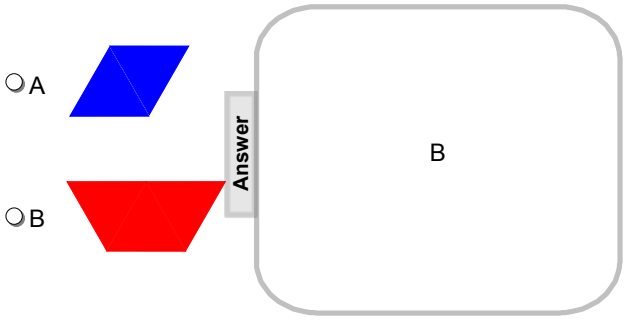
- A
- B
- C
- D



Slide 109 (Answer) / 201

38 Which shape is $\frac{1}{2}$ of a hexagon?

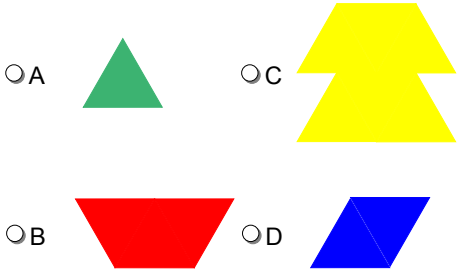
- A
- B



Slide 110 / 201

39 Which shape is $\frac{1}{3}$ of a trapezoid?

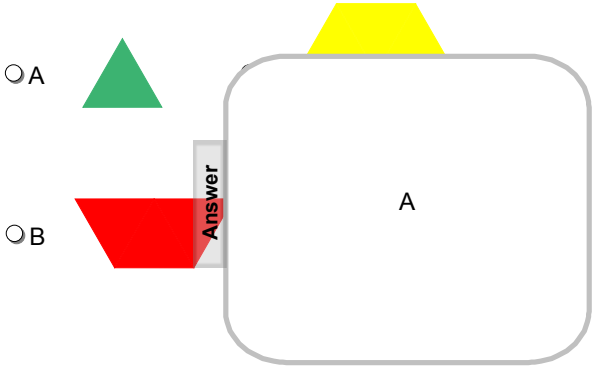
- A
- B
- C
- D



Slide 110 (Answer) / 201

39 Which shape is $\frac{1}{3}$ of a trapezoid?

- A
- B



40 What shape is $\frac{1}{2}$ of a rhombus?

A 

C 

B

D 

40 What shape is $\frac{1}{2}$ of a rhombus?

A 

C 

B 

Answer

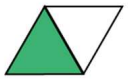
D

Name: _____

Geometry – Dividing Shapes into Equal Parts – Pattern Blocks

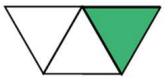
Classwork

1. How many equal parts does the green triangle show? Circle.



$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{4}$

2. How many equal parts does the green triangle show? Circle.



$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{4}$

3. How many equal parts does the green trapezoid show? Circle.

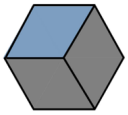
$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{4}$

Name: _____

Geometry – Dividing Shapes into Equal Parts – Pattern Blocks

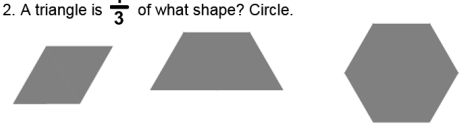
Homework

1. How many equal parts does the blue rhombus show? Circle.



$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{4}$

2. A triangle is $\frac{1}{3}$ of what shape? Circle.



3. A triangle is $\frac{1}{2}$ of what shape? Circle.

Dividing Shapes into Equal Parts Review

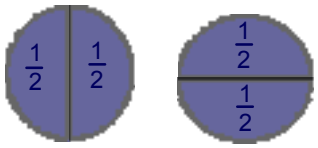
Click to Return to Table of Contents

Equal Parts

When you divide something into *two equal* parts, you divide it into *half*.

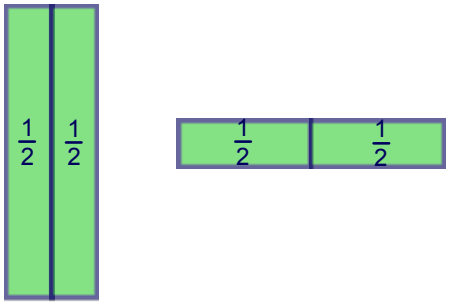
Equal Parts

A circle can be divided into half.

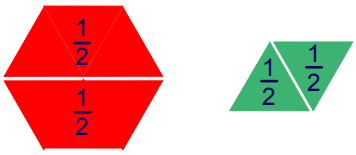


Equal Parts

A rectangle can be divided into half.



Equal Parts



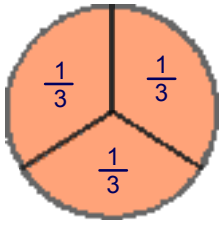
Pattern block shapes can also be divided into halves using other pattern blocks.

Equal Parts

When you divide something into *three equal* parts, you divide it into *thirds*.

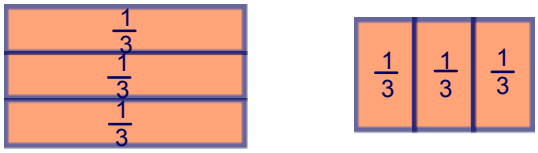
Equal Parts

A circle can be divided into thirds.



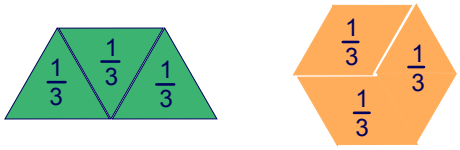
Equal Parts

A rectangle can be divided into thirds.



Slide 122 / 201

Equal Parts



Pattern block shapes can also be divided into thirds using other pattern blocks.

Slide 123 / 201

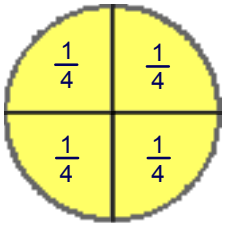
Equal Parts

When you divide something into *four equal* parts, you divide it into *fourths*.

Slide 124 / 201

Equal Parts

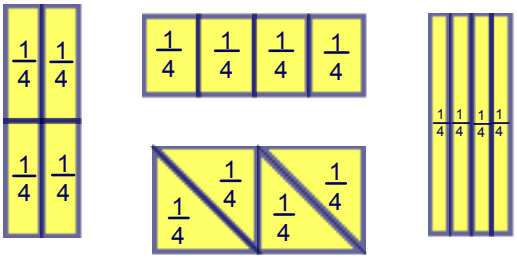
A circle can be divided into fourths.



Slide 125 / 201

Equal Parts

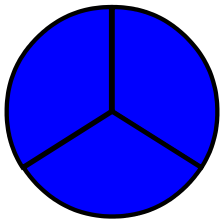
A rectangle can be divided into fourths.



Slide 126 / 201

41 This circle is divided into halves.

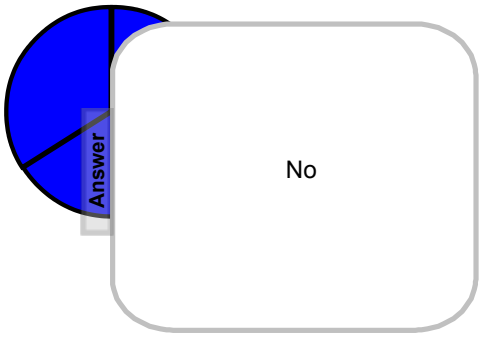
- Yes
- No



Slide 126 (Answer) / 201

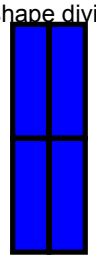
41 This circle is divided into halves.

- Yes
- No



Slide 127 / 201

42 How many equal parts is this shape divided into?



- A halves
- B thirds
- C fourths
- D whole

Slide 127 (Answer) / 201

42 How many equal parts is this shape divided into?

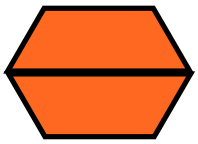
- A halves
- B thirds
- C fourths
- D whole

Answer

C

Slide 128 / 201

43 How many equal parts is this shape divided into?



Slide 128 (Answer) / 201

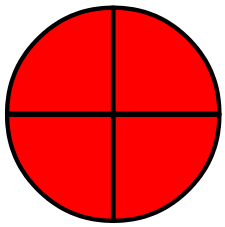
43 How many equal parts is this shape divided into?

Answer

1

Slide 129 / 201

44 How many equal parts is this shape divided into?



Slide 129 (Answer) / 201

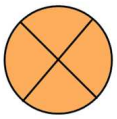
44 How many equal parts is this shape divided into?

Answer

4

Name: _____
Geometry – Dividing Shapes into Equal Parts – Review
Classwork

1. How many equal parts is the circle divided into? Circle the answer.

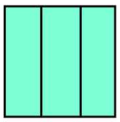


Halves

Thirds

Fourths

2. How many equal parts is the square divided into? Circle the answer.



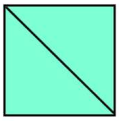
Halves

Thirds

Fourths

Name: _____
Geometry – Dividing Shapes into Equal Parts – Review
Homework

1. How many equal parts is the square divided into? Circle the answer.

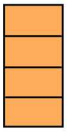


Halves

Thirds

Fourths

2. How many equal parts is the rectangle divided into? Circle the answer.



Halves

Thirds

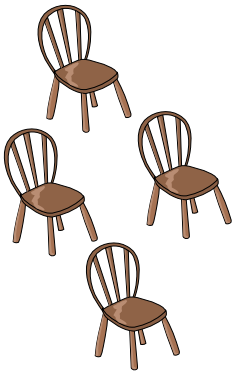
Fourths

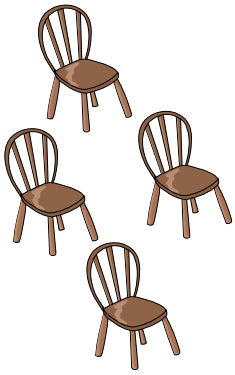
3. How many equal parts is the circle divided into? Circle the answer.

Arrays Pt. 1

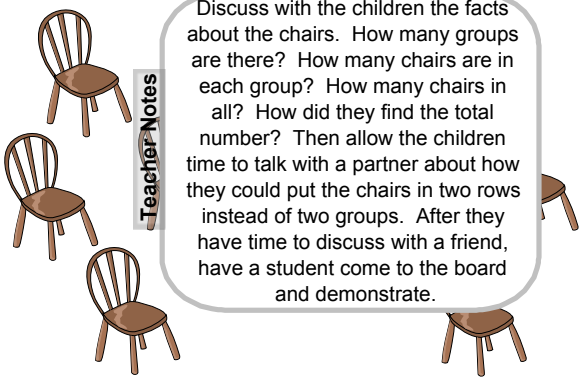
Click to Return to Table of Contents

Arrays





Arrays



Teacher Notes

Discuss with the children the facts about the chairs. How many groups are there? How many chairs are in each group? How many chairs in all? How did they find the total number? Then allow the children time to talk with a partner about how they could put the chairs in two rows instead of two groups. After they have time to discuss with a friend, have a student come to the board and demonstrate.

Arrays

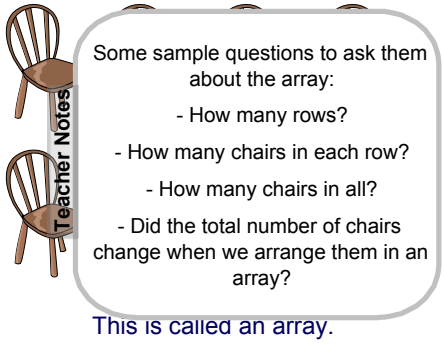
This is called an array.

An array is when we organize objects in rows and columns.

What do you notice about the array we made?

Slide 134 (Answer) / 201

Arrays



Teacher Notes

Some sample questions to ask them about the array:

- How many rows?
- How many chairs in each row?
- How many chairs in all?
- Did the total number of chairs change when we arrange them in an array?

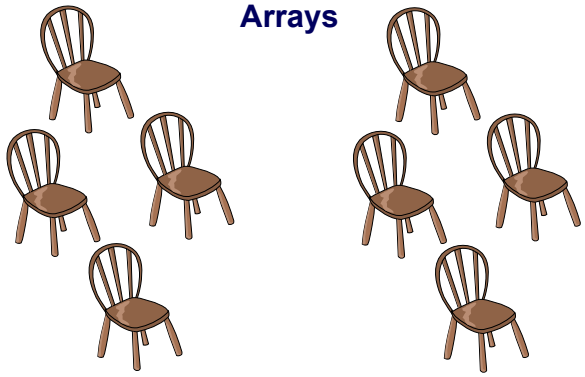
This is called an array.

An array is when we organize objects in rows and columns.

What do you notice about the array we made?

Slide 135 / 201

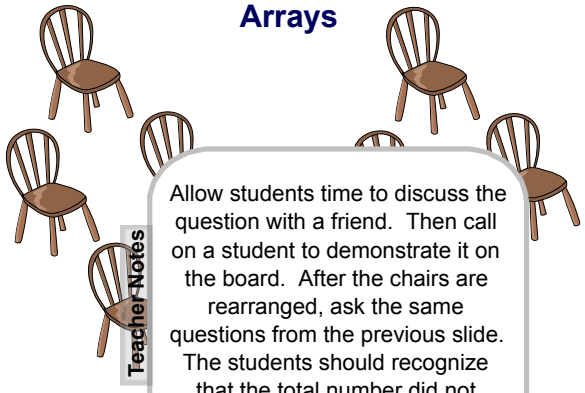
Arrays



Can we arrange them in 2 columns instead of rows?

Slide 135 (Answer) / 201

Arrays



Teacher Notes

Allow students time to discuss the question with a friend. Then call on a student to demonstrate it on the board. After the chairs are rearranged, ask the same questions from the previous slide. The students should recognize that the total number did not change, just the way we organized them.

Can we

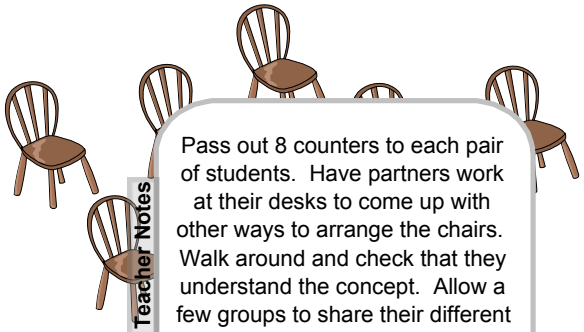
Slide 136 / 201

Arrays

Can you think of any other ways to arrange the chairs into an array?

Slide 136 (Answer) / 201

Arrays



Teacher Notes

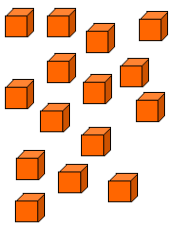
Pass out 8 counters to each pair of students. Have partners work at their desks to come up with other ways to arrange the chairs. Walk around and check that they understand the concept. Allow a few groups to share their different arrays by coming to the board and arranging the chairs.

Can

arran

Slide 137 / 201

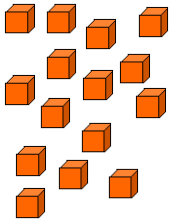
Arrays



How can we arrange these 15 cubes into an array?

Slide 137 (Answer) / 201

Arrays



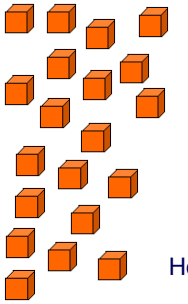
Teacher Notes

Pass out 15 cubes or counters to each group of 2 students. Have them pretend that their cubes are different objects (birds, trains, etc.). Tell them to arrange the cubes into 5 rows. Then have them explain what they did and question the number in each row and the total number. Then have them arrange them into 3 rows. Repeat the questions.

How can we arrange these 15 cubes into an array?

Slide 138 / 201

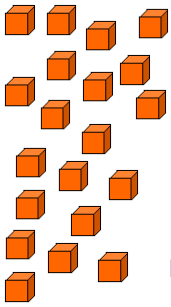
Arrays



How can we arrange these 20 cubes into an array?

Slide 138 (Answer) / 201

Arrays



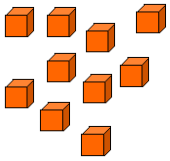
Teacher Notes

Pass out 20 cubes or counters to each group of 2 students. Have them pretend that their cubes are different objects (birds, trains, etc.). Tell them to arrange the cubes into any array they want. Have a group come to the board to demonstrate what they did. Question the number of rows, columns and the total number. Then have them rearrange them and have another group come to the board to demonstrate.

How can we arrange these 20 cubes into an array?

Slide 139 / 201

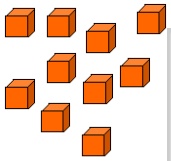
Arrays



How can we arrange these 10 cubes into an array?

Slide 139 (Answer) / 201

Arrays



Teacher Notes

Have partners use 10 cubes or counters. Have them pretend that their cubes are different objects (birds, trains, etc.). Tell them to arrange the cubes into any array they want. Have a group come to the board to demonstrate what they did. Question the number of rows, number of columns and the total number. Then have them rearrange them and have another student come to the board to demonstrate.

How can we arrange these 10 cubes into an array?

Slide 140 / 201

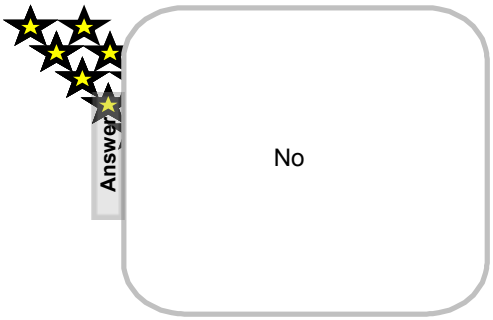
45 Is this an array?

- Yes
- No

Slide 140 (Answer) / 201

45 Is this an array?

- Yes
- No



Answer

No

Slide 141 / 201

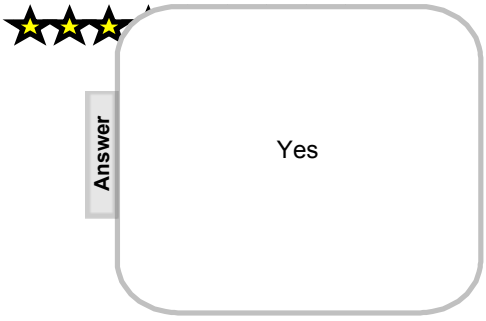
46 Is this an array?

- Yes
- No

Slide 141 (Answer) / 201

46 Is this an array?

- Yes
- No



Answer

Yes

Slide 142 / 201

47 Is this an array?

- Yes
- No

Slide 142 (Answer) / 201

47 Is this an array?

- Yes
- No

Answer

Yes

Slide 143 / 201

48 Is this an array?

- Yes
- No

48 Is this an array?

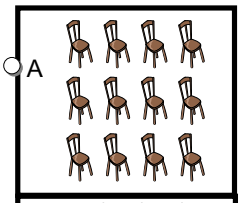
- Yes
- No

Answer

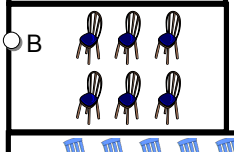
No

49 Which array is not for 12 chairs?

A



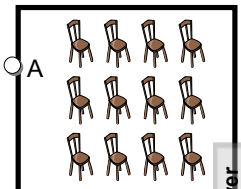
B



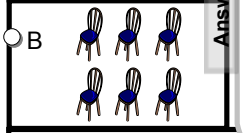
C

49 Which array is not for 12 chairs?

A



B



C

Answer

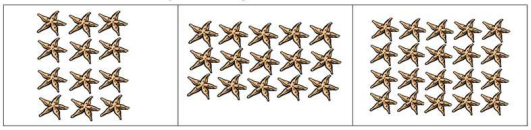
B

Name: _____

Geometry – Arrays

Classwork

1. Put an X on the array for 15 objects.



2. Put an X on the array for 8 objects.

3. Put an X on the array for 16 objects.

5. Draw an array to show 24 objects.

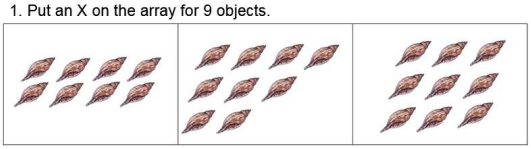
6. Draw an array to show 18 objects.

Name: _____

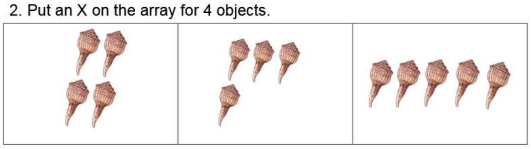
Geometry – Arrays

Homework

1. Put an X on the array for 9 objects.



2. Put an X on the array for 4 objects.



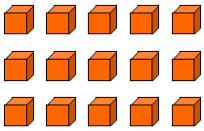
3. Put an X on the array for 21 objects.

5. Draw an array to show 16 objects.

6. Draw an array to show 9 objects.

Arrays Part 2

Arrays



How many rows are in this array?

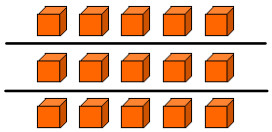
Arrays

How

Teacher Notes

Draw a line between each row to help students clearly see the rows. Then count the three rows with the students. Each step in this process is broken down on each slide.

Arrays



How many cubes are in each row?

Arrays

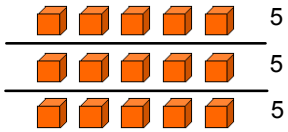
How

Teacher Notes

Count the cubes in the first row and write 5 at the end of the row. Then count the remaining cubes in each row and write a 5 at the end of each row.

Slide 152 / 201

Arrays



How many cubes are there in all?

Slide 152 (Answer) / 201

Arrays

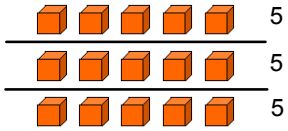
How m

Teacher Notes

Ask a student to count the total number of cubes and then write the total. Ask if anyone knows a quicker way to count the total. Lead students to see that we can add the 3 fives at the end of the rows together.

Slide 153 / 201

Arrays



What would the addition sentence look like?

_____ + _____ + _____ = _____

Slide 153 (Answer) / 201

Arrays

What woul

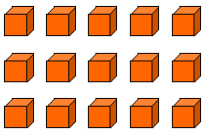
Teacher Notes

Allow students time to discuss how their would write an addition sentence to show the total. Then call on a volunteer to show the sentence on the board. Ask students how many addends there are and how the number of addends and the number of rows relate.

_____ + _____ + _____ = _____

Slide 154 / 201

Arrays



How many columns are in this array?

Slide 154 (Answer) / 201

Arrays

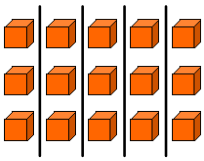
How m

Teacher Notes

Draw a line between each column to help students clearly see the columns. Then count the five columns with the students. Each step in this process is broken down on each slide.

Slide 155 / 201

Arrays



How many cubes are in each column?

Slide 155 (Answer) / 201

Arrays

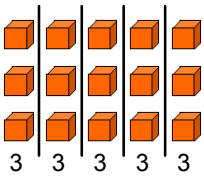
How ma

Teacher Notes

Count the cubes in the first column and write 3 at the bottom of the column. Then count the remaining cubes in each column and write a 3 at the bottom of each column.

Slide 156 / 201

Arrays



How many cubes are there in all?

Slide 156 (Answer) / 201

Arrays

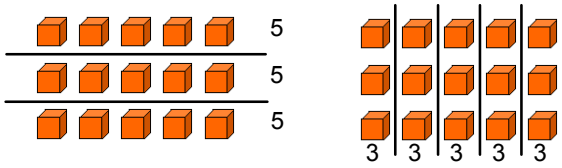
H

Teacher Notes

Ask a student to discuss with a friend how they could find the total. Ask for a volunteer to share with the class how they found the total. Ask for different volunteers until someone suggests adding each column. Then ask them to write the addition sentence. Point out that the number of columns and the number of columns is the same.

Slide 157 / 201

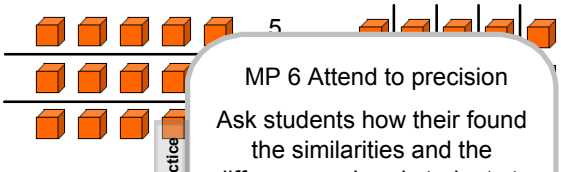
Arrays



What is the same about these two arrays? What is different?

Slide 157 (Answer) / 201

Arrays



Wh

a

Math Practice

MP 6 Attend to precision

Ask students how their found the similarities and the differences. Lead students to recognize that it does not matter if we count the columns or the rows, we will still have the same total.

Slide 158 / 201

Arrays

Divide the array by rows.

Write an addition sentence to find the total number of stars in the array.

How many addends will you have?

Slide 159 / 201

Arrays

Now divide it into columns and write an addition sentence to show the total.

Slide 160 / 201

Arrays

Divide the array by rows.

Write an addition sentence to find the total number of stars in the array.

How many addends will you have?

Slide 161 / 201

Arrays

Now divide it into columns and write an addition sentence to show the total.

Slide 162 / 201

Arrays

Make an array with 18 hearts.

How many rows are there? How many columns? How many in all?

Slide 162 (Answer) / 201

Arrays

Teacher Notes

Have students complete this activity at their seat with counters representing the hearts.

Make an array with 18 hearts.

How many rows are there? How many columns? How many in all?

Slide 163 / 201

Arrays

Make an array with 24 hearts.

How many rows are there? How many columns?
How many in all?

Slide 163 (Answer) / 201

Arrays

Math Practice

MP 4 Model with Mathematics

Have students build the array one step at a time while answering the questions at the bottom of the page. Have them write the addition sentence to match the array.

Make an array with 24 hearts.

How many rows are there? How many columns?
How many in all?

Slide 164 / 201

Arrays

Make a different array with 24 hearts.

How many rows are there? How many columns?
How many in all?

Slide 165 / 201

50 What <u>two</u> arrays show 3 + 3 + 3?

❑A 

❑B 

❑C 

Slide 165 (Answer) / 201

50 What <u>two</u> arrays show 3 + 3 + 3?

❑A 

❑B 

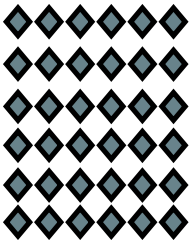
❑C 

Answer

A & C

Slide 166 / 201

51 How many addends would there be in the addition sentence to match this array?



51 How many addends would there be in the addition sentence to match this array?

Answer

6

52 Does the array below represent

2 + 2 + 2 + 2 + 2 + 2 = 12?

- Yes
- No

52 Does the array below represent

2 + 2 + 2 + 2 + 2 + 2 = 12?

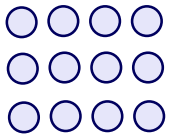
- Yes
- No

Answer

Yes

53 The array below shows 4 + 4 + 4 + 4 = 16.

- True
- False



53 The array below shows 4 + 4 + 4 + 4 = 16.

- True
- False

Answer

False

Name: _____

Geometry – Arrays Pt. 2

Classwork

1. Answer the questions about each array.

How many rows? _____

How many in each row? _____

How many in all? _____

Write the number sentence.

_____ + _____ + _____

2.

How many rows? _____

How many in each row? _____

How many in all? _____

Write the number sentence.

3. Draw two different arrays to show 16 objects.
Write the number sentence for each array.

Array 1	Array 2
Number Sentence	Number Sentence

Name: _____
Geometry – Arrays Pt. 2
Classwork

1. Answer the questions about the array.

How many rows? _____

How many in each row? _____

How many in all? _____

Write the number sentence.

_____ + _____+_____ +_____

2. Write the addition sentence for the array.

4. Draw two different arrays to show 20 objects.
Write the number sentence for each array.

Array 1	Array2
Number Sentence	Number Sentence

Arrays Pt. 3

Click to Return to Table of Contents

Arrays

Make an array for 15 objects.
Write an addition sentence to show the total.

Arrays

Arrays can also help us solve addition sentences.
Use the cubes to show 6 + 6 + 6 = ?

How many rows will you have?

How many cubes will be in each row?

What is the total?

Arrays

Make an array to show
7 + 7 + 7 + 7 = ?

How many rows will you have?

How many cubes will be in each row?

What is the total?

Arrays

Make an array to show
9 + 9 = ?

What is the sum?

Arrays

Make an array to show
2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = ?

What is the sum?

Array Roll

Sorry, this element requires Flash, which is not currently supported in PDFs.

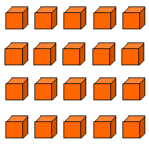
Please refer to the original Notebook file.

Directions:

- Split students into partners.
- Each group needs a die, counters, and worksheet.
- Roll the die once to find the number of rows in your array.
- Roll it again to find the number of objects in each row.
- Build your array and write the addition sentence to match.

54 There are 20 objects in this array.

- Yes
- No



54 There are 20 objects in this array.

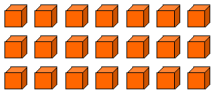
- Yes
- No

Answer

Yes

Slide 181 / 201

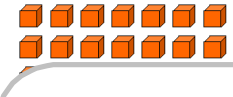
55 What is the correct addition sentence for this array?



- A 3 + 3 + 3 =
- B 7 + 7 + 7 =
- C 7 + 3 =
- D 7 + 7 + 3 =

Slide 181 (Answer) / 201

55 What is the correct addition sentence for this array?



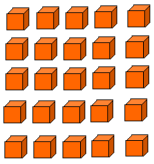
- A 3 + 3 + 3 =
- B 7 + 7 + 7 =
- C 7 + 3 =
- D 7 + 7 + 3 =

Answer

B

Slide 182 / 201

56 What is the correct addition sentence for this array?



- A 5 + 5
- B 5 + 5 + 5 + 5
- C 5 + 5 + 5 + 5 + 5
- D 5 + 6

Slide 182 (Answer) / 201

56 What is the correct addition sentence for this array?

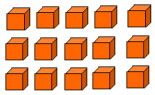
- A 5 + 5
- B 5 + 5 + 5 + 5
- C 5 + 5 + 5 + 5 + 5
- D 5 + 6

Answer

C

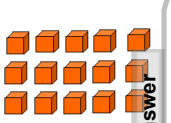
Slide 183 / 201

57 How many objects are in this array?



Slide 183 (Answer) / 201

57 How many objects are in this array?



Answer

15

Name: _____
Geometry – Arrays Pt. 3
Classwork

Draw an array to match each addition sentence. Write the sum.

Addition Sentence	Matching Array
7 + 7 + 7 = _____	
3 + 3 + 3 + 3 + 3 = _____	
2 + 2 + 2 + 2 = _____	

Name: _____
Geometry – Arrays Pt. 3
Homework

Draw an array to match each addition sentence. Write the sum.

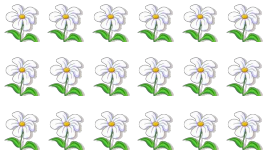
Addition Sentence	Matching Array
6 + 6 = _____	
4 + 4 + 4 + 4 = _____	
2 + 2 + 2 + 2 + 2 = _____	

Array Word Problems

Click to Return to Table of Contents

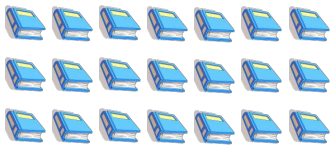
Word Problems

Tina saw a garden while she was walking to school. She wanted to know how many flowers there were in all. Write an addition sentence to show the total number of flowers.



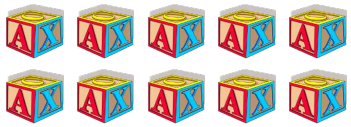
Word Problems

Mac has a bookshelf in his bedroom. Write an addition sentence to show the total number of books he has on his shelves.



Word Problems

Abby lined up her blocks at school. Her teacher asked her how many blocks she has in all. What addition sentence could help Abby find the answer?



Slide 190 / 201

Word Problems

Beth's mom gave her, her brother and her sister 6 pieces of candy each. How many pieces of candy do they have in all?

Draw an array to help you.

Write an addition sentence to match.

Slide 190 (Answer) / 201

Word Problems

Beth's mom gave her, her brother and her sister 6 pieces of candy each. How many pieces of candy do

Math Practice

MP 7 Look for and make use of structure.

Have students build the array one step at a time. Have the discuss how the addition sentence matches the array.

Draw an array to help you.

Write an addition sentence to match.

Slide 191 / 201

Word Problems

Kim took the egg carton out of the refrigerator. She wanted to know how many eggs there were in all. There are 5 eggs in both rows. How many eggs are there in all?

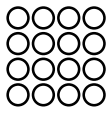
Slide 192 / 201

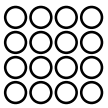
Word Problems

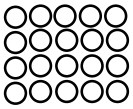
Josh and his two friends are playing a card game. Each person has 6 cards. How many cards do they have in all?

Slide 193 / 201

58 Kyle went to the farm. There were 5 pig pens. Each pen had 4 pigs. How many pigs were there in all? Pick the array that represents this problem.

A 

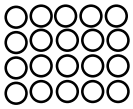
C 

B 

Slide 193 (Answer) / 201

58 Kyle went to the farm. There were 5 pig pens. Each pen had 4 pigs. How many pigs were there in all? Pick the array that represents this problem.

A 

B 

Answer

B

Slide 194 / 201

59 How many rows would there be in an array to match this word problem?

Lenny saw 2 wires. There were 6 birds on each wire. How many birds would there be in all?

Slide 194 (Answer) / 201

59 How many rows would there be in an array to match this word problem?

Lenny saw 2 wires. Th
How many birds woul

Answer

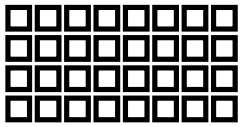
2

Slide 195 / 201

60 Todd went to the store to get bread. There were 8 shelves of bread. Each shelf had 3 loaves of bread. How many loaves were there in all?

Does the array below match this word problem?

- Yes
- No



Slide 195 (Answer) / 201

60 Todd went to the store to get bread. There were 8 shelves of bread. Each shelf had 3 loaves of bread. How many loaves were there in all?

Does the array below

- Yes
- No

Answer

No

Slide 196 / 201

61 There were 7 men selling balloons at the parade. Each man was holding 5 balloons. How many balloons were there in all?

Draw an array at your seat to help you solve this problem.

Slide 196 (Answer) / 201

61 There were 7 men selling balloons at the parade. Each man was holding 5 balloons. How many balloons were there in all?

Draw an array at you
problem.

Answer

35

62 Which addition sentence matches this word problem?

Harry's office door has 5 rows of windows. Each row has 3 panels. How many window panels are there in all?

- A 3 + 3 + 3 + 3 + 3
- B 5 + 5 + 5 + 5 + 5
- C 5 + 3

62 Which addition sentence matches this word problem?

Harry's office door has 5 rows of windows. Each row has 3 panels. How many wind[illegible]

- A 3 + 3 + 3 + 3 + 3
- B 5 + 5 + 5 + 5 + 5
- C 5 + 3

Answer

A

Name: _____
Geometry – Array Word Problems
Classwork

1. Write an addition sentence and an array to match the word problem.

Jimmy went to the ball game. There were 7 rows of seats in his section. Each row had 5 seats. How many seats were there in all?

Addition Sentence: _____

2. Write an addition sentence and an array to match the word problem.

The pet store has 3 rows of cages. Each row has 4 cages. How many cages are there in all?

Addition Sentence: _____

4. Make up your own word problem to match the array. Write an addition sentence to match it.

□□
□□

Addition Sentence: _____

5. Make up your own word problem to match the array. Write an addition sentence to match it.

□□□□□□□□□
□□□□□□□□□
□□□□□□□□□

Name: _____
Geometry – Array Word Problems
Homework

1. Write an addition sentence and an array to match the word problem.

Seth set up a display of his cars. He made 7 rows and each row had 8 cars. How many cars does he have in all?

Addition Sentence: _____

2. Write an addition sentence and an array to match the word problem.

Bonnie and Ken bought a new bookcase for their office. The bookcase has 6 shelves. They put 6 books on each shelf. How many books are on the bookcase?

Addition Sentence: _____

4. Make up your own word problem to match the array. Write an addition sentence to match it.

□□□
□□□

Addition Sentence: _____

5. Make up your own word problem to match the array. Write an addition sentence to match it.

□□□□□□
□□□□□□
□□□□□□