

**Daily Math Practice 1**

Continue the patterns below  
 30, 35, 40, \_\_\_\_\_, 55, \_\_\_\_\_  
 24, 22, 20, \_\_\_\_\_, 14, \_\_\_\_\_  
 11, 22, 33, \_\_\_\_\_, 66, \_\_\_\_\_

Use the number line to model solving the problem below. An example is provided.  
 $7 + 2 = 5$   
 2 3 4 5

$5 + 4 =$  \_\_\_\_\_  
 2 3 4 5

Divide each of the shapes below into halves. The first one is done for you.

Trace around shapes below. Try!

A triangle is any shape with 3 sides. Circle the triangles and cross out the shapes that are not triangles.

How many triangles?

Circle the shapes that have been split into halves. HINT: Halves have 2 equal pieces.

Circle the shapes that have been split into thirds. Hint: Thirds have 3 equal pieces.

What is the name of the shape below?

How many \_\_\_\_\_?

Draw a shape that \_\_\_\_\_.

**Daily Math Practice 2**

Continue the patterns below  
 36, 33, 30, \_\_\_\_\_, 21, \_\_\_\_\_  
 12, 14, 16, 18, \_\_\_\_\_  
 94, 84, 74, 64, \_\_\_\_\_

Circle the shapes that have been split into halves. HINT: Halves have 2 equal pieces.

Circle the shapes that have been split into thirds. Hint: Thirds have 3 equal pieces.

What is the name of the shape below?

How many \_\_\_\_\_?

Draw a shape that \_\_\_\_\_.

**Daily Math Practice 3**

Continue the patterns below  
 95, 85, \_\_\_\_\_, 65, \_\_\_\_\_, 25

Use the number line to model solving the problem below.  
 $14 - 3 =$  \_\_\_\_\_

Circle the shapes that have been split into thirds. Hint: Thirds have 3 equal pieces.

Explain what perimeter means in your own words.

Trace around shapes below. One is done for you.

Explain why the shape below has NOT been split into halves.

Draw a 7-sided shape, and then trace around its perimeter.

Explain why the shape below is NOT a triangle.

CHALLENGE: Count by 6s, starting at 60. See how high you can go.

# Daily Morning Work:

## 1st Quarter

### 3rd Grade

**Daily Math Practice 4**

Create a pattern using the rule below. An example is given.  
 Rule: Numbers increase by 6  
 9, 15, 21, 27, 33, 39

Rule: Numbers increase by 3  
 \_\_\_\_\_

Fill in the missing numbers on the number line. Then, use the number line to model solving the problem below.  
 $7 + 5 =$  \_\_\_\_\_

Circle the shapes that have been split into halves. HINT: Halves have 2 equal pieces.

Find the perimeter.

A quadrilateral is any shape with 4 sides. Circle the quadrilaterals below.

CHALLENGE: How many different type quadrilaterals can you draw?

**Daily Math Practice 5**

Create a pattern using the rule below. An example is given.  
 Rule: Numbers decrease by 6  
 78, 70, 62, 54, 46, 38

Rule: Numbers decrease by 5  
 \_\_\_\_\_

Fill in the missing numbers on the number line. Then, use the number line to model solving the problem below.  
 $17 - 7 =$  \_\_\_\_\_

Split the shapes below into equal fourths.

Find the perimeter.

Numbers increase by 9.

Numbers decrease by 2.

Fill in the missing numbers on the number line. Then, use the number line to model solving the problem below.  
 $15 - 6 =$  \_\_\_\_\_

Explain why the shape below has NOT been split into equal halves.

Find the perimeter.

Explain the difference between a triangle and a quadrilateral.

CHALLENGE: Count by 10s, starting at 300. See how high you can go.

45 Days

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# Using this Product: Overview

- This product allows students to practice each of the 3<sup>rd</sup> Grade Common Core math domains daily.
- Every week, students will focus in on a specific skill within the domain. Each week builds on the previous weeks.
- This product is scaffolded. The skills gradually become more difficult throughout the week as well as throughout the quarter.
- The goal is for the majority of students to be able to complete this morning work INDEPENDENTLY, freeing you up to take care of your morning tasks. Because of this, some of the problems might seem easy to some of your more advanced learners. A challenge question is included daily in order to challenge these advanced learners.

# Using this Product: Page Set Up

Every day, students will solve six math questions: one question from each of the 3<sup>rd</sup> grade math domains and one challenge question. The diagram below shows where each type of question will appear on the student pages.

<u>Box 1:</u> Operations and Algebraic Thinking Question	<u>Box 2:</u> Number and Operations in Base 10 Question
<u>Box 3:</u> Number and Operations – Fractions Question	<u>Box 4:</u> Measurement and Data Question
<u>Box 5:</u> Geometry Question	<u>Box 6:</u> Challenge Question

# Using this Product: Grading Options

Answer keys have been provided. However, grading this morning work daily would be an overwhelming task.

Consider some of the following alternatives.

- Use the rubric provided on page 58.
- Only grade morning work on Fridays. Use the rest of the week to practice the skills.
- Use the checklist provided on page 60. Choose 2 or 3 problems a week to grade.

# Skills Practiced:

## Box 1: *Operations and Algebraic Thinking*

The first box of the morning work focuses on the following Operations and Algebraic Thinking Standard:

3.OA.D.9

Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.

Each week, the skills become a little more challenging. The table below shows what students are specifically practicing each week.

Week 1	Continuing an increasing or decreasing pattern
Week 2	Creating a pattern using a given rule
Week 3	Continuing a two step pattern
Week 4	Finding patterns in an addition/subtraction table
Week 5	Using an in/out table to organize patterns
Week 6	Identifying the rule of an in/out table
Week 7	Finding patterns in a multiplication/division table
Week 8	Solving patterning word problems
Week 9	Review

# Skills Practiced:

## Box 2: Number and Operations in Base 10

The second box of the morning work focuses on the following Number and Operations in Base 10 Standard:

### 3.NBT.A.2

Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

However, the main focus of this 9 weeks is building place value understanding using a number line. Developing a good understanding of number lines will help improve student understanding of rounding, which will be addressed in Quarter 2's morning work.

Week 1	Add/Subtract 1-digit numbers using number lines
Week 2	Fill in a number line, counting by 1s
Week 3	Fill in a number line, counting by 2s, 5s, and 10s
Week 4	Add/Subtract 2-digit numbers using number lines
Week 5	Fill in a number line – 3 digit numbers
Week 6	Fill in a number line, counting by 2s, 5s, and 10s, using 3-digit numbers
Week 7	Place numbers in the correct spot on a number line
Week 8	Compare numbers using a number line
Week 9	Review

# Skills Practiced:

## Box 3: Number and Operations – Fractions

The third box of the morning work focuses on the following Number and Operations – Fractions Standard:

### 3.NF.A.1

Understand a fraction  $1/b$  as the quantity formed by 1 part when a whole is partitioned into  $b$  equal parts; understand a fraction  $a/b$  as the quantity formed by  $a$  parts of size  $1/b$ .

These 9 weeks focus on building a solid understanding of fraction basics. Each week, the skills become a little more challenging. The table below shows what students are specifically practicing each week.

Week 1	Understanding halves and thirds
Week 2	Understanding fourths, fifths, sixths, and eighths
Week 3	Shading a fractional piece according to instructions
Week 4	Understanding the placement of numerators/ denominators
Week 5	Understanding the meaning of the denominator
Week 6	Shading a stated fraction
Week 7	Identifying the fraction shaded
Week 8	Comparing fractions by shading
Week 9	Review



# Skills Practiced:

## Box 4: *Measurement and Data*

The fourth box of the morning work focuses on the following Measurement and Data Standards:

3.MD.C.6

Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).

3.MD.D.8

Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

These 9 weeks focus on building a solid understanding of perimeter and area basics.

Week 1	Understanding the meaning of perimeter
Week 2	Finding the perimeter by counting units
Week 3	Finding the perimeter given the side lengths
Week 4	Finding an unknown side length
Week 5	Understanding the meaning of area
Week 6	Measuring the area by counting units
Week 7	Drawing a shape with a given area
Week 8	Finding the perimeter and area of a polygon
Week 9	Review

# Skills Practiced:

## Box 5: Geometry

The fifth box of the morning work focuses on the following Geometry Standard:

### 3.G.A.1

Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

Each week, the skills become a little more challenging. The table below shows what students are specifically practicing each week.

Week 1	Understanding triangles
Week 2	Understanding quadrilaterals
Week 3	Understanding pentagons
Week 4	Understanding hexagons
Week 5	Understanding octagons
Week 6	Understanding parallel/intersecting lines
Week 7	Understanding the meaning of equal
Week 8	Understanding right angles
Week 9	Review

# Morning Work

## Pages 12 - 56

There are a total of 45 morning work pages, covering the first 9 weeks of school. The pages are numbered in the top right hand corner to help you keep track. The table below explains what pages are associated with what week.

Week 1	Pages 1 - 5
Week 2	Pages 6 - 10
Week 3	Pages 11 - 15
Week 4	Pages 16 - 20
Week 5	Pages 21 - 25
Week 6	Pages 26 - 30
Week 7	Pages 31 - 35
Week 8	Pages 36 - 40
Week 9	Pages 41 - 45

Continue the patterns below.

30, 35, 40, \_\_, \_\_, 55, \_\_, \_\_

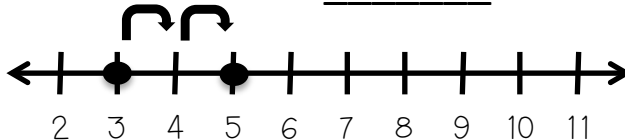
24, 22, 20, \_\_, \_\_, 14, \_\_, \_\_

11, 22, 33, \_\_, \_\_, 66, \_\_, \_\_

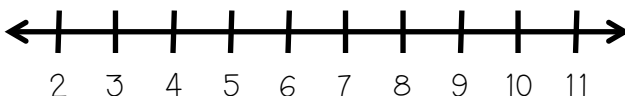
Use the number line to model solving the problem below. An example is provided.

Example

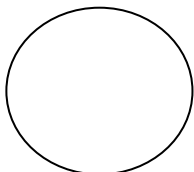
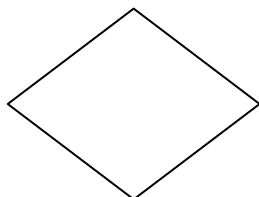
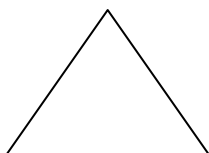
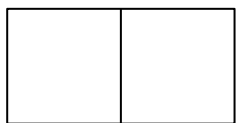
$$3 + 2 = \underline{5}$$



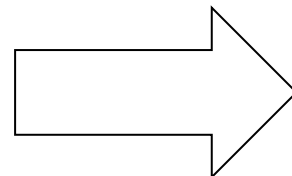
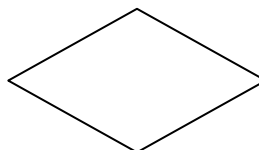
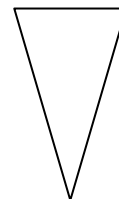
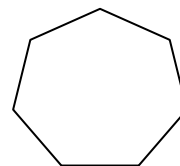
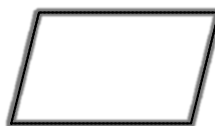
$$5 + 4 = \underline{\quad}$$



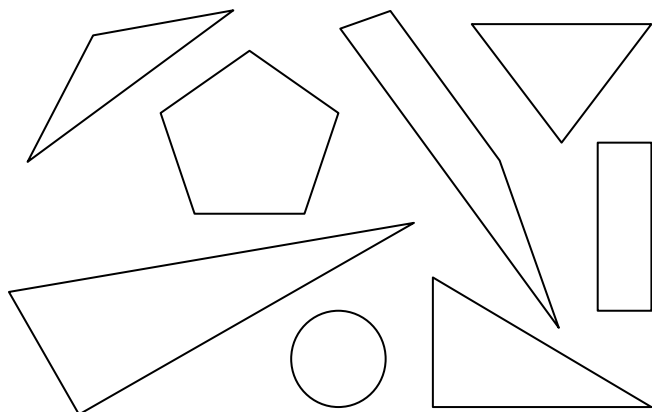
Divide each of the shapes below into halves. The first one is done for you.



Trace around the perimeter of the shapes below. The first one is done for you.

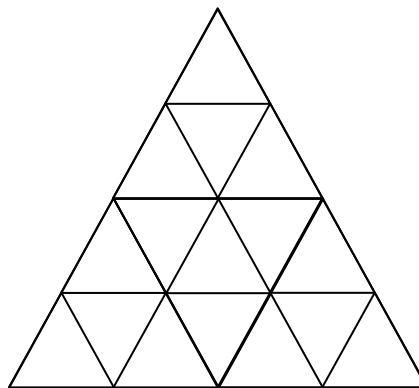


A triangle is any shape with 3 sides. Circle the triangles and cross out the shapes that are not triangles.



CHALLENGE

How many triangles do you see? \_\_\_\_



Continue the patterns below.

36, 33, 30, \_\_\_\_, \_\_\_\_, 21, \_\_\_\_, \_\_\_\_,

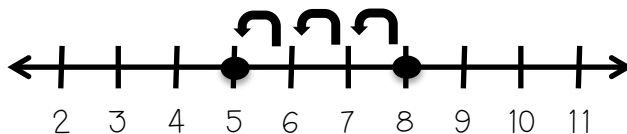
12, 14, 16, 18, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_,

94, 84, 74, 64, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_,

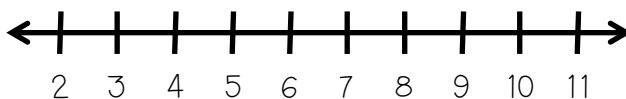
Use the number line to model solving the problem below. An example is provided.

Example

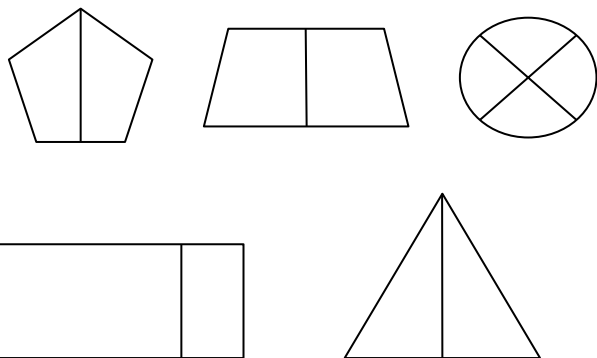
$$8 - 3 = \underline{5}$$



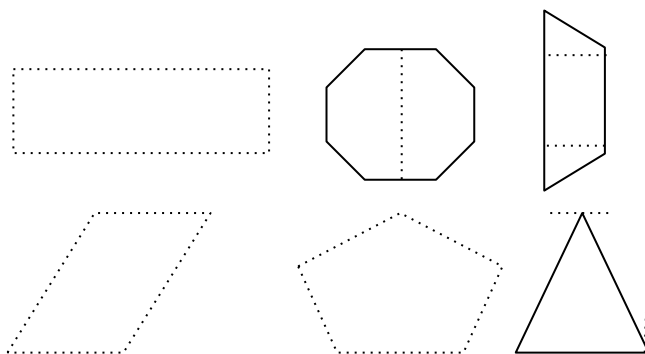
$$11 - 6 = \underline{\hspace{2cm}}$$



Circle the shapes that have been split into halves. HINT: Halves have 2 equal pieces.



Circle the shapes below that have dotted lines around the perimeter. Hint: Perimeter measures the distance around a shape.



Look around the room. What objects do you see that are triangles (3 sides). List at least 3 below.

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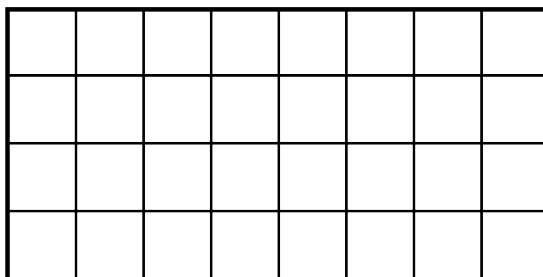
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### CHALLENGE

Draw a shape that has a perimeter of 16 units.



Continue the patterns below.

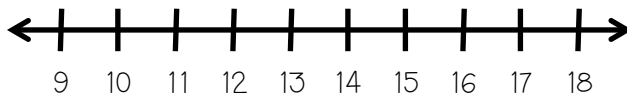
30, 40, \_\_\_\_, 60, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

21, 19, \_\_\_\_, 15, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

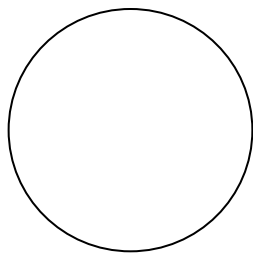
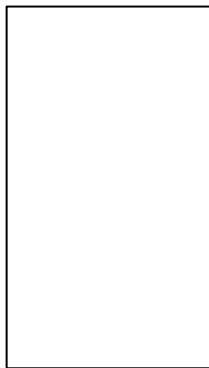
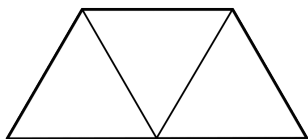
12, 16, \_\_\_\_, 24, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

Use the number line to model solving the problem below.

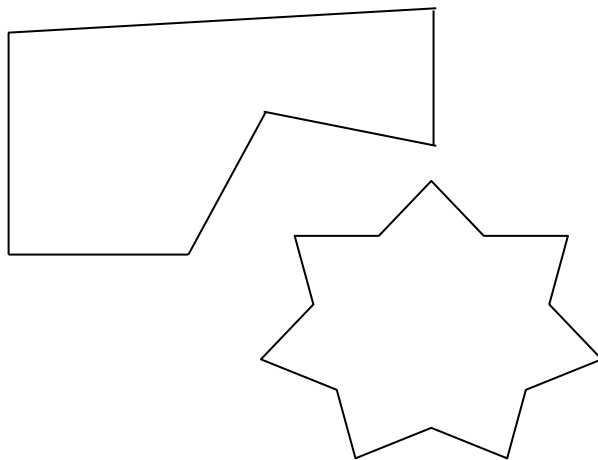
$$9 + 6 = \underline{\hspace{2cm}}$$



Split each of the shapes below into equal thirds. The first one is done for you.



Trace around the perimeter of the shapes below.



How many sides does a triangle have?

\_\_\_\_\_ sides

Draw 2 different triangles below.

### CHALLENGE

There are a total of 138 cookies to divide equally between 3 kids. Each kid will get a third of the cookies. How many cookies will each kid get?

Continue the patterns below.

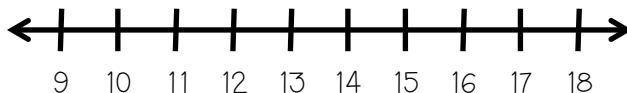
95, 85, \_\_\_\_, 65, \_\_\_\_, \_\_\_\_, \_\_\_\_, 25

6, 12, \_\_\_\_, 24, \_\_\_\_, \_\_\_\_, \_\_\_\_, 48

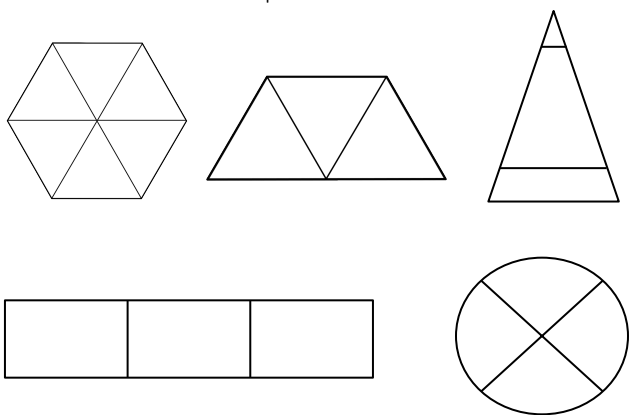
120, 110, \_\_\_\_, 90, \_\_\_\_, \_\_\_\_, \_\_\_\_, 50

Use the number line to model solving the problem below.

$$14 - 3 = \underline{\hspace{2cm}}$$



Circle the shapes that have been split into thirds. Hint: Thirds have 3 equal pieces.



Explain what perimeter means in your own words.

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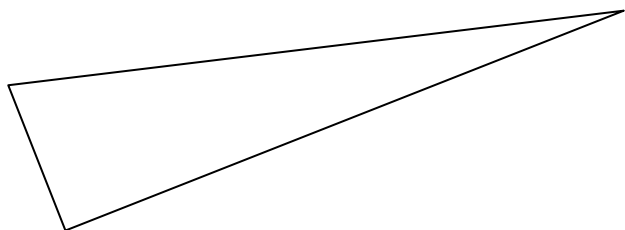
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What is the name of the shape below?

\_\_\_\_\_



How do you know?

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### CHALLENGE

$$143 + \underline{\hspace{2cm}} = 199$$

$$451 - \underline{\hspace{2cm}} = 324$$

Continue the patterns below.

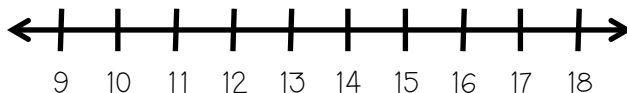
13, 16, \_\_, 22, \_\_, \_\_, \_\_, 34

29, 25, \_\_, 17, \_\_, \_\_, \_\_, 1

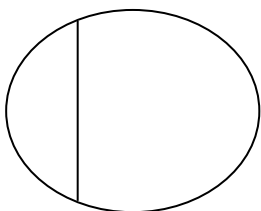
37, 33, \_\_, 25, \_\_, \_\_, \_\_, 9

Use the number line to model solving the problem below.

$$11 + 6 = \underline{\hspace{2cm}}$$



Explain why the shape below has NOT been split into halves.




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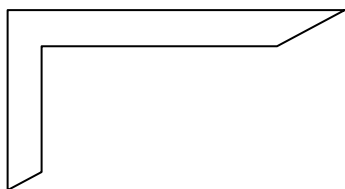
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Draw a 7 sided shape, and then trace around its perimeter.

Explain why the shape below is NOT a triangle.




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### CHALLENGE

Count by 6s, starting at 60. See how high you can go.



Create a pattern using the rule below.  
An example is given.

Example

Rule: Numbers increase by 6

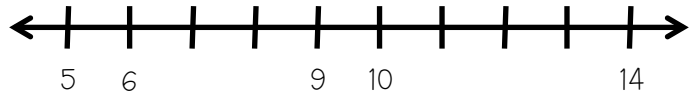
9, 15, 21, 27, 33, 39

Rule: Numbers increase by 3

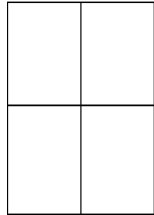
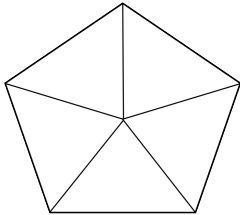
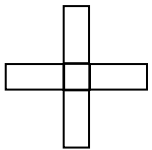
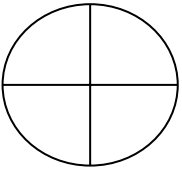
\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Fill in the missing numbers on the number line. Then, use the number line to model solving the problem below.

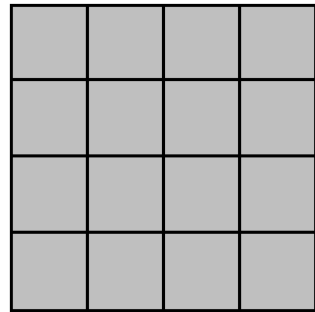
$$7 + 5 = \underline{\hspace{2cm}}$$



Circle the shapes that have been split into **fourths**. HINT: Fourths have 4 equal pieces.

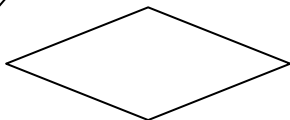
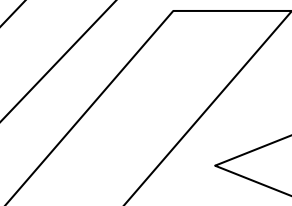
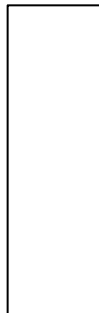
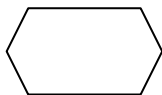
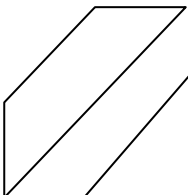
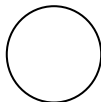
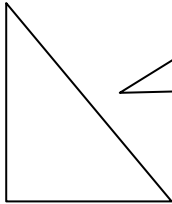
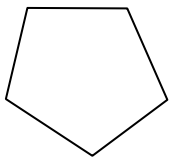


Find the perimeter.



Perimeter: \_\_\_\_\_ units

A quadrilateral is any shape with 4 sides. Circle the quadrilaterals below.



### CHALLENGE

How many different types of quadrilaterals can you draw below?

Create a pattern using the rule below.  
An example is given.

Example

Rule: Numbers decrease by 8

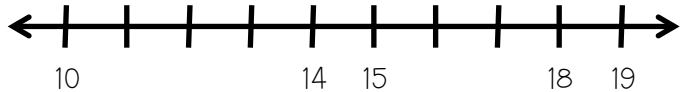
78, 70, 62, 54, 46, 38

Rule: Numbers decrease by 5

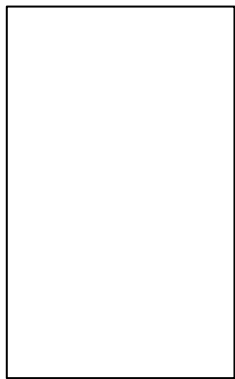
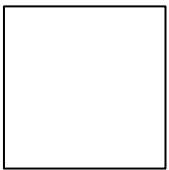
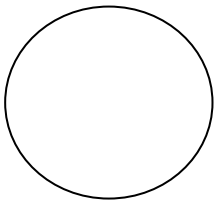
\_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

Fill in the missing numbers on the number line. Then, use the number line to model solving the problem below.

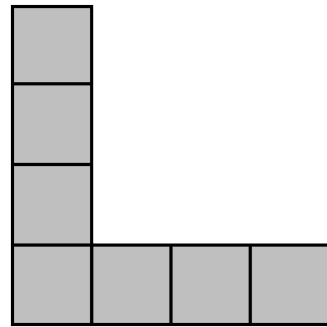
$$17 - 7 = \underline{\hspace{2cm}}$$



Split the shapes below into equal fourths.



Find the perimeter.



Perimeter: \_\_\_\_\_ units

A quadrilateral has 4 sides. Look around the room. What objects do you see that are quadrilaterals? List at least 3 below.

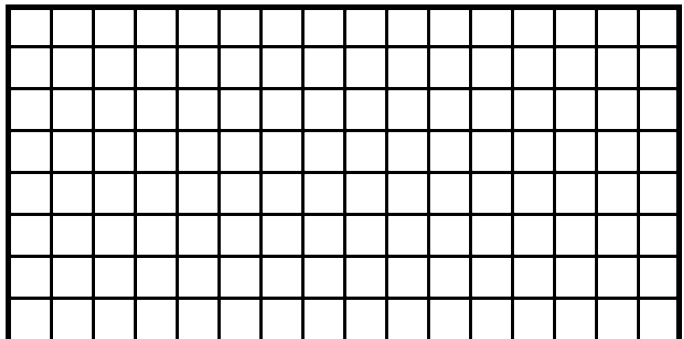
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### CHALLENGE

How many different shapes can you draw with a perimeter of 8?



Create a pattern using the rules below.

Rule: Numbers increase by 4

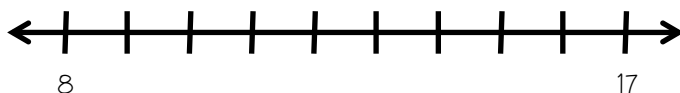
\_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

Rule: Numbers increase by 5

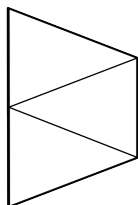
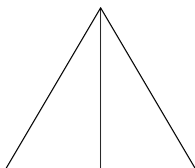
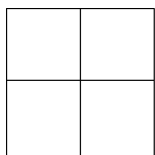
\_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

Fill in the missing numbers on the number line. Then, use the number line to model solving the problem below.

$$9 + 7 = \underline{\hspace{2cm}}$$

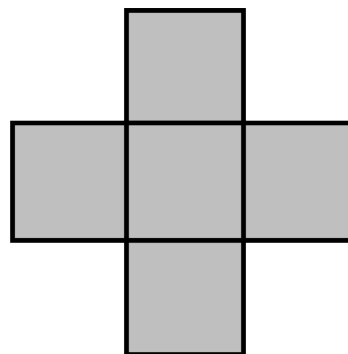


Decide whether the shapes below have been split into halves, thirds, or fourths. Label each shape.



\_\_\_\_\_

Find the perimeter.



Perimeter: \_\_\_\_\_ units

How many sides does a quadrilateral have?

\_\_\_\_\_ sides

Draw 2 different quadrilaterals below.

### CHALLENGE

13 cakes have been baked. Each of the cakes will be split into fourths. How many total fourths will there be?

Create a pattern using the rules below.

Rule: Numbers decrease by 2

\_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

Rule: Numbers increase by 9

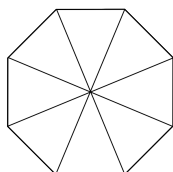
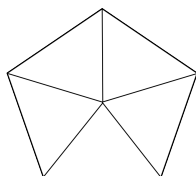
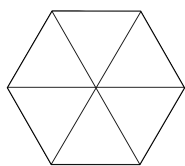
\_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

Fill in the missing numbers on the number line. Then, use the number line to model solving the problem below.

$$15 - 6 = \underline{\hspace{2cm}}$$



Decide whether the shapes below have been split into fifths, sixths, or eighths. Label each shape.

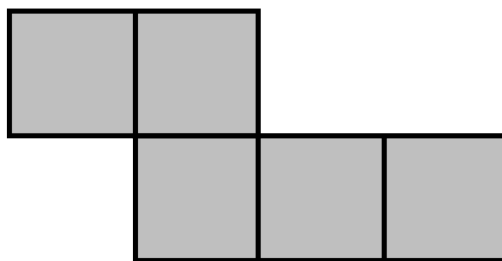


\_\_\_\_\_

\_\_\_\_\_

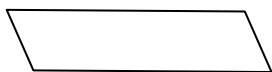
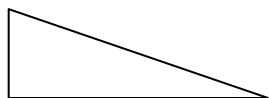
\_\_\_\_\_

Find the perimeter.



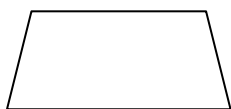
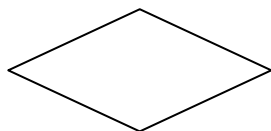
Perimeter: \_\_\_\_\_ units

Label the shapes below as either "triangle" or "quadrilateral."



\_\_\_\_\_

\_\_\_\_\_



\_\_\_\_\_

\_\_\_\_\_

### CHALLENGE

Fill in the missing numbers on the number line. HINT: NOT counting by 1s.



2,303

2,318

Create a pattern using the rules below.

Rule: Numbers increase by 7

\_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

Rule: Numbers decrease by 10

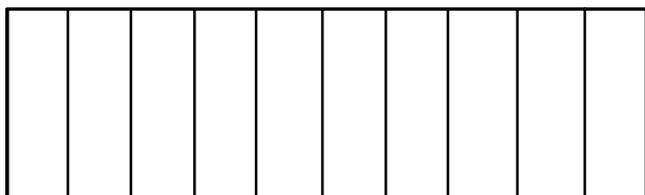
\_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

Fill in the missing numbers on the number line. Then, use the number line to model solving the problem below.

$$19 - 4 = \underline{\hspace{2cm}}$$



Explain why the shape below has NOT been split into equal eighths.




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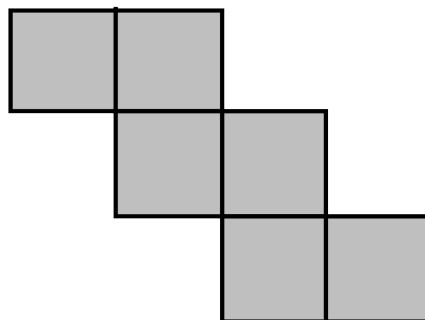


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Find the perimeter.



Perimeter: \_\_\_\_\_ units

Explain the difference between a triangle and a quadrilateral.

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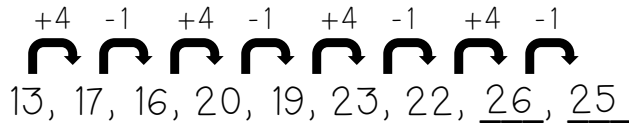
### CHALLENGE

Count by 10s, starting at 900. See how high you can go.

Continue the patterns below. An example is given.

Hint: These are two step patterns.

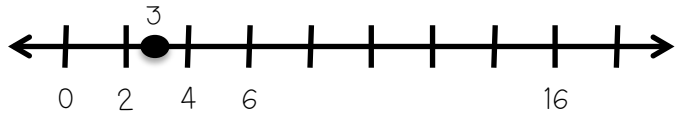
Example



3, 7, 5, 9, 7, 11, 9, \_\_\_\_, \_\_\_\_

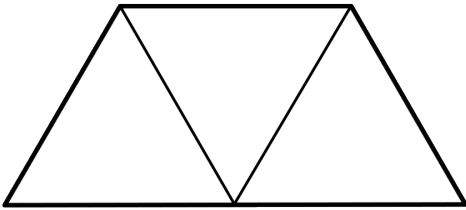
10, 20, 19, 29, 28, 38, 37, \_\_\_\_, \_\_\_\_

Fill in the missing numbers on the number line. Notice that the number line is counting by twos!



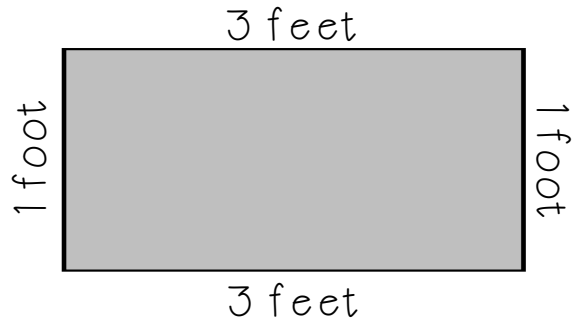
Now, place a point on the number line to represent the number 15. If you need help, notice how a point has been placed on the number line to represent the number 3.

Shade 2 of the thirds below.



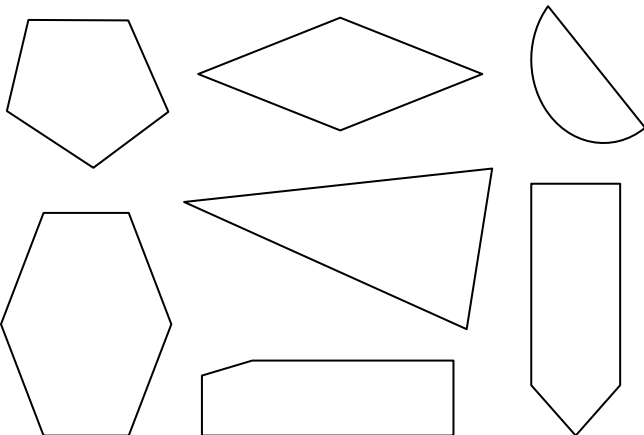
You have shaded  $\frac{2}{3}$ .

Find the perimeter.



Perimeter: \_\_\_\_\_ feet

A pentagon is any shape with 5 sides.  
Circle the pentagons below.



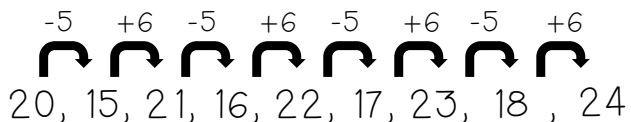
### CHALLENGE

Create a drawing that uses 4 pentagons, 4 quadrilaterals, and 4 triangles.

Continue the pattern below. An example is given.

Hint: These are two step patterns.

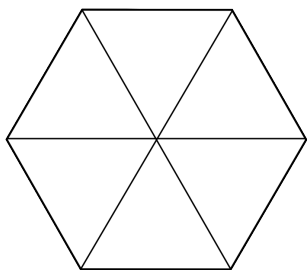
Example



10, 20, 15, 25, 20, 30, 25, \_\_\_\_\_, \_\_\_\_\_

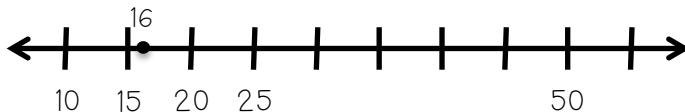
60, 50, 53, 43, 46, 36, 39, \_\_\_\_\_, \_\_\_\_\_

Shade 1 of the sixths below.



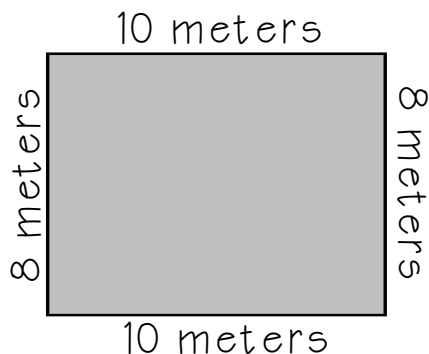
You have shaded  $\frac{1}{6}$ .

Fill in the missing numbers on the number line. Notice that the number line is counting by fives!



Now, place a point on the number line to represent the number 27. If you need help, notice how a point has been placed on the number line to represent the number 16.

Find the perimeter.



Perimeter: \_\_\_\_\_ meters

A pentagon is any shape that has 5 sides. Draw 3 different pentagons below.

### CHALLENGE

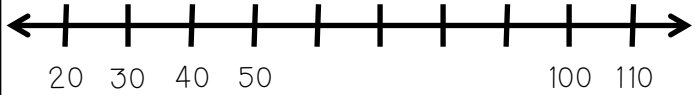
A quadrilateral has a perimeter of 26 inches. 2 sides of the quadrilateral each have a length of 11 inches. A third side has a length of 1 inch. What is the length of the fourth side?

Continue the pattern below.  
Hint: These are two step patterns.

80, 78, 83, 81, 86, 84, 89, \_\_\_\_, \_\_\_\_

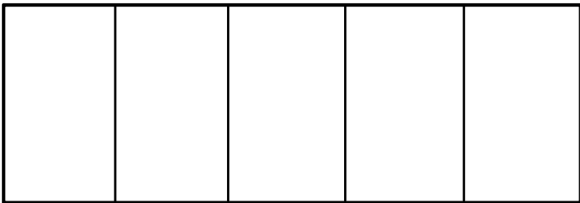
19, 21, 28, 30, 37, 39, 46, \_\_\_\_, \_\_\_\_

Fill in the missing numbers on the number line. Notice that the number line is counting by tens!



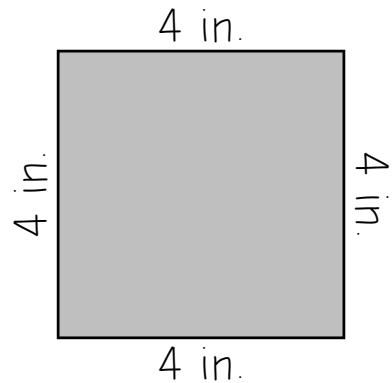
Now, place a point on the number line to represent the number 72.

Shade 2 of the fifths below.



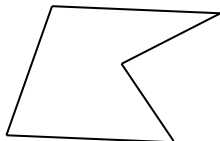
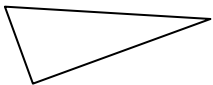
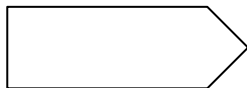
You have shaded  $\frac{2}{5}$ .

Find the perimeter.



Perimeter: \_\_\_\_\_ in.

Label the shapes below as either "triangle," "quadrilateral," or "pentagon."



### CHALLENGE

Would you rather have one third of a pie or one sixth of a pie? Explain.

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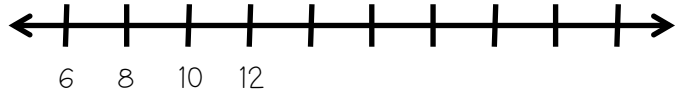
Continue the pattern below.

31, 41, 40, 50, 49, 59, 58, \_\_\_\_, \_\_\_\_

90, 85, 84, 79, 78, 73, 72, \_\_\_\_, \_\_\_\_

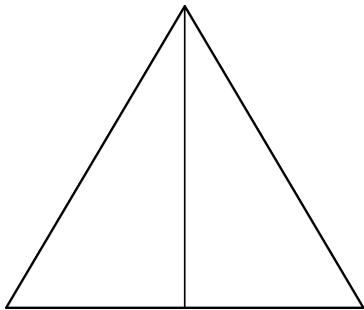
15, 18, 16, 19, 17, 20, 18, \_\_\_\_, \_\_\_\_

Fill in the missing numbers on the number line.



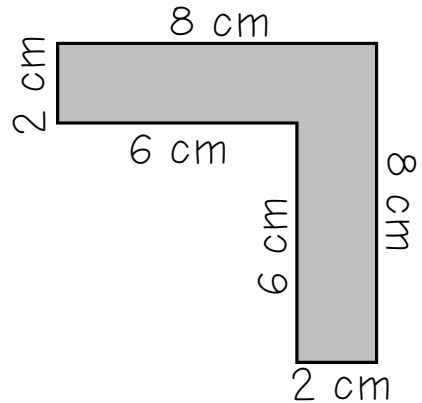
Now, place a point on the number line to represent the number 17.

Shade 1 of the halves below.



You have shaded  $\frac{1}{2}$ .

Find the perimeter.



Perimeter: \_\_\_\_\_ cm

Explain the difference between a pentagon and a quadrilateral.

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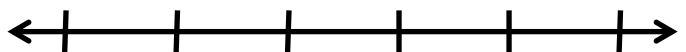


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### CHALLENGE

Fill in the number line below. Place a point on the number line to represent the following numbers:

3,226 3,254 3,261



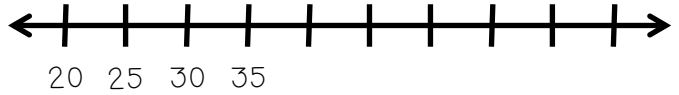
Continue the pattern below.

50, 46, 48, 44, 46, 42, 44, \_\_\_\_\_, \_\_\_\_\_

21, 27, 30, 36, 39, 45, 48, \_\_\_\_\_, \_\_\_\_\_

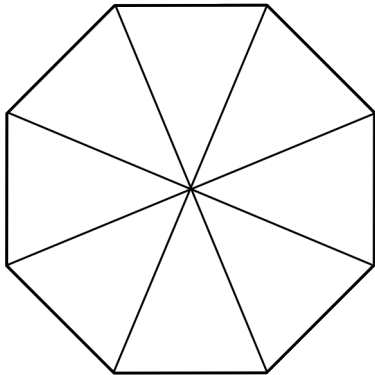
98, 88, 86, 76, 74, 64, 62, \_\_\_\_\_, \_\_\_\_\_

Fill in the missing numbers on the number line.



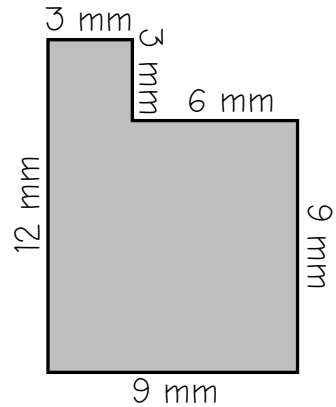
Now, place a point on the number line to represent the number 44.

Shade 3 of the eighths below.



You have shaded  $\frac{3}{8}$ .

Find the perimeter.



Perimeter: \_\_\_\_\_ mm

What is the name of the shape below?  
How do you know?




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### CHALLENGE

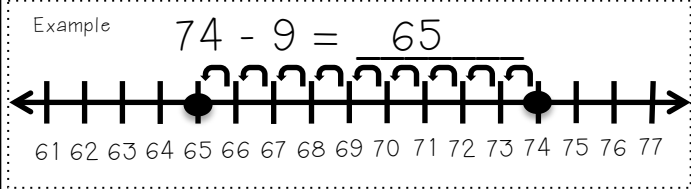
Continue the pattern below. See how high you can go.

1, 2, 4, 8, 16, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_,  
 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_,  
 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_,  
 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Look at the gray rows in the addition table below. What pattern do you notice?

+	1	2	3	4	5	_____
1	2	3	4	5	6	_____
2	3	4	5	6	7	_____
3	4	5	6	7	8	_____
4	5	6	7	8	9	_____
5	6	7	8	9	10	_____

Use the number line to model solving the problem below. An example is provided.



$$91 - 15 = \underline{\hspace{2cm}}$$

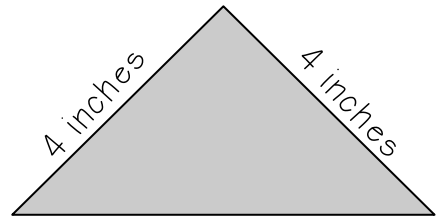


Circle the numerators. Draw a square around the denominators. The first two have been done for you.

$\frac{\textcircled{2}}{\square{6}}$      $\frac{\textcircled{5}}{\square{7}}$      $\frac{2}{8}$      $\frac{1}{4}$      $\frac{3}{5}$   
 $\frac{7}{9}$      $\frac{2}{3}$      $\frac{1}{6}$      $\frac{7}{10}$      $\frac{4}{6}$

The perimeter is given. Find the length of the missing side (x).

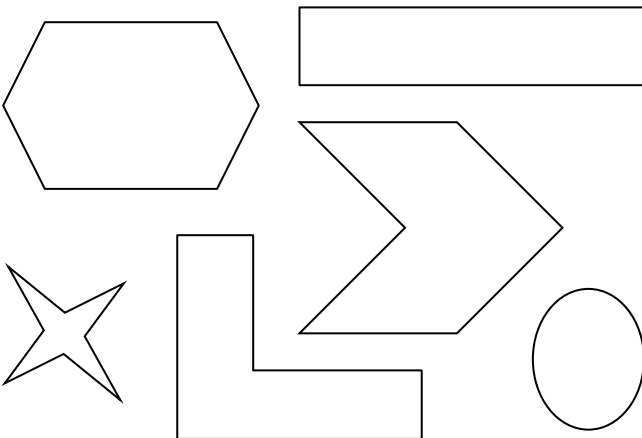
Perimeter: 14 inches



$$4 + 4 + x = 14$$

$$x = \underline{\hspace{2cm}} \text{ inches}$$

A hexagon is any shape with 6 sides. Circle the hexagons below.



### CHALLENGE

Draw a person below using only hexagons and quadrilaterals.



Look at the gray diagonals in the addition table below. What pattern do you notice?

+	1	2	3	4	5
1	2	3	4	5	6
2	3	4	5	6	7
3	4	5	6	7	8
4	5	6	7	8	9
5	6	7	8	9	10

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Use the number line to model solving the problem below.

$$36 - 11 = \underline{\hspace{2cm}}$$



Place 4 in the numerator and 7 in the denominator.

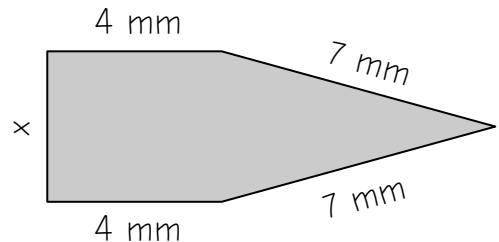
\_\_\_\_\_

Place 9 in the numerator and 5 in the denominator.

\_\_\_\_\_

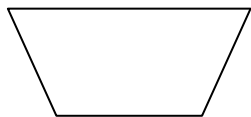
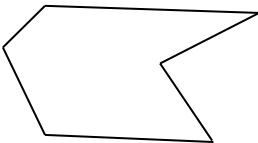
The perimeter is given. Find the length of the missing side (x).

Perimeter: 28 mm



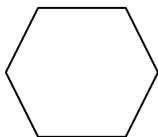
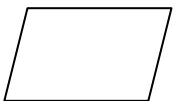
$$x = \underline{\hspace{2cm}} \text{ mm}$$

Label the shapes below as either "quadrilateral" or "hexagon."



\_\_\_\_\_

\_\_\_\_\_



\_\_\_\_\_

\_\_\_\_\_

### CHALLENGE

Create a fraction pattern below. Have the numerator of the fractions increase by 2, and the denominator of the fractions increase by 5.

Look at the gray diagonals in the addition table below. What pattern do you notice?

+	5	6	7	8	9
5	10	11	12	13	14
6	11	12	13	14	15
7	12	13	14	15	16
8	13	14	15	16	17
9	14	15	16	17	18

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Tu was trying to figure out the sum of  $13 + 77$ . He said that using the number line below wouldn't help him solve the problem. Is he correct? Why or why not?



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Explain where in a fraction you will find the numerator and the denominator.

\_\_\_\_\_

\_\_\_\_\_

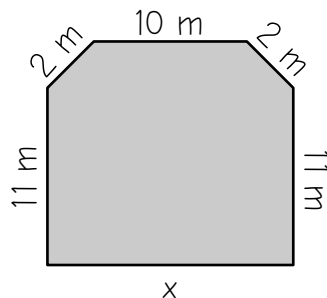
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The perimeter is given. Find the length of the missing side (x).

Perimeter: 48 m



$x = \underline{\hspace{2cm}} \text{ m}$

Follow the instructions to create a face using shapes.

1. Draw a large circle below.
2. Draw two quadrilaterals for the eyes.
3. Draw a hexagon for the nose.
4. Draw 5 triangles for the mouth.

## CHALLENGE

$317 - \underline{\hspace{2cm}} = 259$

$245 + \underline{\hspace{2cm}} = 524$

Look at the gray columns in the addition table below. What pattern do you notice?

+	5	6	7	8	9	_____
5	10	11	12	13	14	_____
6	11	12	13	14	15	_____
7	12	13	14	15	16	_____
8	13	14	15	16	17	_____
9	14	15	16	17	18	_____

Use the number line to model solving the problem below.

$$63 + 12 = \underline{\hspace{2cm}}$$



Place 7 in the numerator and 4 in the denominator.

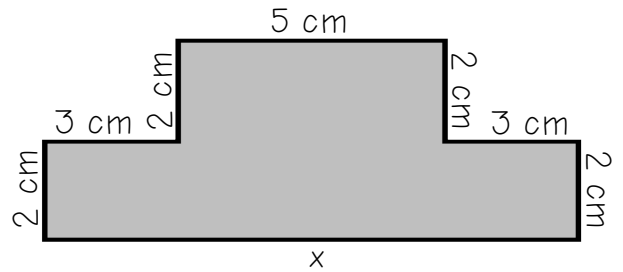
\_\_\_\_\_

Place 6 in the numerator and 9 in the denominator.

\_\_\_\_\_

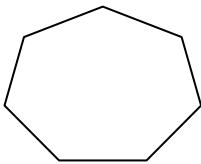
The perimeter is given. Find the length of the missing side (x).

Perimeter: 30 cm



$$x = \underline{\hspace{2cm}} \text{ cm}$$

Jezzie drew the shape below, and described it as a hexagon. Explain why she was wrong.



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### CHALLENGE

Use the patterns you notice to fill in the addition table.

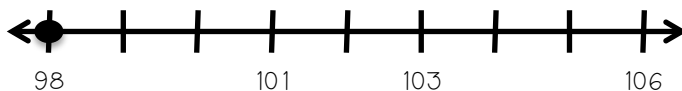
+	9	10	11	12	13
9		19		21	
10		20			
11				23	
12		22		24	
13					

Fill in the in and out box using the rule listed above. The first two are done for you as an example.

Rule: Add 2

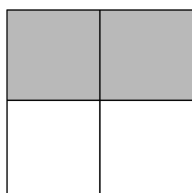
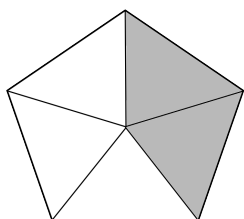
IN	OUT
13	<u>15</u>
21	<u>23</u>
33	
76	
98	

Fill in the missing numbers on the number line.

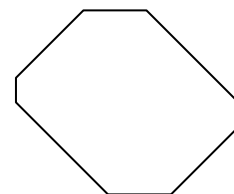
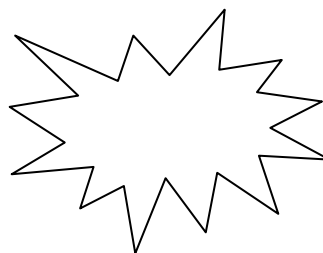
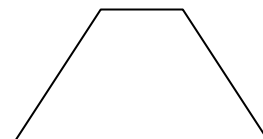


Now, place a point on the number line at the number 104. If you need help, notice how a point has been placed on the number line at the number 98.

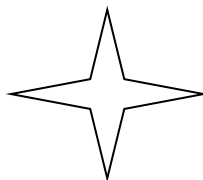
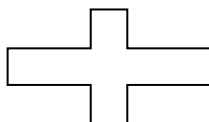
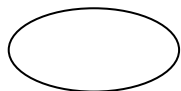
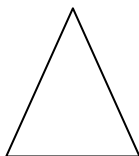
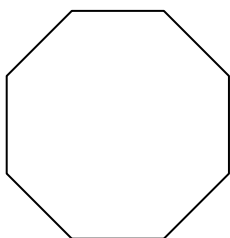
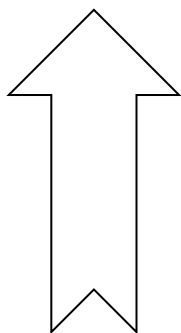
The denominator tells how many equal parts the whole is divided into. Which shape below has  $\frac{2}{5}$  shaded? Circle it.



Shade the area of the shapes below. The first one is done for you.



An octagon is any shape with 8 sides. Circle the octagons below.



### CHALLENGE

How many TOTAL sides would there be in 5 octagons, 2 hexagons, 3 quadrilaterals, and 1 triangle?

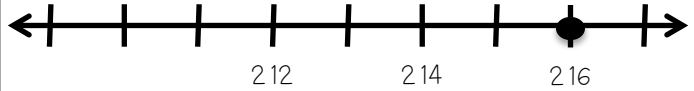


Fill in the in and out box using the rule listed above. The first two are done for you as an example.

**Rule: Subtract 5**

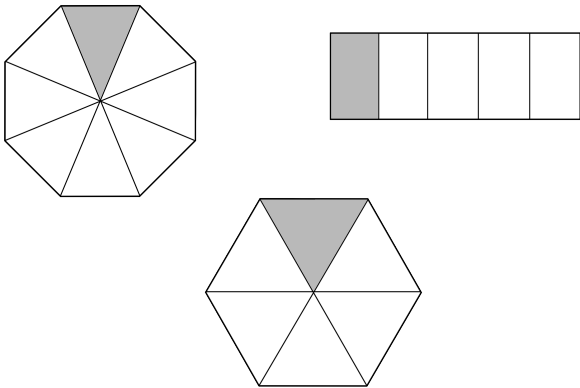
IN	OUT
12	<u>7</u>
36	<u>31</u>
47	
65	
106	

Fill in the missing numbers on the number line.

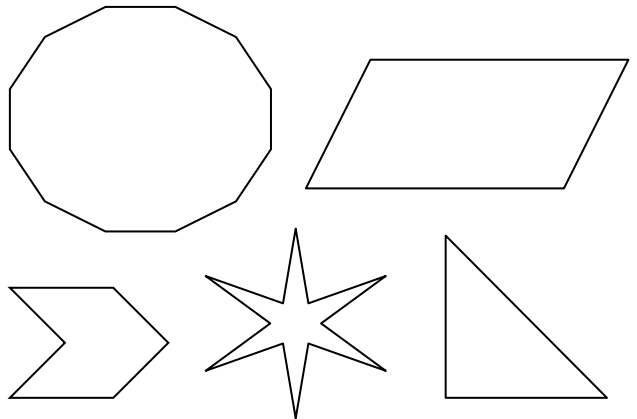


Now, place a point on the number line at the number 210. If you need help, notice how a point has been placed on the number line at the number 216.

The denominator tells how many equal parts the whole is divided into. Which shape below has  $\frac{1}{6}$  shaded? Circle it.



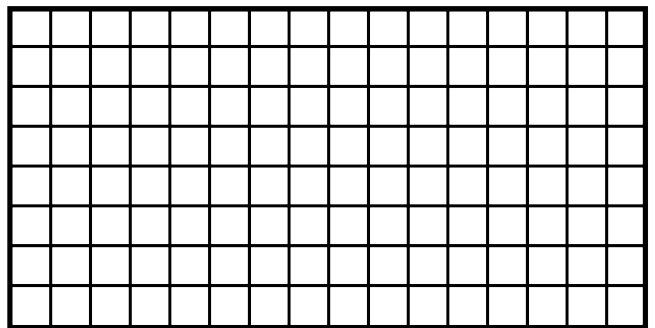
Shade the area of the shapes below.



An octagon is any shape that has 8 sides. Draw 2 different octagons below.

**CHALLENGE**

Draw 2 different quadrilaterals, each with a perimeter of 12 units.

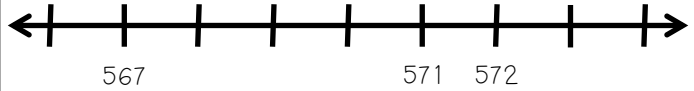


Rule: Add 10

Fill in the in and out box using the rule listed above.

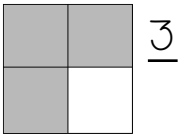
IN	OUT
25	
72	
88	
90	
124	

Fill in the missing numbers on the number line.

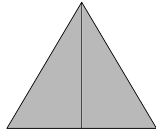


Now, place a point on the number line at the number 566, and place another point at the number 570.

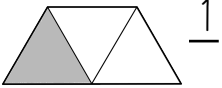
Think about what fraction is shaded in each of the shapes below. Fill in the appropriate denominators for each shape.



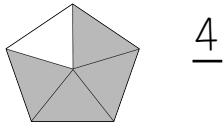
3



2



1



4

Draw a quadrilateral, and then shade the area of the quadrilateral.

How can you tell the difference between a hexagon and an octagon?

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### CHALLENGE

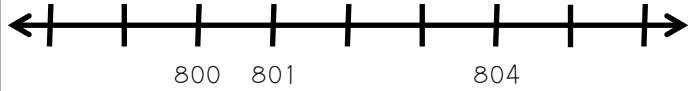
Which is bigger:  $\frac{1}{2}$  or  $\frac{4}{8}$ ? Use the shapes below to prove your answer.

**Rule: Subtract 3**

Fill in the in and out box using the rule listed above.

IN	OUT
26	
51	
72	
102	
254	

Fill in the missing numbers on the number line.



Now, place a point on the number line at the number 799, and place another point at the number 806.

Desmond said that  $\frac{3}{2}$  of the quadrilateral below were shaded. Explain why he was wrong.




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Explain what area means in your own words.

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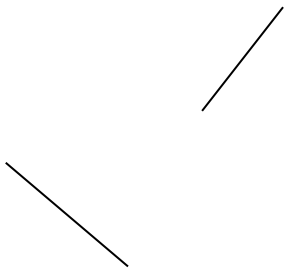


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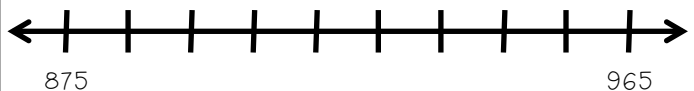
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Add to the line segments below to create an octagon.



**CHALLENGE**

Fill in the missing numbers on the number line.

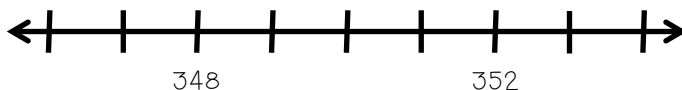


Rule: Subtract 7

Fill in the in and out box using the rule listed above.

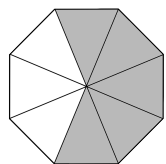
IN	OUT
39	
62	
87	
105	
348	

Fill in the missing numbers on the number line.

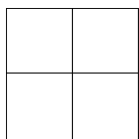


Now, place a point on the number line at the number 350, and place another point at the number 353.

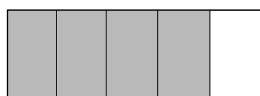
Think about what fraction is shaded in each of the shapes below. Fill in the appropriate denominators for each shape.



5



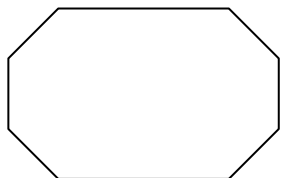
0



4

Draw a pentagon, and then shade the area of the pentagon.

Is the shape below an octagon? How do you know?




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### CHALLENGE

Rule: \_\_\_\_\_

Figure out what the rule is, and write it above the in/out box. Then, fill in the rest of the table.

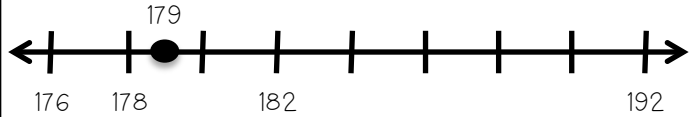
IN	OUT
29	40
47	58
	108
1,290	
3,798	

Figure out what the rule is, and write it above the in/out box. Then, fill in the rest of the table.

Rule: Add \_\_\_\_

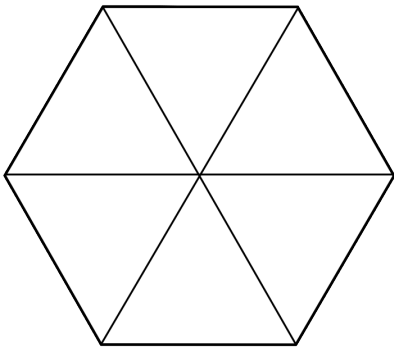
IN	OUT
3	7
7	11
12	16
16	
67	

Fill in the missing numbers on the number line. Notice the number line is counting by twos!

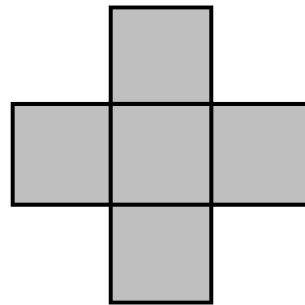


Now, place a point on the number line to represent the number 191. If you need help, notice how a point has been placed on the number line to represent the number 179.

Shade  $\frac{5}{6}$  of the hexagon below.

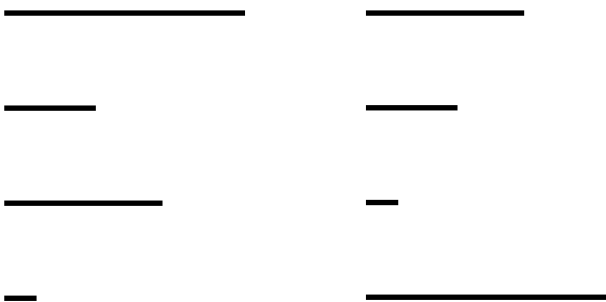


Find the area of the shape below.



Area: \_\_\_\_\_ square units

Equal means to have exactly the same size, amount, or value. Draw a line to connect the segments that have an equal length.



### CHALLENGE

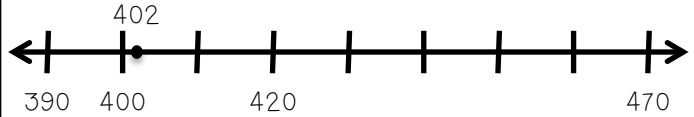
Ronnie and Din have \$294 to split between the two of them. If they split the money EQUALLY, how much will each person get?

Figure out what the rule is, and write it above the in/out box. Then, fill in the rest of the table.

Rule: Subtract \_\_\_\_\_

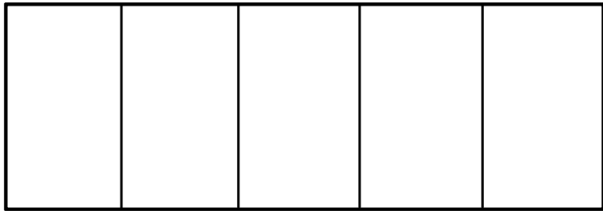
IN	OUT
9	4
16	11
22	17
34	
40	

Fill in the missing numbers on the number line. Notice the number line is counting by tens!

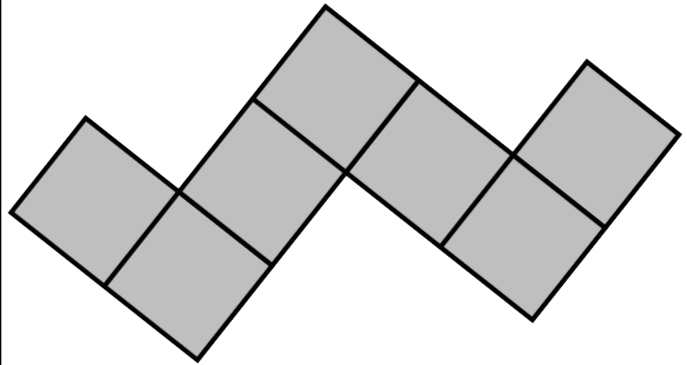


Now, place a point on the number line to represent the number 437. If you need help, notice how a point has been placed on the number line to represent 402.

Shade  $\frac{3}{5}$  of the quadrilateral below.

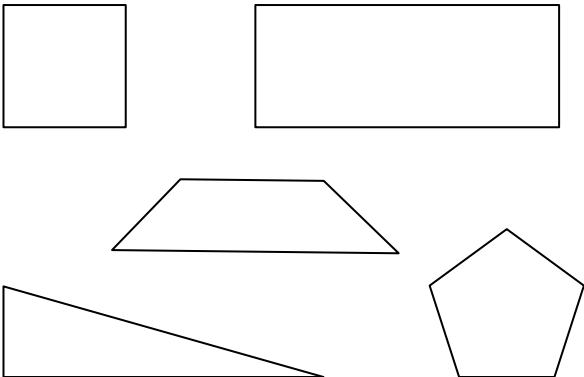


Find the area of the shape below.



Area: \_\_\_\_\_ square units

Circle the shapes that have equal sides. Cross out the shapes that do not have equal sides.



### CHALLENGE

What is the area of the triangle below?

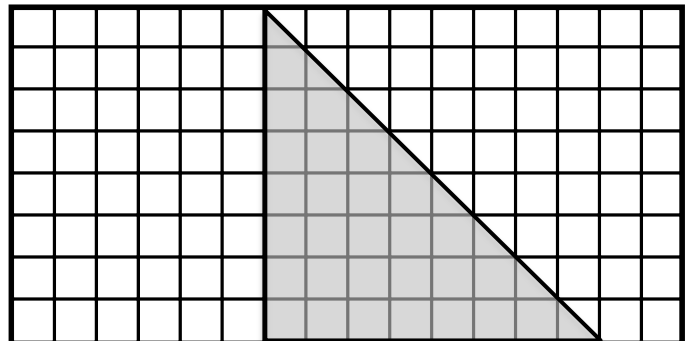
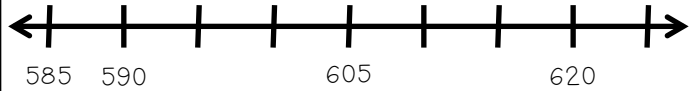


Figure out what the rule is, and write it above the in/out box. Then, fill in the rest of the table.

Rule: Add \_\_\_\_

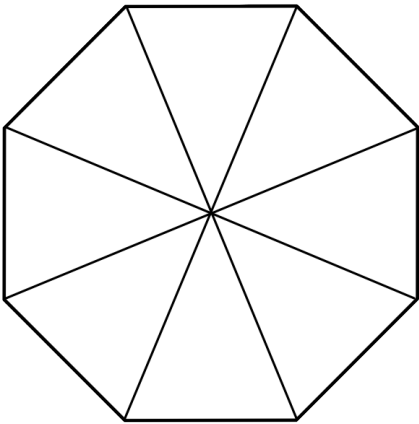
IN	OUT
21	27
35	41
49	
62	
87	

Fill in the missing numbers on the number line. Notice the number line is counting by fives!

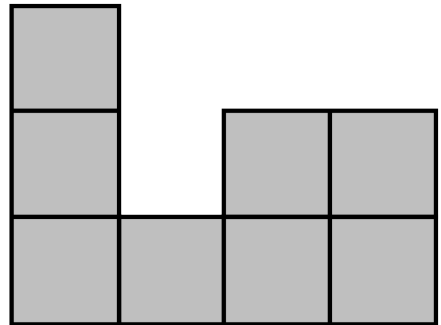


Now, place a point on the number line to represent the number 611.

Shade  $\frac{6}{8}$  of the octagon below.



Find the area of the shape below.



Area: \_\_\_\_\_ square units

How many triangles are there?



Draw an equal number of quadrilaterals.

CHALLENGE

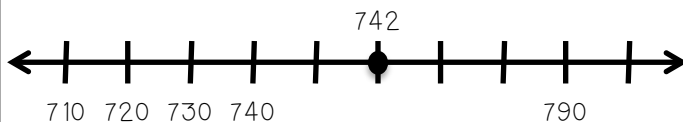
There are 15 children.  $\frac{2}{3}$  of the children are girls. How many of the children are boys?

Figure out what the rule is, and write it above the in/out box. Then, fill in the rest of the table.

Rule: \_\_\_\_\_

IN	OUT
24	33
26	35
41	
68	
99	

Brentley put a point on the number line below to represent the number 742. What did he do wrong?




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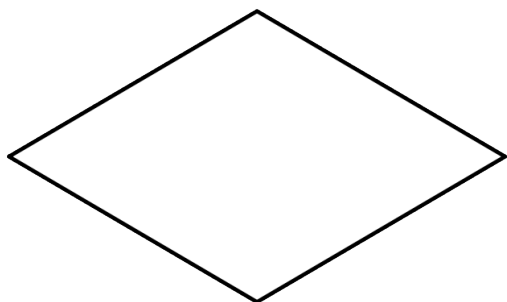


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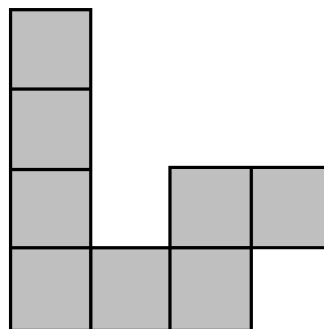


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Shade  $\frac{1}{2}$  of the quadrilateral below. Hint: Divide the quadrilateral into halves.

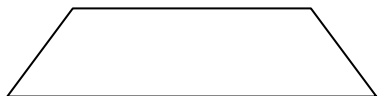


Find the area of the shape below.



Area: \_\_\_\_\_ square units

Does the quadrilateral below have 4 sides of equal length? Explain your answer.




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### CHALLENGE

Draw a number line below that could help you solve the following problem:

$$872 + 341 = \underline{\hspace{2cm}}$$

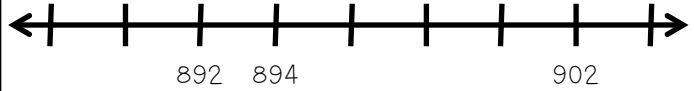


Figure out what the rule is, and write it above the in/out box. Then, fill in the rest of the table.

Rule: \_\_\_\_\_

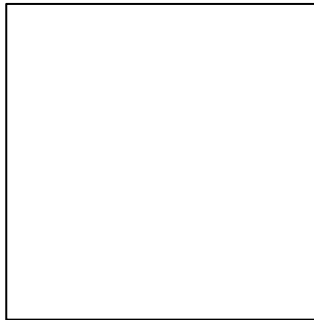
IN	OUT
18	12
29	23
40	
57	
71	

Fill in the missing numbers on the number line.

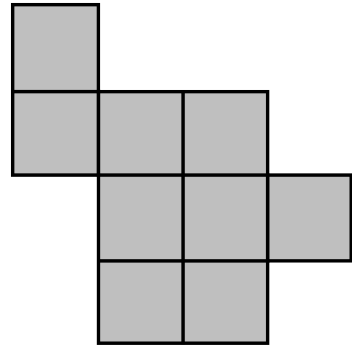


Now, place a point on the number line to represent the number 889, and place another point on the number line to represent the number 901.

Shade  $\frac{3}{4}$  of the quadrilateral below. Hint: Divide the quadrilateral into fourths.



Find the area of the shape below.



Area: \_\_\_\_\_ square units

Explain what equal means in your own words.

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### CHALLENGE

Figure out what the rule is, and write it above the in/out box. Then, fill in the rest of the table.

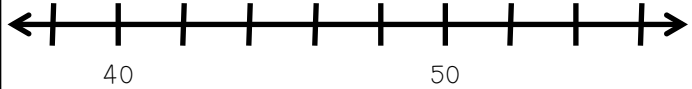
Rule: \_\_\_\_\_

IN	OUT
203	189
376	362
782	
	1,356
5,901	

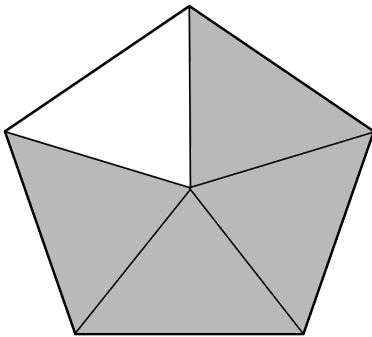
Describe the pattern of the gray sections in the multiplication table.

X	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

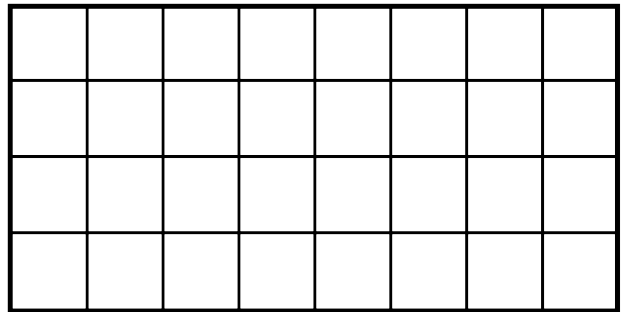
Fill in the missing numbers on the number line below. HINT: Decide if the number line is counting by 2s, 5s or 10s.



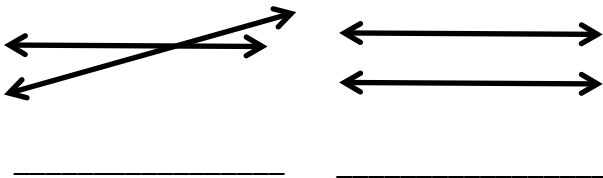
What fraction is shaded?



Draw a shape with an area of 8 square units.



Two lines are parallel if they are always the same distance apart from each other – they could go on forever and never cross. Intersecting lines meet or cross at a point. Label the lines below as either parallel or intersecting.



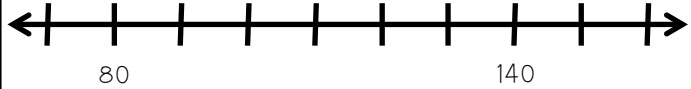
### CHALLENGE

List things around the room that intersect.

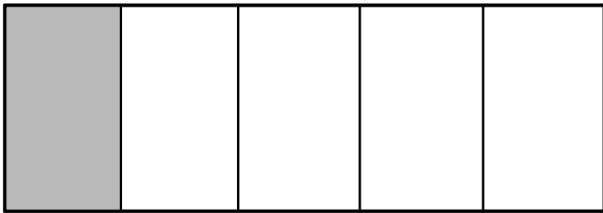
Describe the pattern of the gray sections of the multiplication table.

X	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

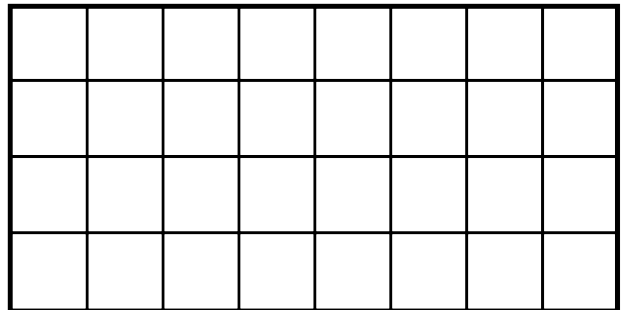
Fill in the missing numbers on the number line below. HINT: Decide if the number line is counting by 2s, 5s or 10s.



What fraction is shaded?

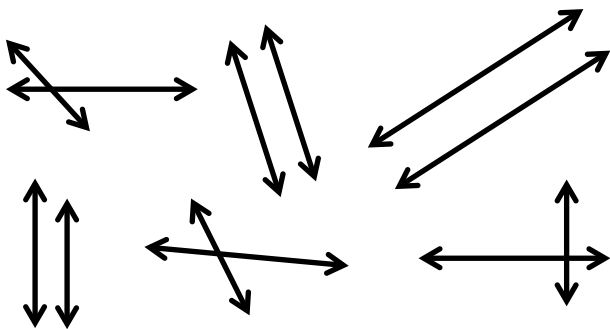


Draw a shape with an area of 12 square units.



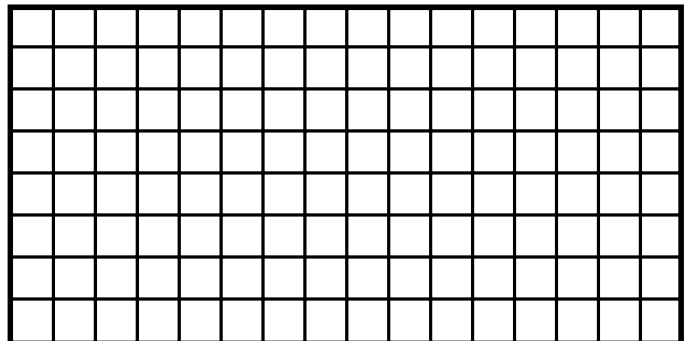
Two lines are parallel if they could go on forever and never cross.

Intersecting lines meet or cross at a point. Circle the parallel lines, and cross out the intersecting lines.



### CHALLENGE

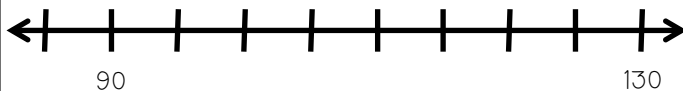
Draw a shape with a perimeter of 14 units and an area of 6 square units.



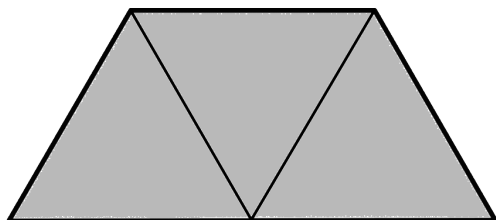
Describe the pattern of the gray sections in the multiplication table.

X	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

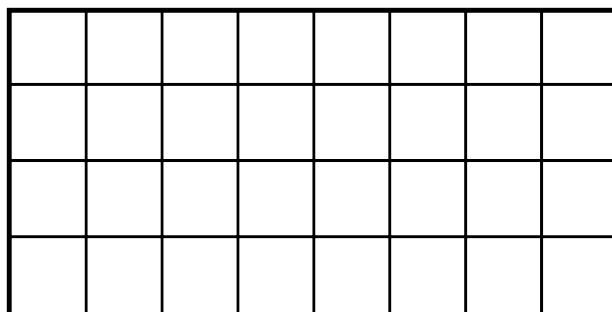
Fill in the missing numbers on the number line below. HINT: Decide if the number line is counting by 2s, 5s or 10s.



What fraction is shaded?



Draw a shape with an area of 16 square units.



Draw parallel lines below.

Draw intersecting lines below.

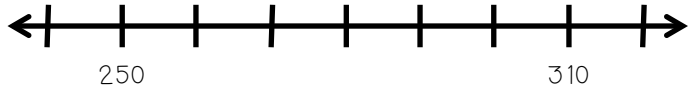
### CHALLENGE

Create a drawing below using 10 shapes. Make sure  $\frac{1}{2}$  of the shapes are triangles.

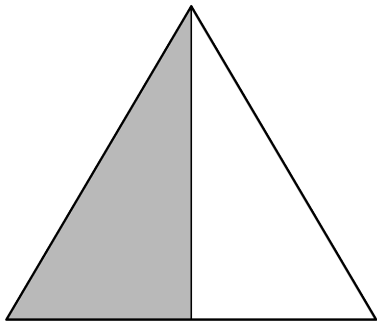
Describe the pattern of the gray sections in the multiplication table.

X	5	6	7	8	9
5	25	30	35	40	45
6	30	36	42	48	54
7	35	42	49	56	63
8	40	48	56	64	72
9	45	54	63	72	81

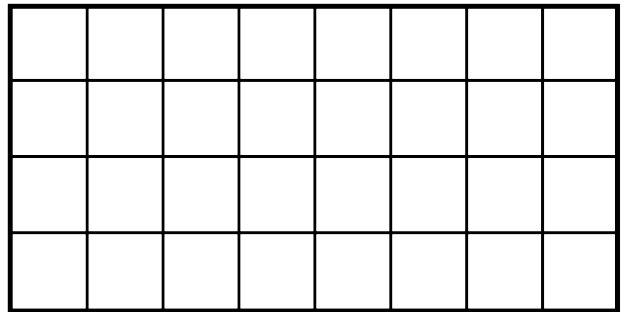
Fill in the missing numbers on the number line below. HINT: Decide if the number line is counting by 2s, 5s, or 10s.



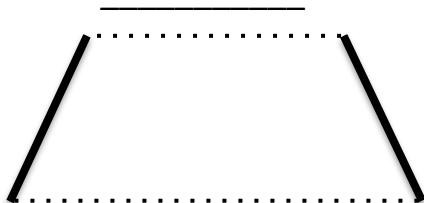
What fraction is shaded?



Draw a shape with an area of 9 square units.



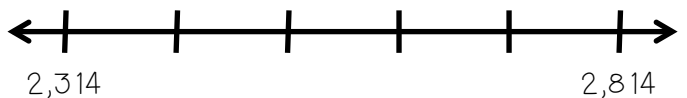
In the quadrilateral below, are the dotted lines parallel to each other?



Explain your reasoning.

### CHALLENGE

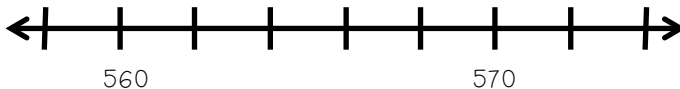
Fill in the missing numbers on the number line below. Place a point on the number line to represent 2,576.



Describe the pattern of the gray sections in the multiplication table.

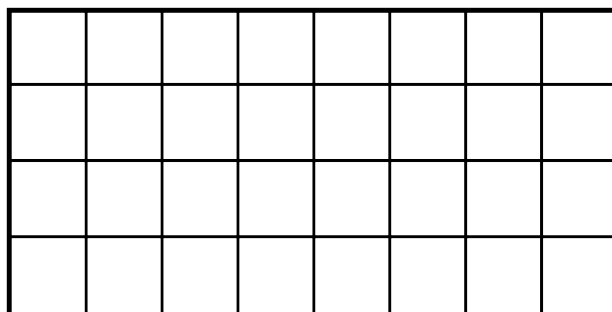
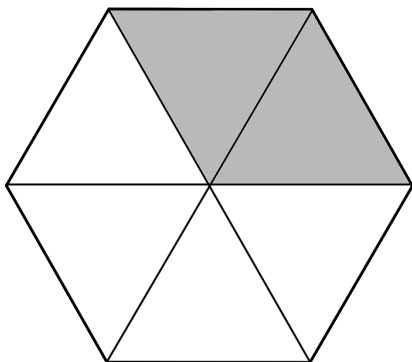
Fill in the missing numbers on the number line below. HINT: Decide if the number line is counting by 2s, 5s or 10s.

X	5	6	7	8	9
5	25	30	35	40	45
6	30	36	42	48	54
7	35	42	49	56	63
8	40	48	56	64	72
9	45	54	63	72	81



What fraction is shaded?

Draw a shape with an area of 15 square units.



What is the difference between intersecting lines and parallel lines?

### CHALLENGE

Use the patterns you notice to fill in the multiplication table.

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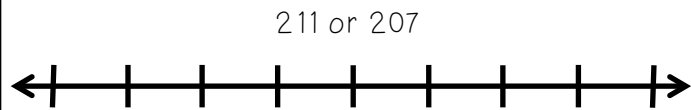
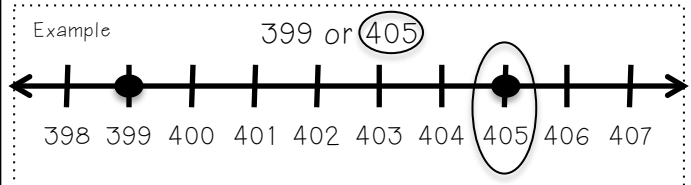
X	8	9	10	11	12
8	64	72			96
9					
10	80		100		120
11			110		
12		108			

Antonio was saving his money to buy a video game. In January, he had \$8 saved. In February, he had \$16 saved. In March, he had \$24 saved. If this pattern continues, how much money will he have saved in May? Fill in the table below to help you solve the problem.

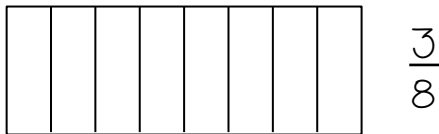
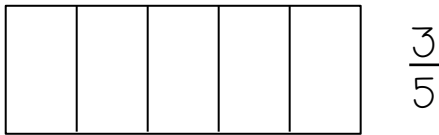
\$ \_\_\_\_\_

Jan.	Feb.	March	April	May
\$8	\$16	\$24		

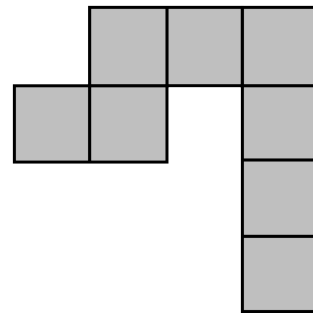
Look at the two numbers below, and then circle the larger number. Prove your answer using the number line. An example is provided.



Shade the quadrilaterals below according to the fraction next to it. Then, circle the bigger fraction.



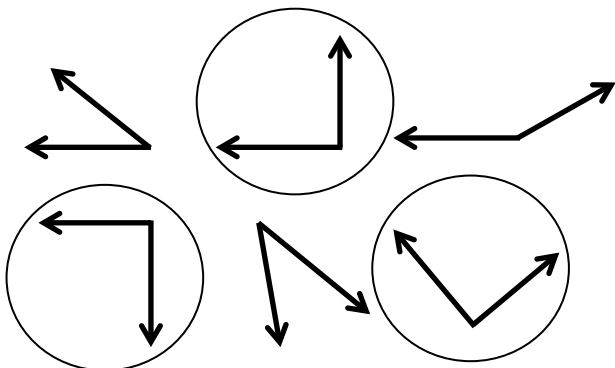
Find the area and perimeter of the figure below.



P = \_\_\_\_\_ units

A = \_\_\_\_\_ square units

Right angles measure exactly  $90^\circ$ . The right angles below are circled. Cross out the remaining angles that are NOT right angles.



### CHALLENGE

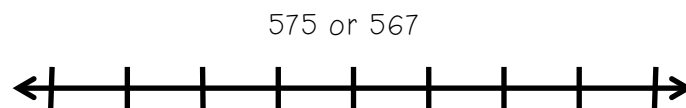
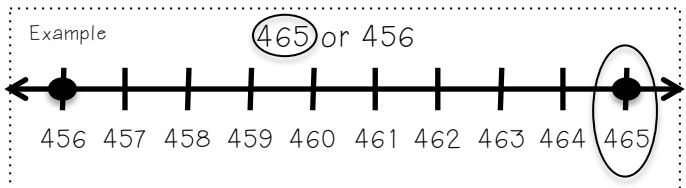
Draw as many different shapes as you can that have at least one right angle.

Minh was sorting her toys into stacks. The first stack had 19 toys in it. The next stack had only 15 toys in it. The third stack had 11 toys in it. If this pattern continues, how many toys will the fifth stack have? Fill in the table below to help you solve this problem.

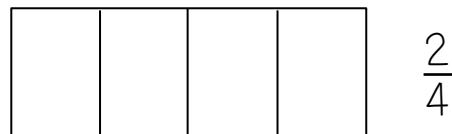
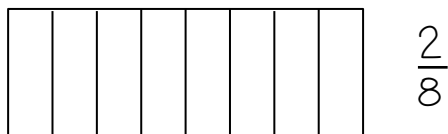
\_\_\_\_\_ toys

Stack 1	Stack 2	Stack 3	Stack 4	Stack 5
19	15			

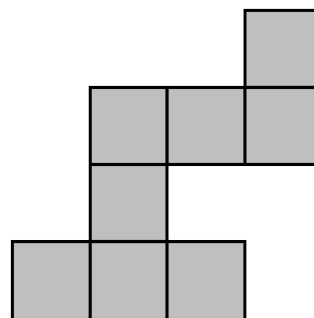
Look at the two numbers below, and then circle the larger number. Prove your answer using the number line. An example is provided.



Shade the quadrilaterals below according to the fraction next to it. Then, circle the bigger fraction.



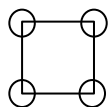
Find the area and perimeter of the figure below.



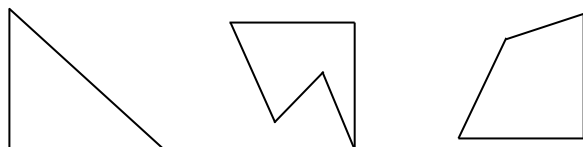
P = \_\_\_\_\_ units

A = \_\_\_\_\_ square units

Right angles measure exactly  $90^\circ$ . A square has 4 right angles. They are circled below.

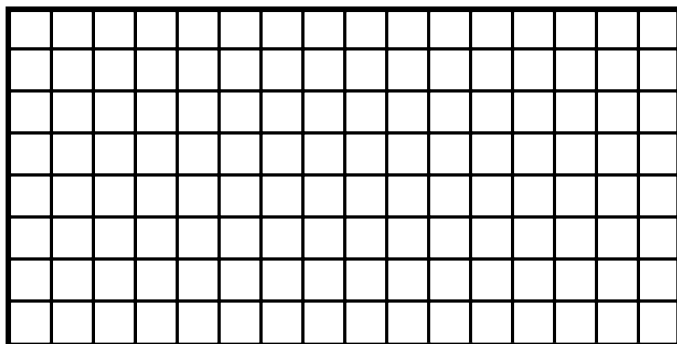


The shapes below each have 1 right angle. Circle the right angle.



### CHALLENGE

Draw an octagon with an area of 5 square units.





Every day, Clint buys a drink to go with his lunch. The table below shows how much money he had at the end of each day. If the pattern continues, how much will he have left on Friday?

\$ \_\_\_\_\_

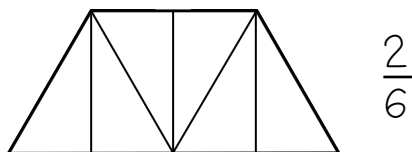
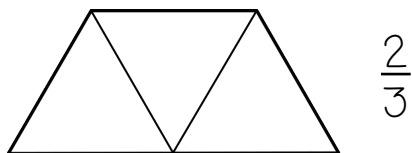
Mon.	Tues.	Wed.	Thurs.	Fri.
\$16	\$13	\$10		

Look at the two numbers below, and then circle the larger number. Prove your answer using the number line.

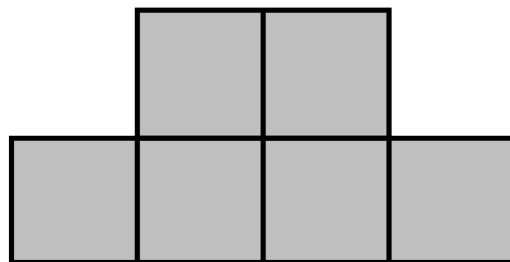
894 or 902



Shade the quadrilaterals below according to the fraction next to it. Then, circle the bigger fraction.



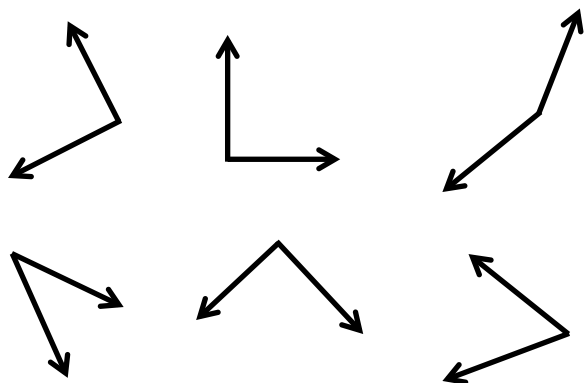
Find the area and perimeter of the figure below.



P = \_\_\_\_\_ units

A = \_\_\_\_\_ square units

Circle the right angles below. Cross out the angles that are not right angles.



### CHALLENGE

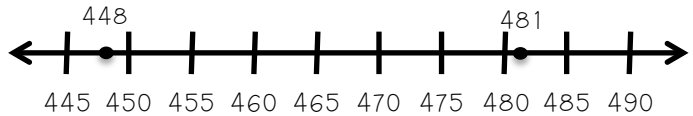
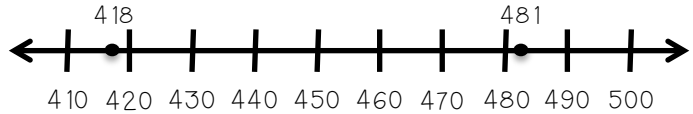
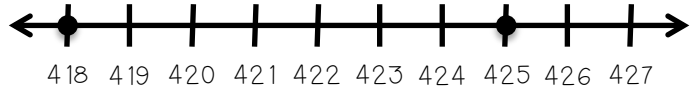
Which is bigger:  $\frac{1}{10}$  or  $\frac{1}{4}$ ? Use the shapes below to prove your answer.

Sharissa read 3 books the first week of school. The second week, she read 10 books. Sharissa read 17 books the third week of school. If this pattern continues, how many books will she read the fourth week of school? Fill in the table below to help you solve the problem.

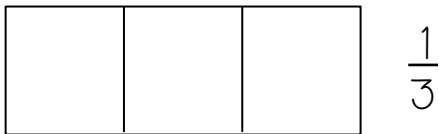
\_\_\_\_\_ books

Week 1	Week 2			
3				

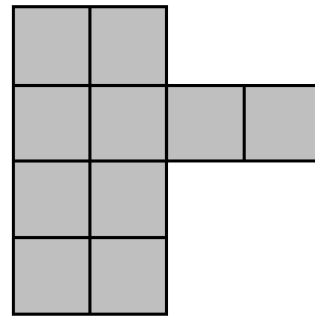
Look at the number lines below. Which number line should be used to prove that 481 is larger than 418? Circle the number line that proves this.



Shade the quadrilaterals below according to the fraction next to it. Then, circle the bigger fraction.



Find the area and perimeter of the figure below.



P = \_\_\_\_\_ units

A = \_\_\_\_\_ square units

Look around the room. What objects do you see that form right angles? List them below.

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### CHALLENGE

Draw a number line below that proves that 3,781 is larger than 3,511.

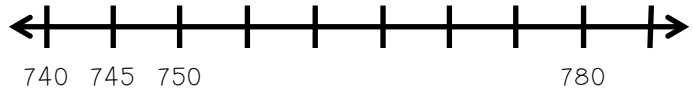
Belija practiced the piano every day. On Monday, she practiced 10 minutes. On Tuesday, she practiced 15 minutes. On Wednesday, she practiced 20 minutes. If this pattern continues, how many minutes will she practice on Friday? Fill in the table below to help you solve the problem.

\_\_\_\_\_ minutes

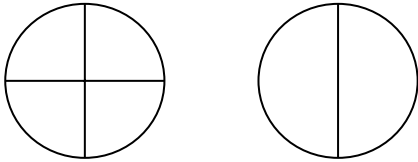
Mon.				

Look at the two numbers below, and then circle the larger number. Prove your answer using the number line below.

764 or 746

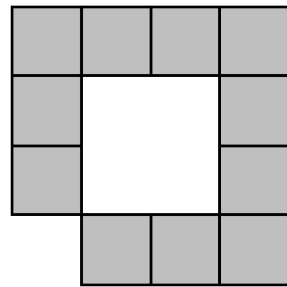


Autumn says that  $\frac{1}{4}$  is bigger than  $\frac{1}{2}$ . DeEricka disagrees. Who is correct? Use the shapes below to help.



\_\_\_\_\_ is correct because \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_.

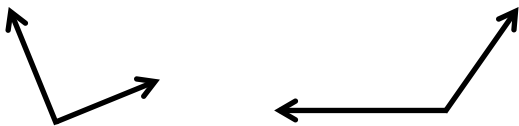
Find the area and perimeter of the figure below.



P = \_\_\_\_\_ units

A = \_\_\_\_\_ square units

Circle the right angle. Then, explain how you knew it was a right angle.



\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### CHALLENGE

Create your own number pattern below.

Continue the patterns below.

14, 20, 26, 32, \_\_\_\_, \_\_\_\_, \_\_\_\_

53, 50, 47, 44, \_\_\_\_, \_\_\_\_, \_\_\_\_

Callie was trying to figure out the difference between 54 and 11 using the number line below. Explain what she did wrong.

$$54 - 11 = \underline{65}$$




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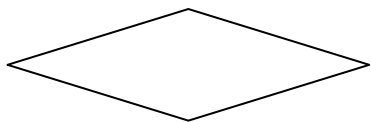


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If you wanted to shade  $\frac{3}{4}$  of the quadrilateral below, how many equal pieces would you need to divide it into? Why?



The quadrilateral would need to be divided into \_\_\_\_ equal pieces because

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How is finding the area of a figure different from finding its perimeter?

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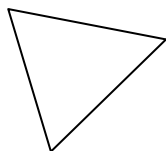
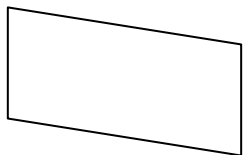


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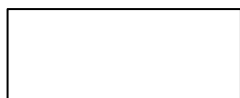
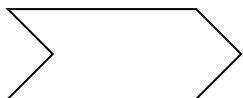
Label the shapes below as "triangle," "quadrilateral," or "hexagon."




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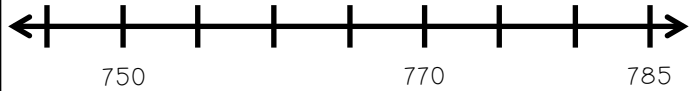
### CHALLENGE

Create a drawing using only quadrilaterals and triangles.

Use the patterns you notice to fill in the multiplication table.

X	2	3	4	5	6
2	4	6			12
3		9		15	18
4	8	12		20	24
5	10		20		30
6	12	18	24	30	

Fill in the missing numbers on the number line.

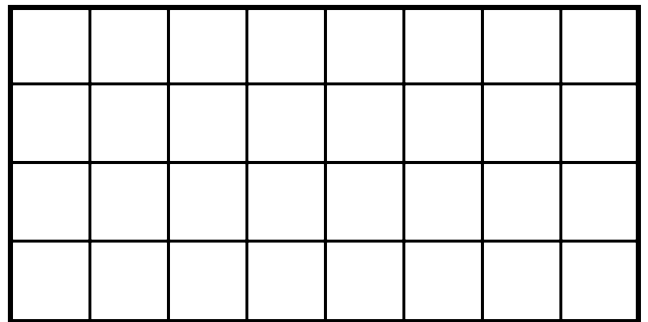


Now, place a point on the number line to represent the number 748, and place another point on the number line to represent the number 772.

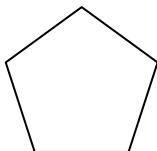
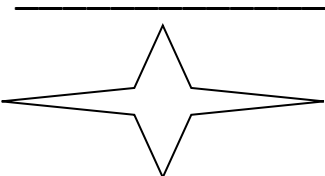
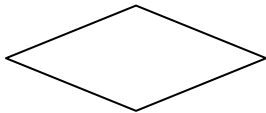
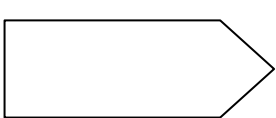
Divide the quadrilateral below into thirds.



Draw a shape with a perimeter of 14 units.

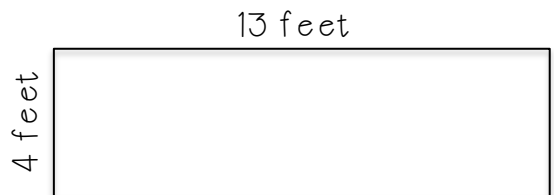


Label the shapes below as "quadrilateral," "pentagon," or "octagon."



### CHALLENGE

Dwayne's dog ran around the perimeter of the yard below 4 times. How many total feet did he run?



Rule: Add 10

Fill in the in and out box using the rule listed above.

IN	OUT
23	33
51	
78	
91	
126	

Why are number lines useful? How can you use them to help solve math problems?

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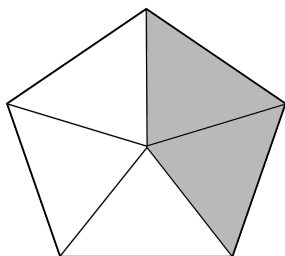


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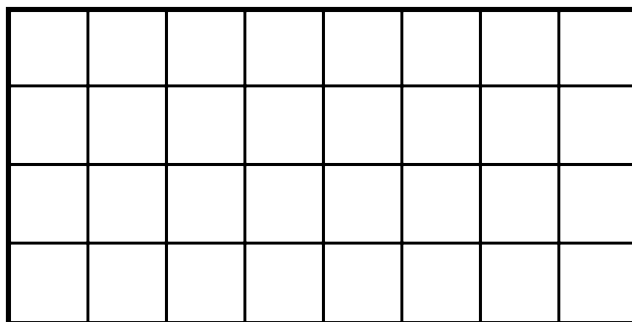


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What fraction of the pentagon is shaded?

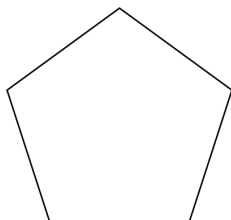
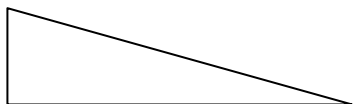


Draw a shape with an area of 18 units.



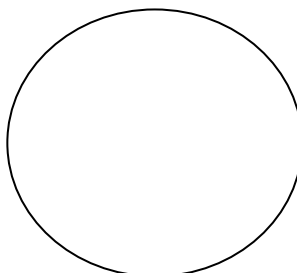
Which shape below has all equal sides?

\_\_\_\_\_



CHALLENGE

Tristan ate  $\frac{1}{4}$  of a pizza. The pizza had been divided into 8 equal slices. How many slices are left?



Kristoph was creating a pattern where the numbers increased by 5. His pattern is below. What did he do wrong?

50, 45, 40, 35, 30, 25

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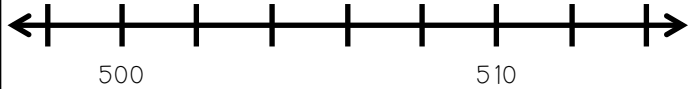
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Fill in the missing numbers on the number line. Then, use the number line to find the sum of 502 and 12.

\_\_\_\_\_ = 502 + 12



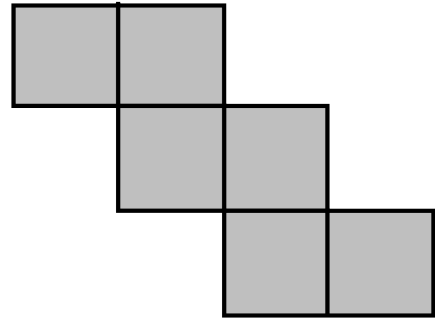
Place 4 in the numerator and 5 in the denominator.

\_\_\_\_\_

Place 3 in the numerator and 2 in the denominator.

\_\_\_\_\_

Find the area and perimeter of the figure below.



P = \_\_\_\_\_ units

A = \_\_\_\_\_ square units

Draw parallel lines.

Draw intersecting lines.

### CHALLENGE

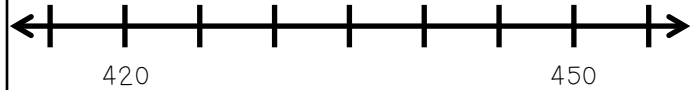
Draw a number line below that proves that 2,314 is smaller than 2,322.

Alexandro was planting seeds in his backyard. He put 5 seeds in the first row. He put 7 seeds in the 2<sup>nd</sup> row and 9 seeds in the 3<sup>rd</sup> row. If the pattern continues, how many seeds will be in the 5<sup>th</sup> row? Use the table below to help you solve the problem.

\_\_\_\_\_ seeds

1 <sup>st</sup> Row				
5				

Durant was filling in the missing numbers on the number line below. He decided to count by 10s. Do you agree with him? Why or why not?




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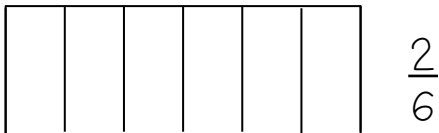
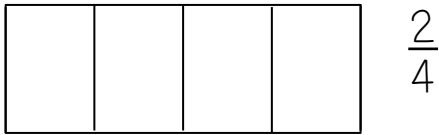


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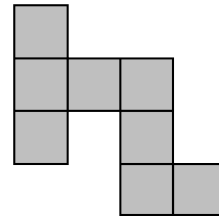


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Shade the quadrilaterals below according to the fraction next to it. Then, circle the bigger fraction.



Mia said that the perimeter of the shape below was 8 units. What did she do wrong?




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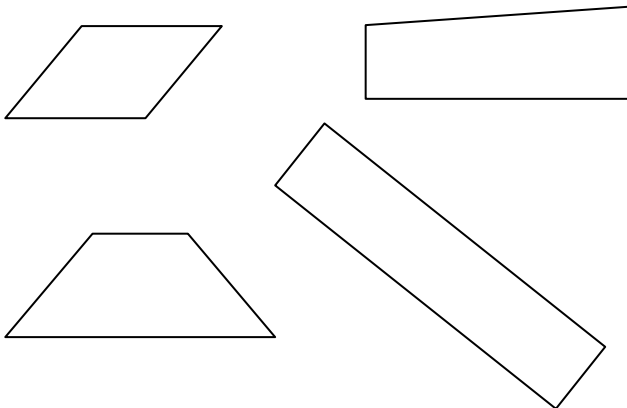


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Circle the quadrilateral below that has 4 right angles.



### CHALLENGE

Briza was baking cookies. When she used 2 eggs, she got 10 cookies. When she used 3 eggs, she got 15 cookies. When she used 5 eggs, she got 25 cookies. How many cookies will she get if she uses 6 eggs?

\_\_\_\_\_ cookies

2 eggs				



# Grading Rubric

Page 57

The grading rubric can be used to grade multiple pages at once. It assesses students on the following:

- Completeness
- Accuracy
- Perseverance
- Communication

An easy way to differentiate would be to assign a different number of problems for students depending on their ability level. For example, if completing all of the morning work is overwhelming to a student, then they could be asked to complete the first two boxes every day.

# Daily Math Practice: Grading Rubric

Student Name: \_\_\_\_\_

3 points

2 points

1 point

	<u>3 points</u>	<u>2 points</u>	<u>1 point</u>
<u>Completeness</u>	All of the required problems were completed.	Most of the required problems were completed.	Few of the required problems were completed.
<u>Accuracy</u>	The student demonstrated a thorough understanding of all of the mathematical content covered.	The student demonstrated an average understanding of all of the mathematical content covered.	The student struggled with most of the mathematical content covered.
<u>Perseverance</u>	The student always persevered in solving the problems (including the challenge questions), even when it was difficult.	The student sometimes persevered in solving the problems.	The student rarely tried to do his or her best work. The student often gave up.
<u>Communication</u>	On the written answers, the student communicated clearly and accurately. The student used academic language to convey his or her ideas.	On the written answers, the student's answers were sometimes unclear. The student attempted to use academic language to convey his or her ideas on occasion.	The student's written answers were unclear and confusing. The student did not attempt to use academic language to convey his or her ideas.

Total Points out of 12:

# Grading Checklist

Page 59

The grading checklist is an alternative form of assessment. Instead of grading the entire morning work daily, you may choose a problem to grade whenever time allows for it. As students are completing their morning work, you can walk around and immediately assess student success on a specific problem. Put a ✓ for correct answers and an X for incorrect answers.

The checklist allows you to grade 10 problems, making it easy to come up with a percentage for the grade book.

If you are wanting to grade a problem from a specific math domain, refer to the Page Setup page.



# Answer

## Keys:

Pages 62 - 106

Whenever there is only one correct answer, the correct answer has been provided on the answer key. However, some of the problems ask students to think creatively. These answers have a multitude of correct answers. In this case, it has been noted that "Answers will vary."

Continue the patterns below.

30, 35, 40, 45, 50, 55, 60, 65

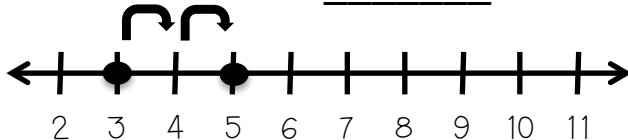
24, 22, 20, 18, 16, 14, 12, 10

11, 22, 33, 44, 55, 66, 77, 88

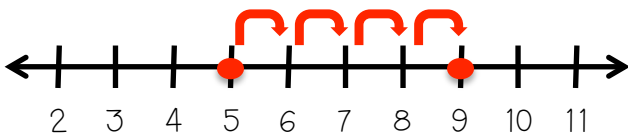
Use the number line to model solving the problem below. An example is provided.

Example

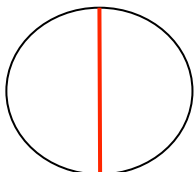
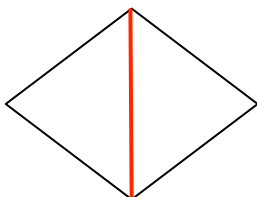
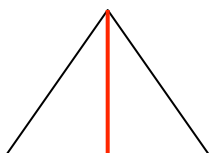
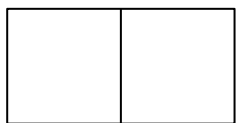
$$3 + 2 = \underline{5}$$



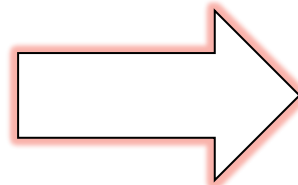
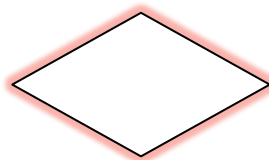
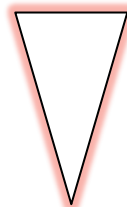
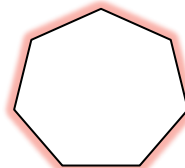
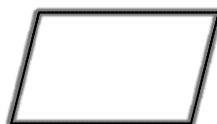
$$5 + 4 = \underline{9}$$



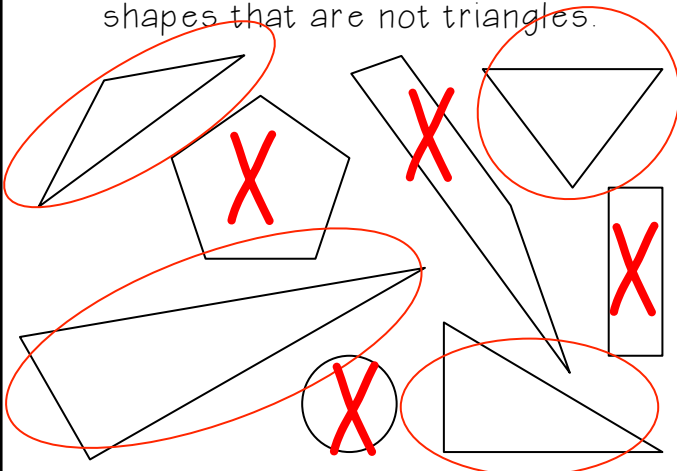
Divide each of the shapes below into halves. The first one is done for you.



Trace around the perimeter of the shapes below. The first one is done for you.

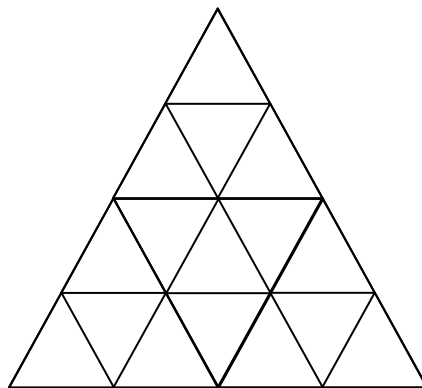


A triangle is any shape with 3 sides. Circle the triangles and cross out the shapes that are not triangles.



CHALLENGE

How many triangles do you see? 26



Continue the patterns below.

36, 33, 30, 27, 24, 21, 18, 15

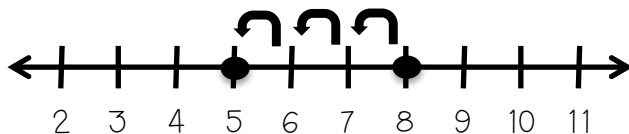
12, 14, 16, 18, 20, 22, 24, 26

94, 84, 74, 64, 54, 44, 34, 24

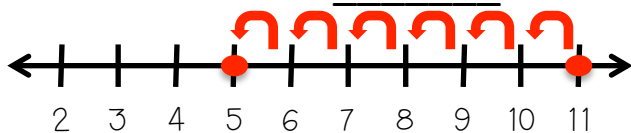
Use the number line to model solving the problem below. An example is provided.

Example

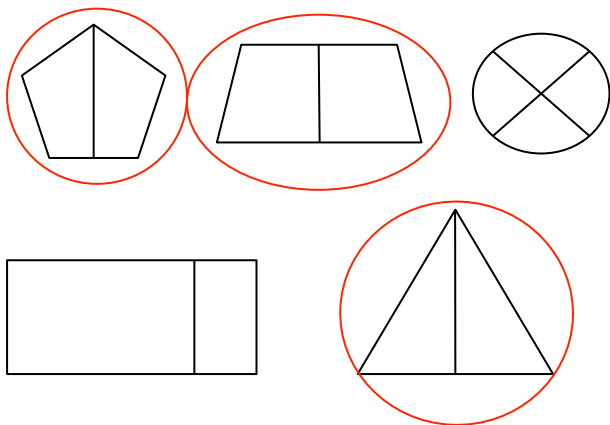
$$8 - 3 = \underline{5}$$



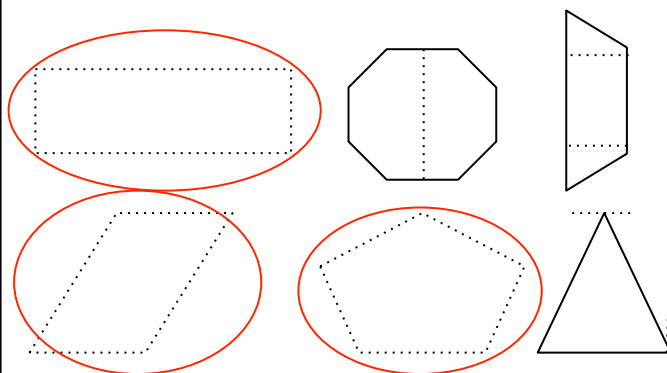
$$11 - 6 = \underline{5}$$



Circle the shapes that have been split into halves. HINT: Halves have 2 equal pieces.



Circle the shapes below that have dotted lines around the perimeter. Hint: Perimeter measures the distance around a shape.



Look around the room. What objects do you see that are triangles (3 sides). List at least 3 below.

Answers will vary.

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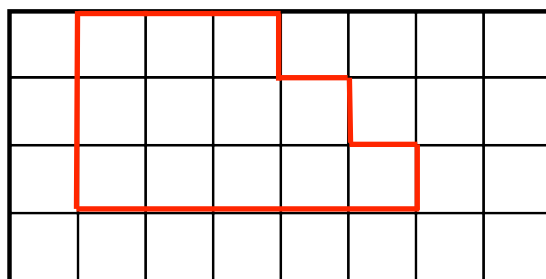
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### CHALLENGE

Draw a shape that has a perimeter of 16 units.



Answers will vary. A possible answer is given.

Continue the patterns below.

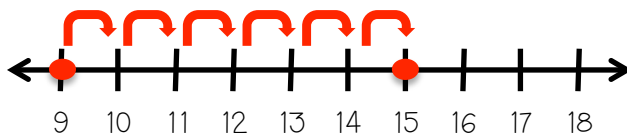
30, 40, 50, 60, 70, 80, 90, 100

21, 19, 17, 15, 13, 11, 9, 7

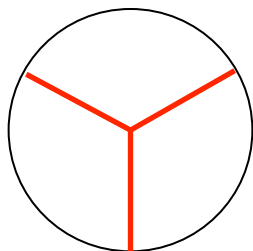
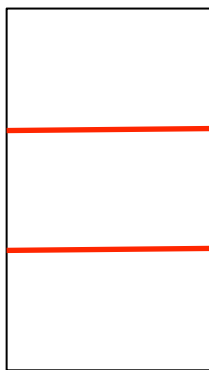
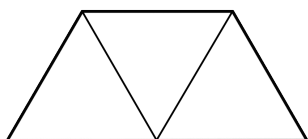
12, 16, 20, 24, 28, 32, 36, 40

Use the number line to model solving the problem below.

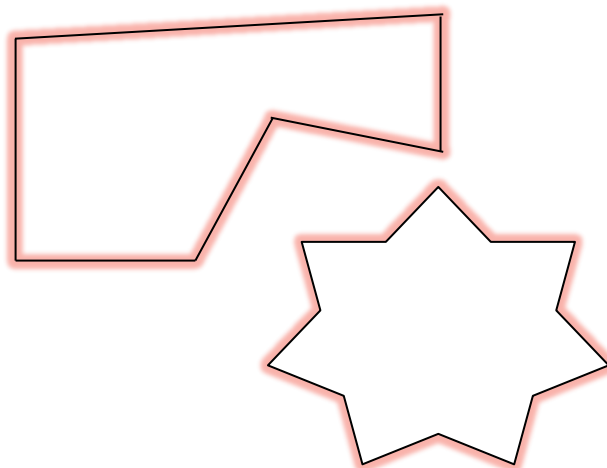
$$9 + 6 = \underline{15}$$



Split each of the shapes below into equal thirds. The first one is done for you.



Trace around the perimeter of the shapes below.



How many sides does a triangle have?

3 sides

Draw 2 different triangles below.

Answers will vary. The student should have drawn 2 triangles.

### CHALLENGE

There are a total of 138 cookies to divide equally between 3 kids. Each kid will get a third of the cookies. How many cookies will each kid get?

46 cookies



Continue the patterns below.

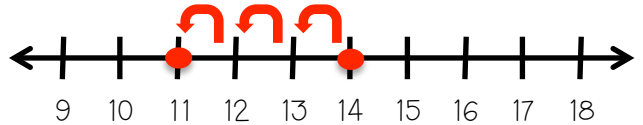
95, 85, 75, 65, 55, 45, 35, 25

6, 12, 18, 24, 30, 36, 42, 48

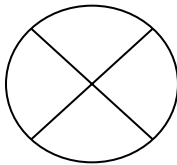
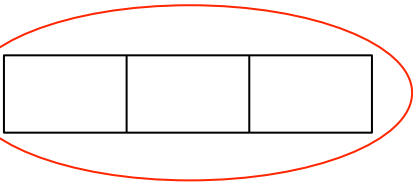
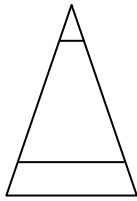
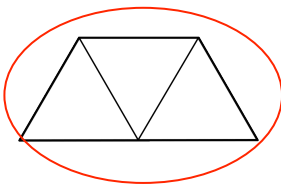
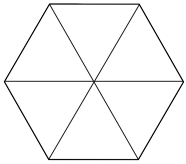
120, 110, 100, 90, 80, 70, 60, 50

Use the number line to model solving the problem below.

$$14 - 3 = \underline{11}$$



Circle the shapes that have been split into thirds. Hint: Thirds have 3 equal pieces.



Explain what perimeter means in your own words.

Answers will vary.

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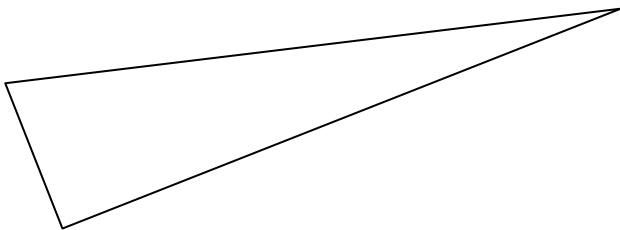
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What is the name of the shape below?

triangle



How do you know?

The shape has 3 sides.

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### CHALLENGE

$$143 + \underline{56} = 199$$

$$451 - \underline{127} = 324$$

Continue the patterns below.

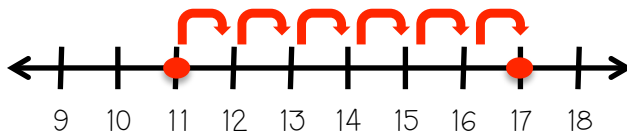
13, 16, 19, 22, 25, 28, 31, 34

29, 25, 21, 17, 13, 9, 5, 1

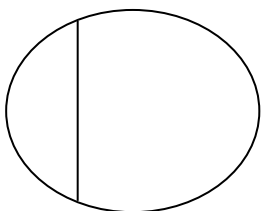
37, 33, 29, 25, 21, 17, 13, 9

Use the number line to model solving the problem below.

$$11 + 6 = \underline{17}$$



Explain why the shape below has NOT been split into halves.

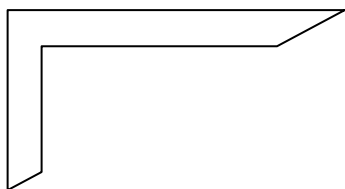


The circle has not been split into equal parts.

Draw a 7 sided shape, and then trace around its perimeter.

Answers will vary.

Explain why the shape below is NOT a triangle.



This is not a triangle because it has 6 sides.

Triangles have 3 sides.

### CHALLENGE

Count by 6s, starting at 60. See how high you can go.

60, 66, 72, 78, 84, 90, 96,  
102, 108, 114, 120, 126, 132,  
138, 144, etc.

Create a pattern using the rule below.  
An example is given.

Example

Rule: Numbers increase by 6

9, 15, 21, 27, 33, 39

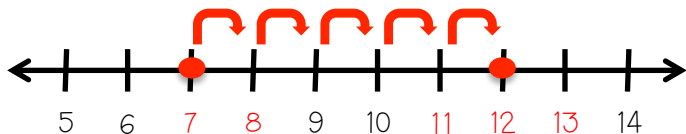
Rule: Numbers increase by 3

Answers will vary

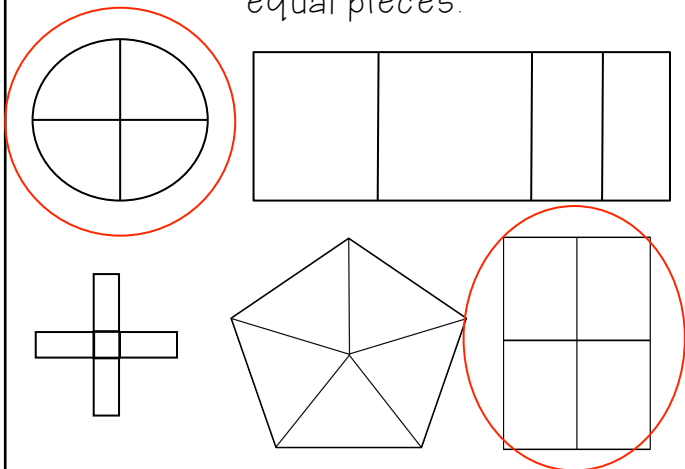
\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Fill in the missing numbers on the number line. Then, use the number line to model solving the problem below.

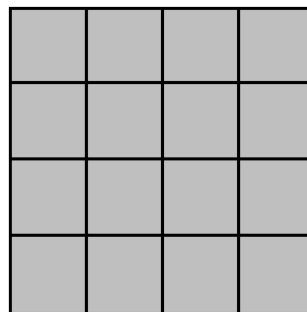
$$7 + 5 = \underline{12}$$



Circle the shapes that have been split into **fourths**. HINT: Fourths have 4 equal pieces.

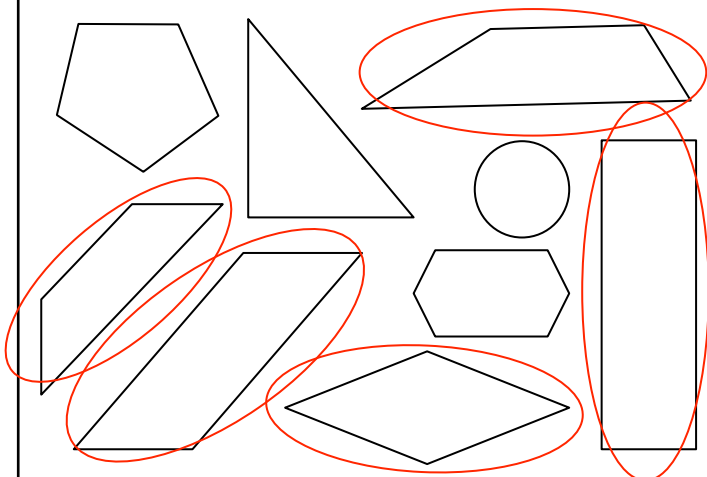


Find the perimeter.



Perimeter: 16 units

A quadrilateral is any shape with 4 sides. Circle the quadrilaterals below.



CHALLENGE

How many different types of quadrilaterals can you draw below?

Answers will vary.

Create a pattern using the rule below.  
An example is given.

Example

Rule: Numbers decrease by 8

78, 70, 62, 54, 46, 38

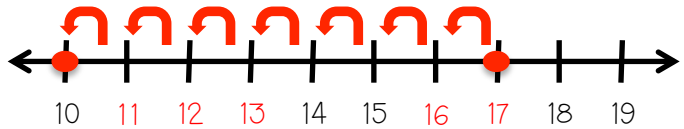
Rule: Numbers decrease by 5

Answers will vary

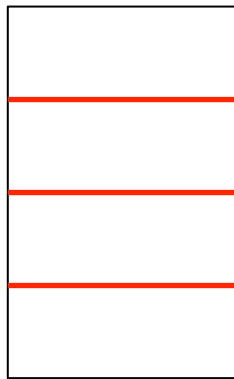
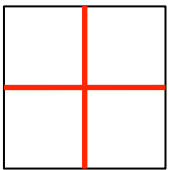
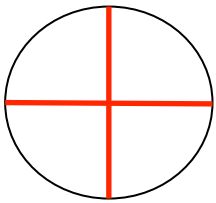
\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Fill in the missing numbers on the number line. Then, use the number line to model solving the problem below.

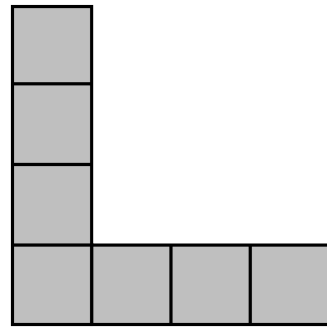
$$17 - 7 = \underline{10}$$



Split the shapes below into equal fourths.



Find the perimeter.



Perimeter: 16 units

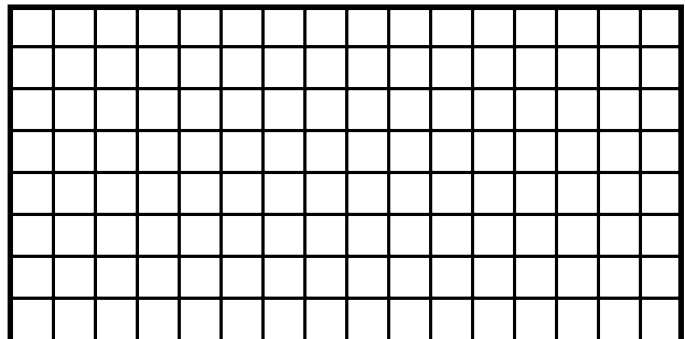
A quadrilateral has 4 sides. Look around the room. What objects do you see that are quadrilaterals? List at least 3 below.

Answers will vary.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### CHALLENGE

How many different shapes can you draw with a perimeter of 8?



Answers will vary.

Create a pattern using the rules below.

Rule: Numbers increase by 4

Answers will vary

\_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

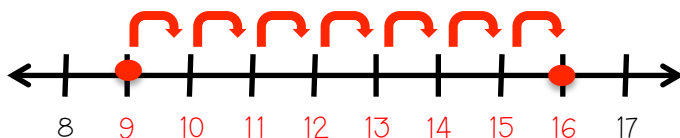
Rule: Numbers increase by 5

Answers will vary

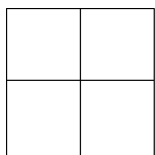
\_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

Fill in the missing numbers on the number line. Then, use the number line to model solving the problem below.

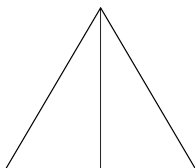
$$9 + 7 = \underline{16}$$



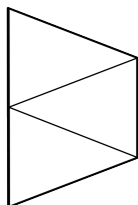
Decide whether the shapes below have been split into halves, thirds, or fourths. Label each shape.



fourths

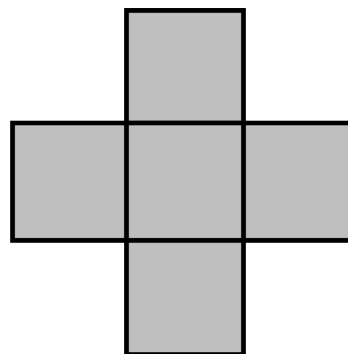


halves



thirds

Find the perimeter.



Perimeter: 12 units

How many sides does a quadrilateral have?

4 sides

Draw 2 different quadrilaterals below.

Answers will vary.

### CHALLENGE

13 cakes have been baked. Each of the cakes will be split into fourths. How many total fourths will there be?

52  
fourths

Create a pattern using the rules below.

Rule: Numbers decrease by 2

Answers will vary

\_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

Rule: Numbers increase by 9

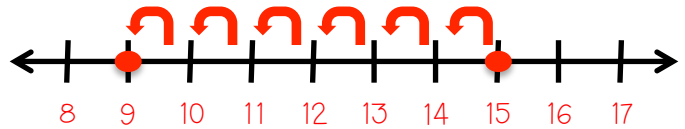
Answers will vary

\_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_

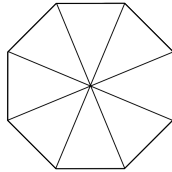
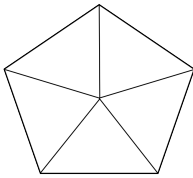
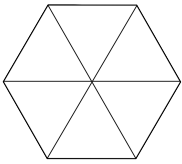
Fill in the missing numbers on the number line. Then, use the number line to model solving the problem below.

$$15 - 6 = \underline{9}$$

Number lines will vary



Decide whether the shapes below have been split into fifths, sixths, or eighths. Label each shape.

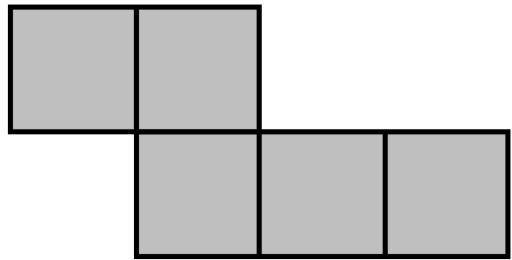


sixths

fifths

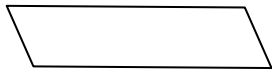
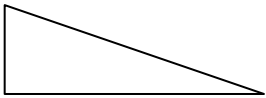
eighths

Find the perimeter.



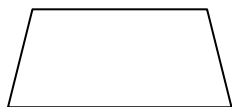
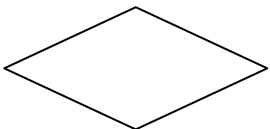
Perimeter: 12 units

Label the shapes below as either "triangle" or "quadrilateral."



triangle

quadrilateral



quadrilateral

quadrilateral

### CHALLENGE

Fill in the missing numbers on the number line. HINT: NOT counting by 1s.



Create a pattern using the rules below.

Rule: Numbers increase by 7

Answers will vary

\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Rule: Numbers decrease by 10

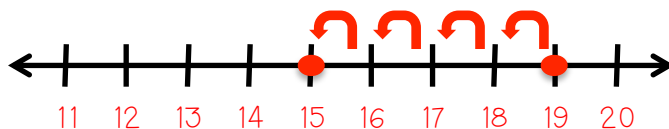
Answers will vary

\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

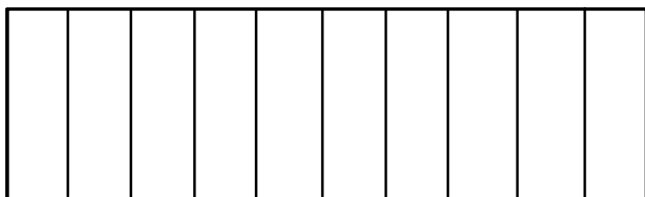
Fill in the missing numbers on the number line. Then, use the number line to model solving the problem below.

$$19 - 4 = \underline{15}$$

Number lines will vary

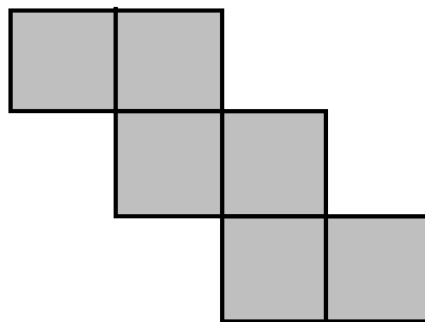


Explain why the shape below has NOT been split into equal eighths.



The quadrilateral has been divided into 10 equal parts, not eight.

Find the perimeter.



Perimeter: 14 units

Explain the difference between a triangle and a quadrilateral.

Triangles have 3 sides, while quadrilaterals have 4 sides.

### CHALLENGE

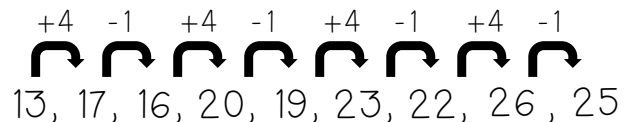
Count by 10s, starting at 900. See how high you can go.

900 910 920 930 940 950  
960 970 980 990 1,000  
1,010 1,020 1,030 1,040  
1,050 1,060 etc.

Continue the patterns below. An example is given.

Hint: These are two step patterns.

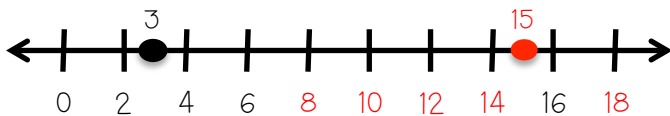
Example



3, 7, 5, 9, 7, 11, 9, 13, 11

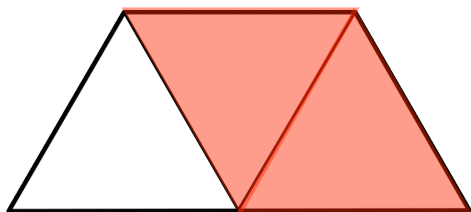
10, 20, 19, 29, 28, 38, 37, 47, 46

Fill in the missing numbers on the number line. Notice that the number line is counting by twos!



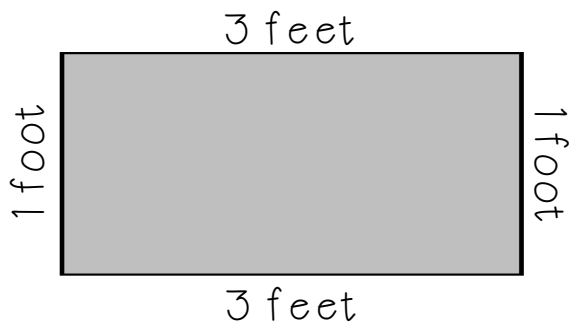
Now, place a point on the number line to represent the number 15. If you need help, notice how a point has been placed on the number line to represent the number 3.

Shade 2 of the thirds below.



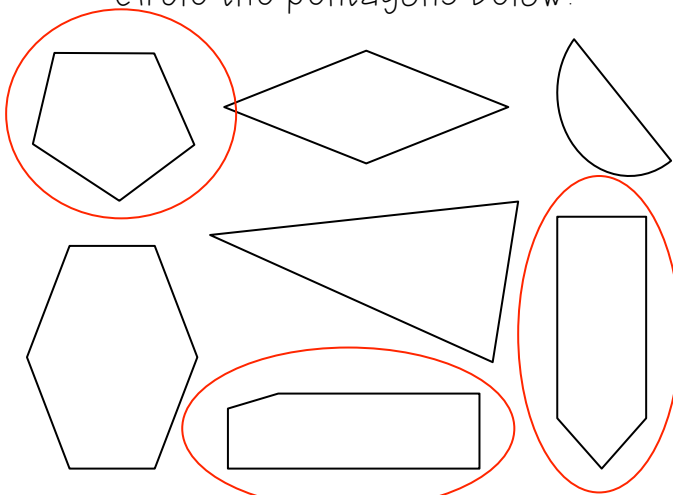
You have shaded  $\frac{2}{3}$ .

Find the perimeter.



Perimeter: 8 feet

A pentagon is any shape with 5 sides.  
Circle the pentagons below.



CHALLENGE

Create a drawing that uses 4 pentagons, 4 quadrilaterals, and 4 triangles.

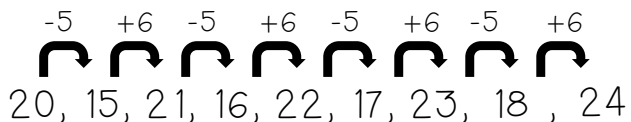
Answers will vary.



Continue the pattern below. An example is given.

Hint: These are two step patterns.

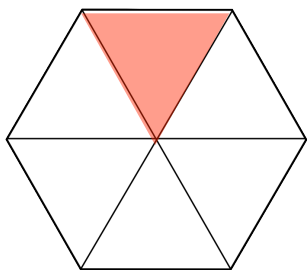
Example



10, 20, 15, 25, 20, 30, 25, 35, 30

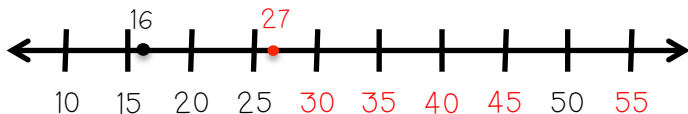
60, 50, 53, 43, 46, 36, 39, 29, 32

Shade 1 of the sixths below.



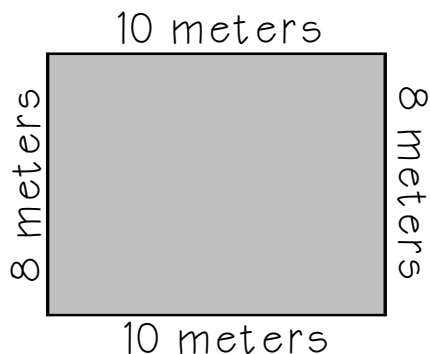
You have shaded  $\frac{1}{6}$ .

Fill in the missing numbers on the number line. Notice that the number line is counting by fives!



Now, place a point on the number line to represent the number 27. If you need help, notice how a point has been placed on the number line to represent the number 16.

Find the perimeter.



Perimeter: 36 meters

A pentagon is any shape that has 5 sides. Draw 3 different pentagons below.

Answers will vary.

CHALLENGE

A quadrilateral has a perimeter of 26 inches. 2 sides of the quadrilateral each have a length of 11 inches. A third side has a length of 1 inch. What is the length of the fourth side?

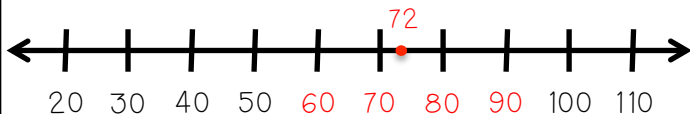
3 inches

Continue the pattern below.  
Hint: These are two step patterns.

80, 78, 83, 81, 86, 84, 89, 87, 92

19, 21, 28, 30, 37, 39, 46, 48, 55

Fill in the missing numbers on the number line. Notice that the number line is counting by tens!



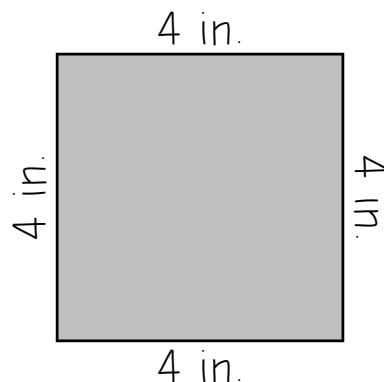
Now, place a point on the number line to represent the number 72.

Shade 2 of the fifths below.



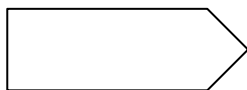
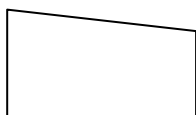
You have shaded  $\frac{2}{5}$ .

Find the perimeter.



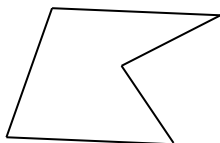
Perimeter: 16 in.

Label the shapes below as either "triangle," "quadrilateral," or "pentagon."



quadrilateral

pentagon



triangle

pentagon

### CHALLENGE

Would you rather have one third of a pie or one sixth of a pie? Explain.

Answers will vary. One  
third of a pie is larger than  
one sixth of a pie.

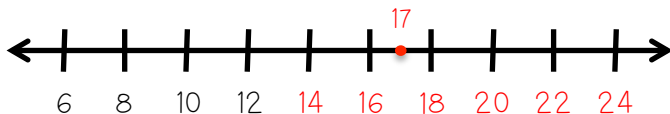
Continue the pattern below.

31, 41, 40, 50, 49, 59, 58, 68, 67

90, 85, 84, 79, 78, 73, 72, 67, 66

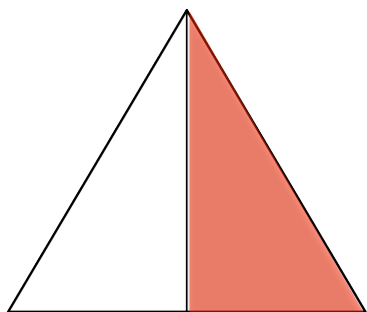
15, 18, 16, 19, 17, 20, 18, 21, 19

Fill in the missing numbers on the number line.



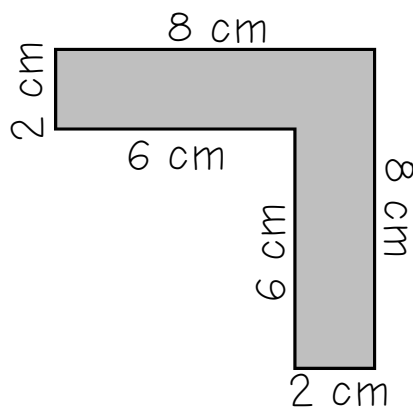
Now, place a point on the number line to represent the number 17.

Shade 1 of the halves below.



You have shaded  $\frac{1}{2}$ .

Find the perimeter.



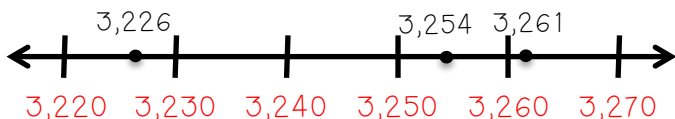
Perimeter: 32 cm

Explain the difference between a pentagon and a quadrilateral.

A pentagon has 5 sides,  
while a quadrilateral only  
has 4 sides.

### CHALLENGE

Fill in the number line below. Place a point on the number line to represent the following numbers:  
 3,226 3,254 3,261



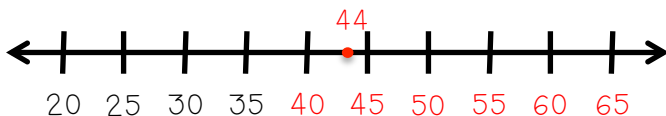
Continue the pattern below.

50, 46, 48, 44, 46, 42, 44, 40, 42

21, 27, 30, 36, 39, 45, 48, 54, 57

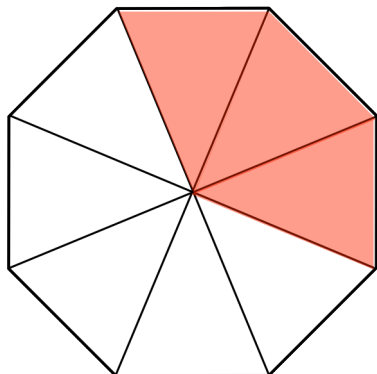
98, 88, 86, 76, 74, 64, 62, 52, 50

Fill in the missing numbers on the number line.



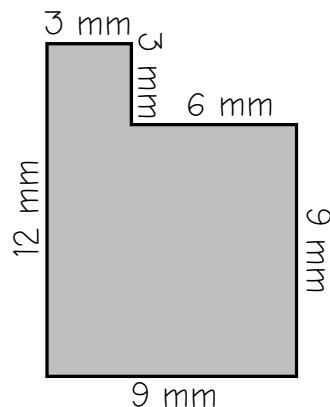
Now, place a point on the number line to represent the number 44.

Shade 3 of the eighths below.



You have shaded  $\frac{3}{8}$ .

Find the perimeter.



Perimeter: 42 mm

What is the name of the shape below?  
How do you know?



This shape is a pentagon  
because it has 5 sides.

### CHALLENGE

Continue the pattern below. See how high you can go.

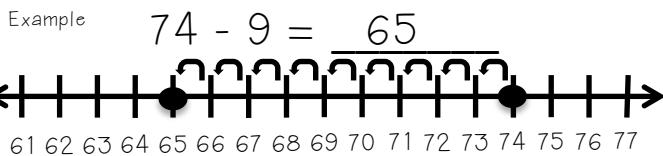
1, 2, 4, 8, 16, 32, 64, 128,  
256, 512, 1,024, 2,048, 4,096,  
8,192, etc.

Look at the gray rows in the addition table below. What pattern do you notice?

+	1	2	3	4	5
1	2	3	4	5	6
2	3	4	5	6	7
3	4	5	6	7	8
4	5	6	7	8	9
5	6	7	8	9	10

The numbers  
are  
increasing  
by 1.

Use the number line to model solving the problem below. An example is provided.



$$91 - 15 = \underline{76}$$

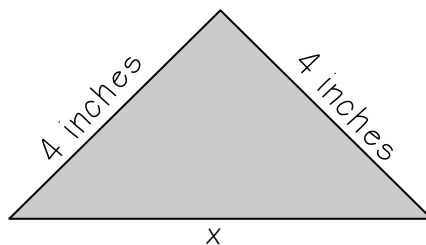


Circle the numerators. Draw a square around the denominators. The first two have been done for you.

$\frac{\textcircled{2}}{\square{6}}$	$\frac{\textcircled{5}}{\square{7}}$	$\frac{\textcircled{2}}{\square{8}}$	$\frac{\textcircled{1}}{\square{4}}$	$\frac{\textcircled{3}}{\square{5}}$
$\frac{\textcircled{7}}{\square{9}}$	$\frac{\textcircled{2}}{\square{3}}$	$\frac{\textcircled{1}}{\square{6}}$	$\frac{\textcircled{7}}{\square{10}}$	$\frac{\textcircled{4}}{\square{6}}$

The perimeter is given. Find the length of the missing side (x).

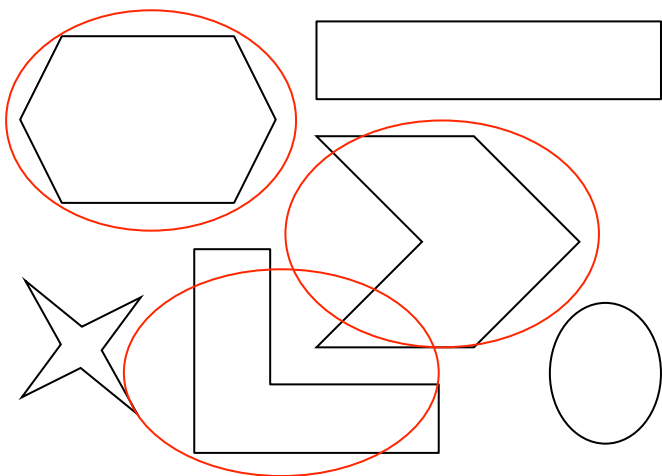
Perimeter: 14 inches



$$4 + 4 + x = 14$$

$$x = \underline{6} \text{ inches}$$

A hexagon is any shape with 6 sides. Circle the hexagons below.



### CHALLENGE

Draw a person below using only hexagons and quadrilaterals.

Answers will vary.



Look at the gray diagonals in the addition table below. What pattern do you notice?

+	1	2	3	4	5
1	2	3	4	5	6
2	3	4	5	6	7
3	4	5	6	7	8
4	5	6	7	8	9
5	6	7	8	9	10

The numbers  
are  
increasing  
by 2.

Use the number line to model solving the problem below.

$$36 - 11 = \underline{25}$$



Place 4 in the numerator and 7 in the denominator.

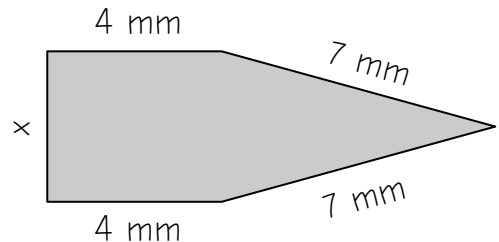
$$\frac{4}{7}$$

Place 9 in the numerator and 5 in the denominator.

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

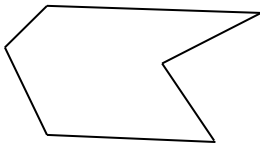
The perimeter is given. Find the length of the missing side (x).

Perimeter: 28 mm

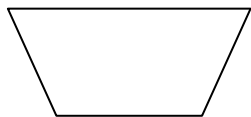


$$x = \underline{6} \text{ mm}$$

Label the shapes below as either "quadrilateral" or "hexagon."



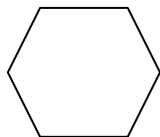
hexagon



quadrilateral



quadrilateral



hexagon

### CHALLENGE

Create a fraction pattern below. Have the numerator of the fractions increase by 2, and the denominator of the fractions increase by 5.

Answers will vary.

Look at the gray diagonals in the addition table below. What pattern do you notice?

+	5	6	7	8	9
5	10	11	12	13	14
6	11	12	13	14	15
7	12	13	14	15	16
8	13	14	15	16	17
9	14	15	16	17	18

The numbers  
are  
increasing  
by 0.

Tu was trying to figure out the sum of  $13 + 77$ . He said that using the number line below wouldn't help him solve the problem. Is he correct? Why or why not?



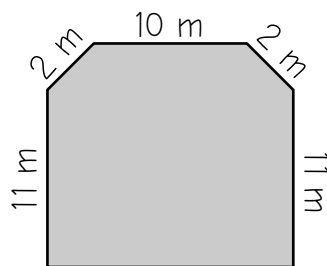
Tu is correct. The number  
line is not currently long  
enough to add 77 to 13.

Explain where in a fraction you will find the numerator and the denominator.

The numerator is at the top  
of the fraction, and the  
denominator is at the  
bottom of the fraction.

The perimeter is given. Find the length of the missing side (x).

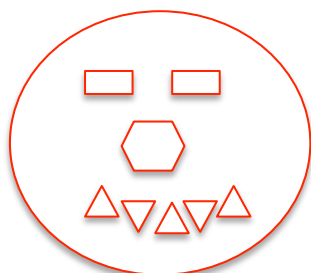
Perimeter: 48 m



x = 12 m

Follow the instructions to create a  
face using shapes.

1. Draw a large circle below.
2. Draw two quadrilaterals for the eyes.
3. Draw a hexagon for the nose.
4. Draw 5 triangles for the mouth.



## CHALLENGE

$317 - \underline{58} = 259$

$245 + \underline{279} = 524$



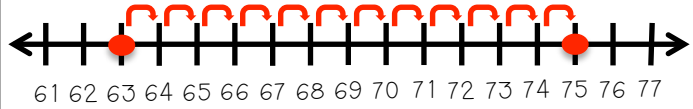
Look at the gray columns in the addition table below. What pattern do you notice?

+	5	6	7	8	9
5	10	11	12	13	14
6	11	12	13	14	15
7	12	13	14	15	16
8	13	14	15	16	17
9	14	15	16	17	18

The numbers  
are  
increasing  
by 1.

Use the number line to model solving the problem below.

$$63 + 12 = \underline{75}$$



Place 7 in the numerator and 4 in the denominator.

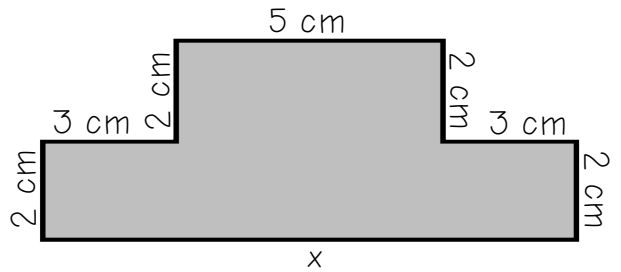
$$\frac{7}{4}$$

Place 6 in the numerator and 9 in the denominator.

$$\frac{6}{9}$$

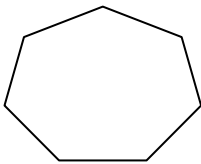
The perimeter is given. Find the length of the missing side (x).

Perimeter: 30 cm



$$x = \underline{11} \text{ cm}$$

Jezzie drew the shape below, and described it as a hexagon. Explain why she was wrong.



Jezzie is wrong because  
she drew a 7 sided shape.  
Hexagons only have 6 sides.

### CHALLENGE

Use the patterns you notice to fill in the addition table.

+	9	10	11	12	13
9	18	19	20	21	22
10	19	20	21	22	23
11	20	21	22	23	24
12	21	22	23	24	25
13	22	23	24	25	26

Fill in the in and out box using the rule listed above. The first two are done for you as an example.

Rule: Add 2

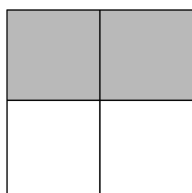
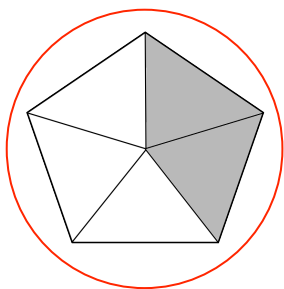
IN	OUT
13	<u>15</u>
21	<u>23</u>
33	35
76	78
98	100

Fill in the missing numbers on the number line.

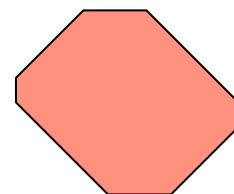
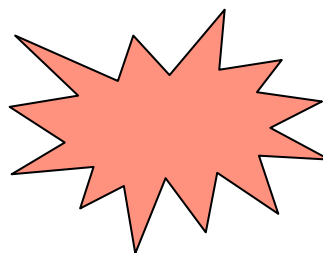
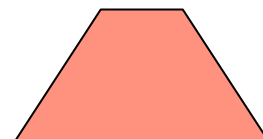


Now, place a point on the number line at the number 104. If you need help, notice how a point has been placed on the number line at the number 98.

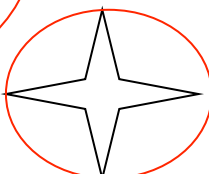
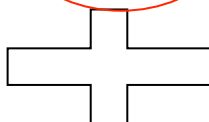
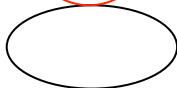
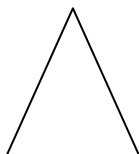
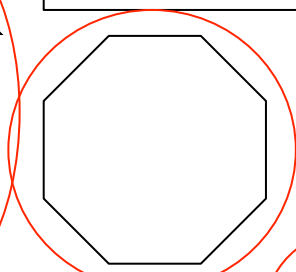
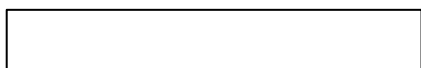
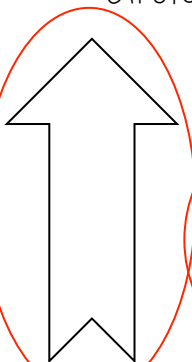
The denominator tells how many equal parts the whole is divided into. Which shape below has  $\frac{2}{5}$  shaded? Circle it.



Shade the area of the shapes below. The first one is done for you.



An octagon is any shape with 8 sides. Circle the octagons below.



### CHALLENGE

How many TOTAL sides would there be in 5 octagons, 2 hexagons, 3 quadrilaterals, and 1 triangle?

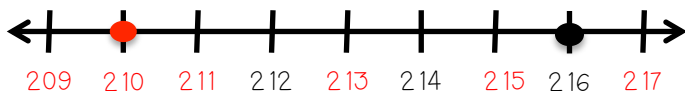
67 sides

Fill in the in and out box using the rule listed above. The first two are done for you as an example.

**Rule: Subtract 5**

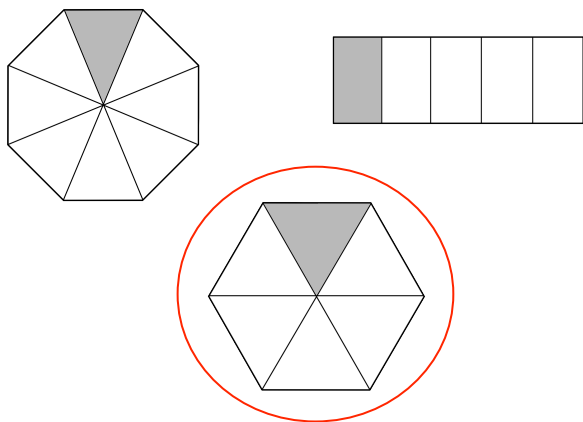
IN	OUT
12	<u>7</u>
36	<u>31</u>
47	42
65	60
106	101

Fill in the missing numbers on the number line.

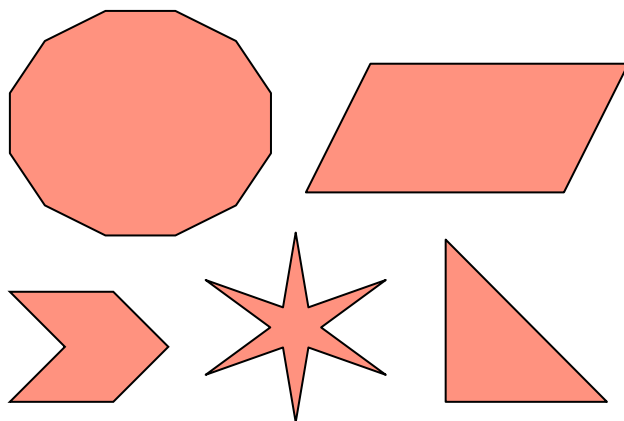


Now, place a point on the number line at the number 210. If you need help, notice how a point has been placed on the number line at the number 216.

The denominator tells how many equal parts the whole is divided into. Which shape below has  $\frac{1}{6}$  shaded? Circle it.



Shade the area of the shapes below.

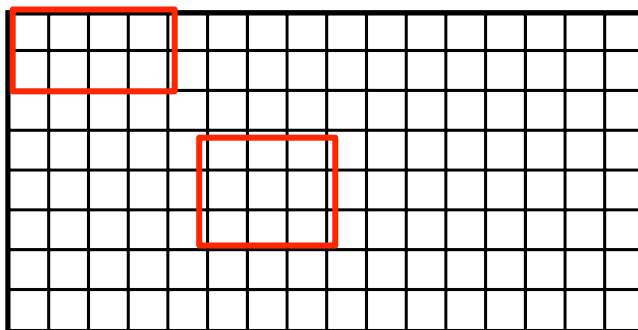


An octagon is any shape that has 8 sides. Draw 2 different octagons below.

Answers will vary.

### CHALLENGE

Draw 2 different quadrilaterals, each with a perimeter of 12 units.



Answers will vary. A possible answer is given.

Rule: Add 10

Fill in the in and out box using the rule listed above.

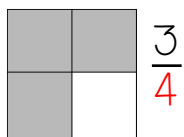
IN	OUT
25	35
72	82
88	98
90	100
124	134

Fill in the missing numbers on the number line.

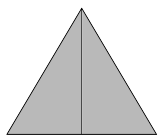


Now, place a point on the number line at the number 566, and place another point at the number 570.

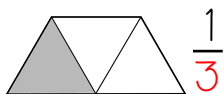
Think about what fraction is shaded in each of the shapes below. Fill in the appropriate denominators for each shape.



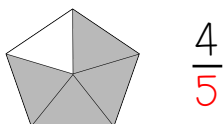
$\frac{3}{4}$



$\frac{2}{2}$



$\frac{1}{3}$



$\frac{4}{5}$

Draw a quadrilateral, and then shade the area of the quadrilateral.

Answers will vary.

How can you tell the difference between a hexagon and an octagon?

A hexagon has 6 sides, and an octagon has 8 sides.

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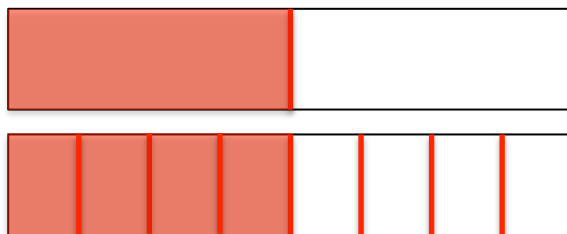


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### CHALLENGE

Which is bigger:  $\frac{1}{2}$  or  $\frac{4}{8}$ ? Use the shapes below to prove your answer.

$\frac{1}{2}$  and  $\frac{4}{8}$  are equivalent to each other.

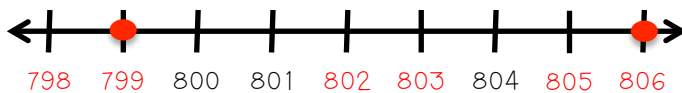


Rule: Subtract 3

Fill in the in and out box using the rule listed above.

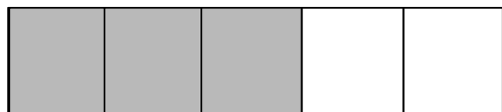
IN	OUT
26	23
51	48
72	69
102	99
254	251

Fill in the missing numbers on the number line.



Now, place a point on the number line at the number 799, and place another point at the number 806.

Desmond said that  $\frac{3}{2}$  of the quadrilateral below were shaded. Explain why he was wrong.



The denominator should be a 5 because the quadrilateral was divided into 5 equal parts.

Explain what area means in your own words.

Answers will vary.

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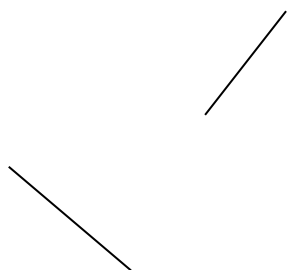
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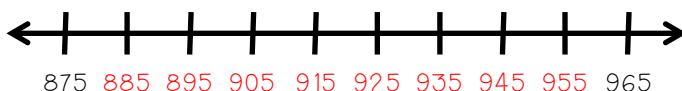
Add to the line segments below to create an octagon.

Answers will vary.



CHALLENGE

Fill in the missing numbers on the number line.

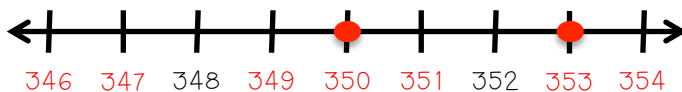


Rule: Subtract 7

Fill in the in and out box using the rule listed above.

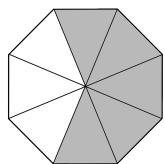
IN	OUT
39	32
62	55
87	80
105	98
348	341

Fill in the missing numbers on the number line.

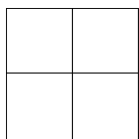


Now, place a point on the number line at the number 350, and place another point at the number 353.

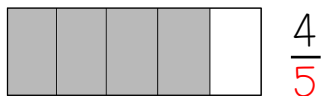
Think about what fraction is shaded in each of the shapes below. Fill in the appropriate denominators for each shape.



$\frac{5}{8}$

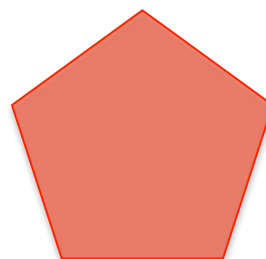


$\frac{0}{4}$

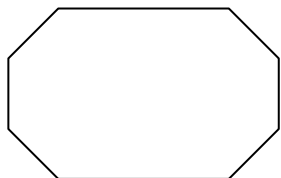


$\frac{4}{5}$

Draw a pentagon, and then shade the area of the pentagon.



Is the shape below an octagon? How do you know?



Yes, this is an octagon because it has 8 sides.

CHALLENGE

Rule: Add 11

Figure out what the rule is, and write it above the in/out box. Then, fill in the rest of the table.

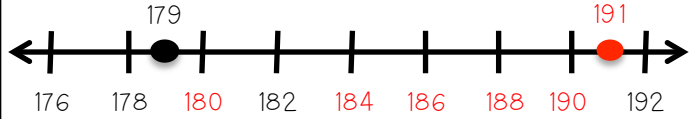
IN	OUT
29	40
47	58
97	108
1,290	1,301
3,798	3,809

Figure out what the rule is, and write it above the in/out box. Then, fill in the rest of the table.

Rule: Add 4

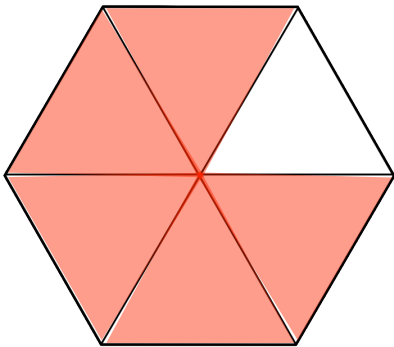
IN	OUT
3	7
7	11
12	16
16	20
67	71

Fill in the missing numbers on the number line. Notice the number line is counting by twos!

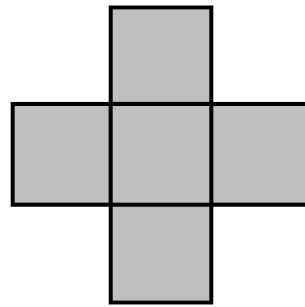


Now, place a point on the number line to represent the number 191. If you need help, notice how a point has been placed on the number line to represent the number 179.

Shade  $\frac{5}{6}$  of the hexagon below.

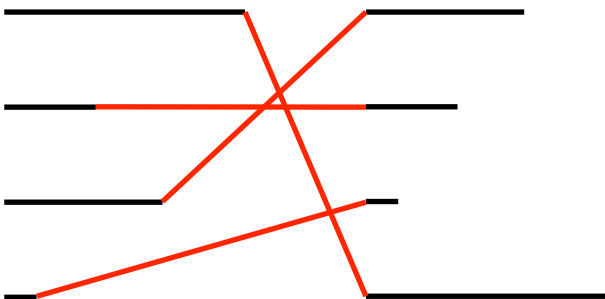


Find the area of the shape below.



Area: 5 square units

Equal means to have exactly the same size, amount, or value. Draw a line to connect the segments that have an equal length.



### CHALLENGE

Ronnie and Din have \$294 to split between the two of them. If they split the money EQUALLY, how much will each person get?

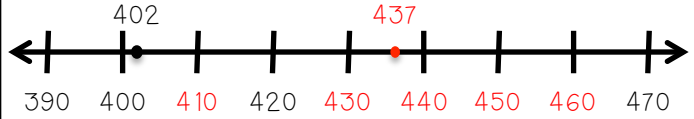
\$147.00

Figure out what the rule is, and write it above the in/out box. Then, fill in the rest of the table.

Rule: Subtract 5

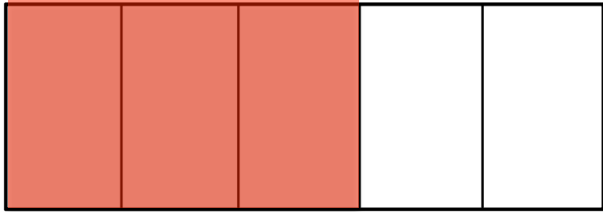
IN	OUT
9	4
16	11
22	17
34	29
40	35

Fill in the missing numbers on the number line. Notice the number line is counting by tens!

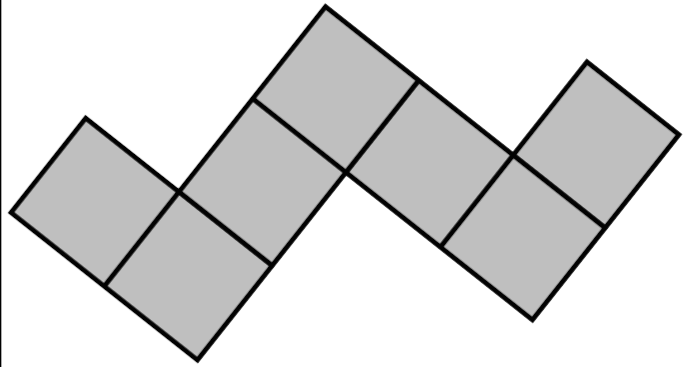


Now, place a point on the number line to represent the number 437. If you need help, notice how a point has been placed on the number line to represent 402.

Shade  $\frac{3}{5}$  of the quadrilateral below.

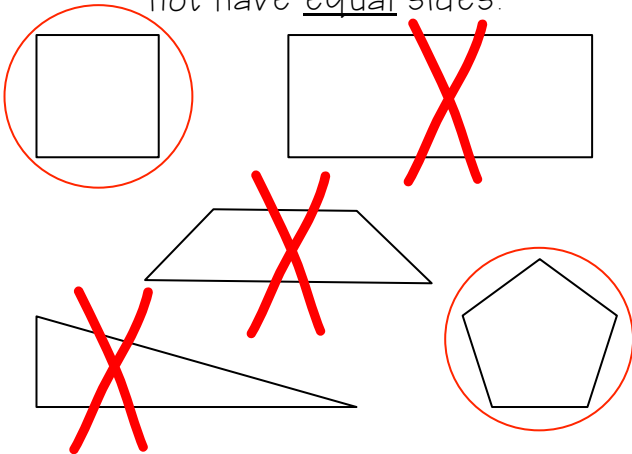


Find the area of the shape below.



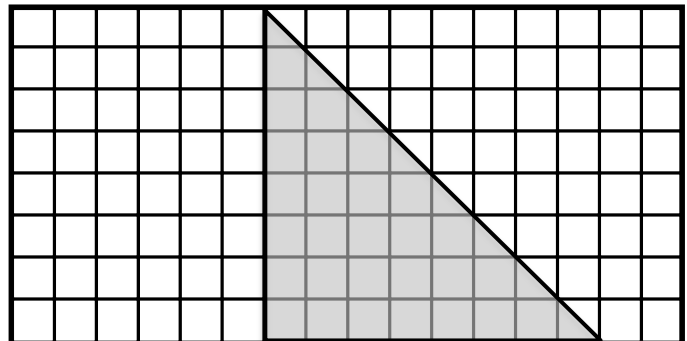
Area: 7 square units

Circle the shapes that have equal sides. Cross out the shapes that do not have equal sides.



### CHALLENGE

What is the area of the triangle below?



32 square units

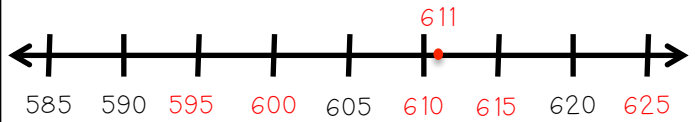


Figure out what the rule is, and write it above the in/out box. Then, fill in the rest of the table.

Rule: Add 6

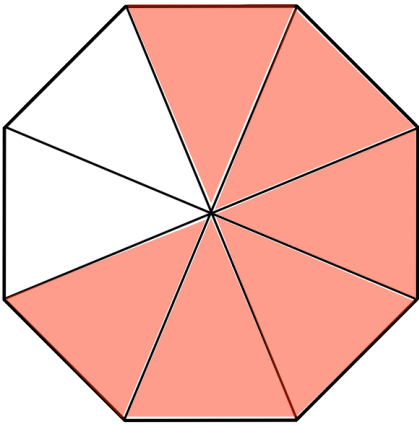
IN	OUT
21	27
35	41
49	55
62	68
87	93

Fill in the missing numbers on the number line. Notice the number line is counting by fives!

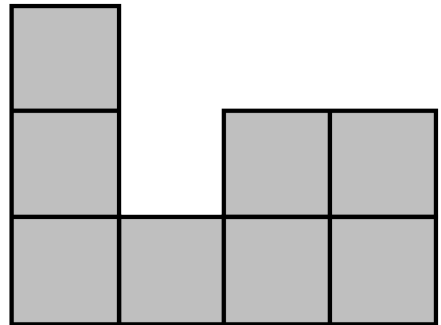


Now, place a point on the number line to represent the number 611.

Shade  $\frac{6}{8}$  of the octagon below.

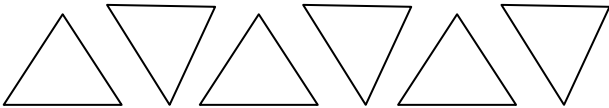


Find the area of the shape below.



Area: 8 square units

How many triangles are there?



Draw an equal number of quadrilaterals.

5  
quadrilaterals

CHALLENGE

There are 15 children.  $\frac{2}{3}$  of the children are girls. How many of the children are boys?

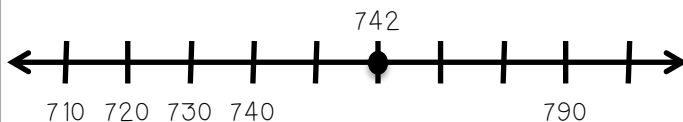
5 of the children are boys

Figure out what the rule is, and write it above the in/out box. Then, fill in the rest of the table.

Rule: Add 9

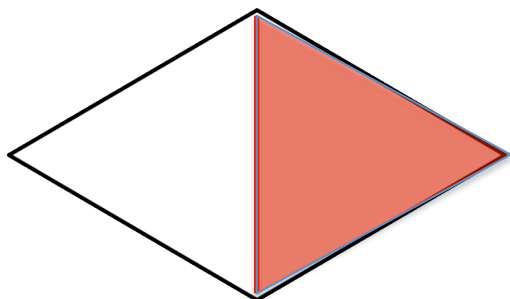
IN	OUT
24	33
26	35
41	50
68	77
99	108

Brentley put a point on the number line below to represent the number 742. What did he do wrong?

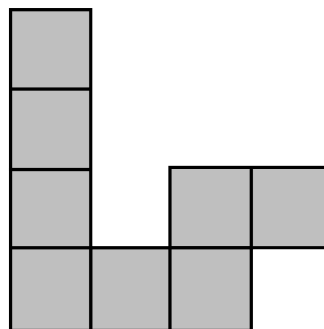


Brentley didn't realize that the number line was counting by 10s. He thought it was counting by 1s.

Shade  $\frac{1}{2}$  of the quadrilateral below. Hint: Divide the quadrilateral into halves.

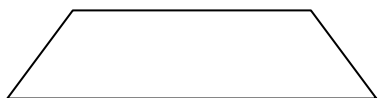


Find the area of the shape below.



Area: 8 square units

Does the quadrilateral below have 4 sides of equal length? Explain your answer.



No. The sides of the quadrilateral are different lengths.

### CHALLENGE

Draw a number line below that could help you solve the following problem:

$$872 + 341 = \underline{1,213}$$

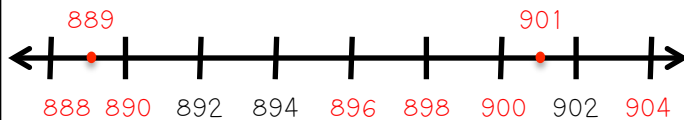
Answers will vary with the number line.

Figure out what the rule is, and write it above the in/out box. Then, fill in the rest of the table.

Rule: Subtract 6

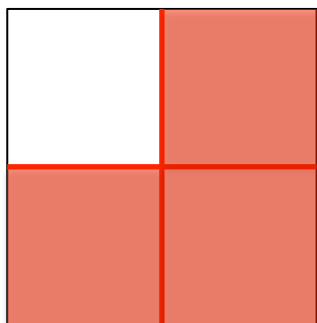
IN	OUT
18	12
29	23
40	34
57	51
71	65

Fill in the missing numbers on the number line.

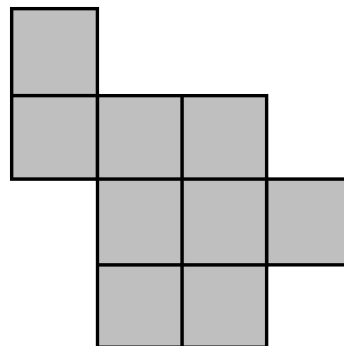


Now, place a point on the number line to represent the number 889, and place another point on the number line to represent the number 901.

Shade  $\frac{3}{4}$  of the quadrilateral below. Hint: Divide the quadrilateral into fourths.



Find the area of the shape below.



Area: 9 square units

Explain what equal means in your own words.

Answers will vary.

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### CHALLENGE

Figure out what the rule is, and write it above the in/out box. Then, fill in the rest of the table.

Rule: Subtract 14

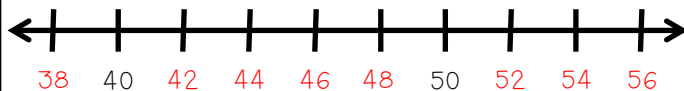
IN	OUT
203	189
376	362
782	768
1,370	1,356
5,901	5,887

Describe the pattern of the gray sections in the multiplication table.

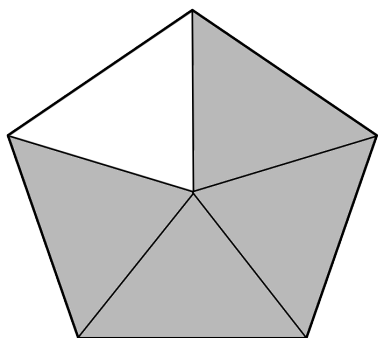
The numbers are increasing by 3.

X	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

Fill in the missing numbers on the number line below. HINT: Decide if the number line is counting by 2s, 5s or 10s.

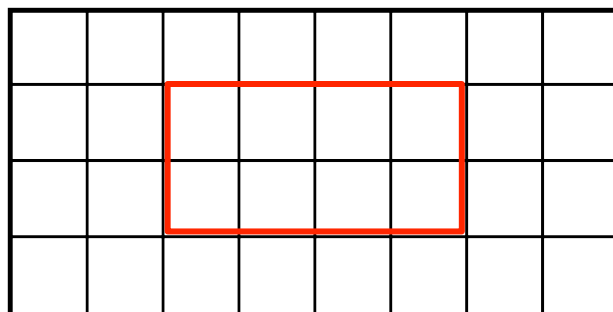


What fraction is shaded?



$\frac{4}{5}$

Draw a shape with an area of 8 square units.

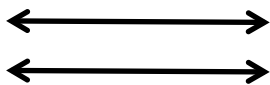


Answers will vary. A possible answer is given.

Two lines are parallel if they are always the same distance apart from each other – they could go on forever and never cross. Intersecting lines meet or cross at a point. Label the lines below as either parallel or intersecting.



intersecting



parallel

### CHALLENGE

List things around the room that intersect.

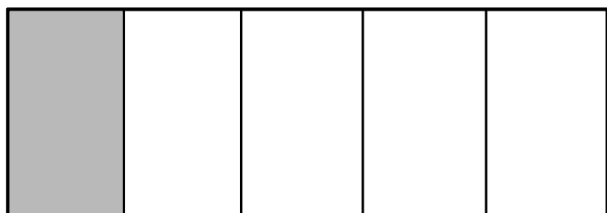
Answers will vary.

Describe the pattern of the gray sections of the multiplication table.

The numbers are increasing by 1.

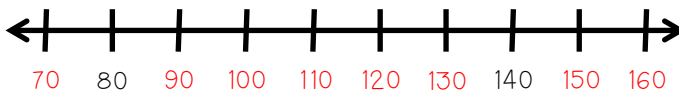
X	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

What fraction is shaded?

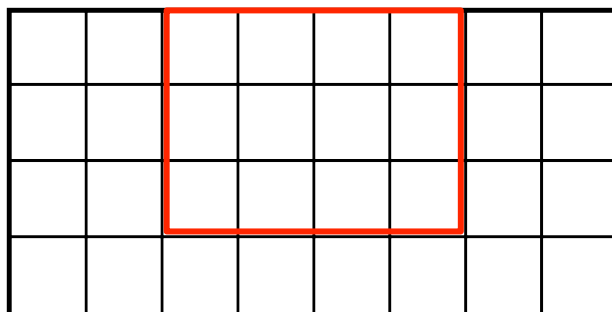


$\frac{1}{5}$

Fill in the missing numbers on the number line below. HINT: Decide if the number line is counting by 2s, 5s or 10s.



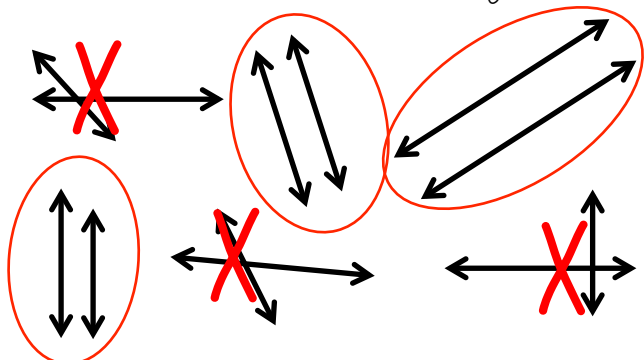
Draw a shape with an area of 12 square units.



Answers will vary. A possible answer is given.

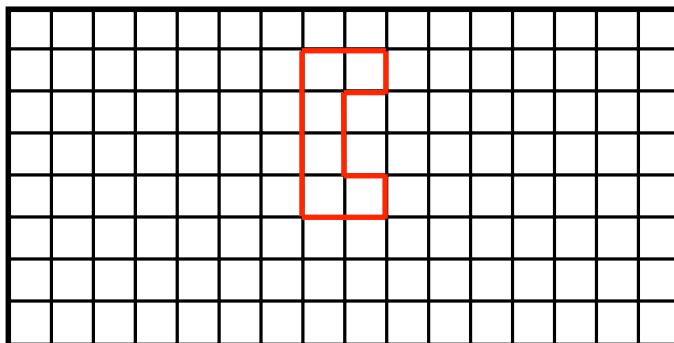
Two lines are parallel if they could go on forever and never cross.

Intersecting lines meet or cross at a point. Circle the parallel lines, and cross out the intersecting lines.



### CHALLENGE

Draw a shape with a perimeter of 14 units and an area of 6 square units.



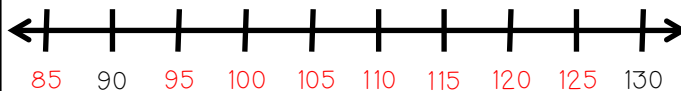
Answers will vary. A possible answer is given.

Describe the pattern of the gray sections in the multiplication table.

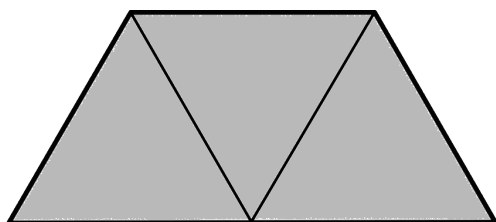
The numbers are increasing by 5.

X	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

Fill in the missing numbers on the number line below. HINT: Decide if the number line is counting by 2s, 5s or 10s.

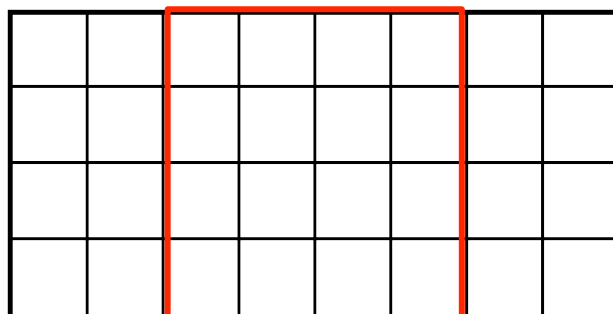


What fraction is shaded?



$\frac{3}{3}$

Draw a shape with an area of 16 square units.



Answers will vary. A possible answer is given.

Draw parallel lines below.



Draw intersecting lines below.



CHALLENGE

Create a drawing below using 10 shapes. Make sure  $\frac{1}{2}$  of the shapes are triangles.

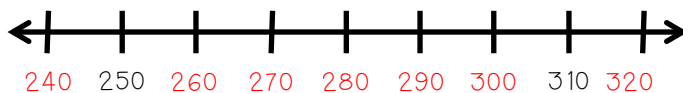
Answers will vary.

Describe the pattern of the gray sections in the multiplication table.

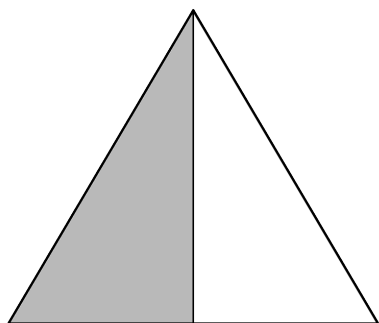
The numbers are increasing by 6.

X	5	6	7	8	9
5	25	30	35	40	45
6	30	36	42	48	54
7	35	42	49	56	63
8	40	48	56	64	72
9	45	54	63	72	81

Fill in the missing numbers on the number line below. HINT: Decide if the number line is counting by 2s, 5s, or 10s.

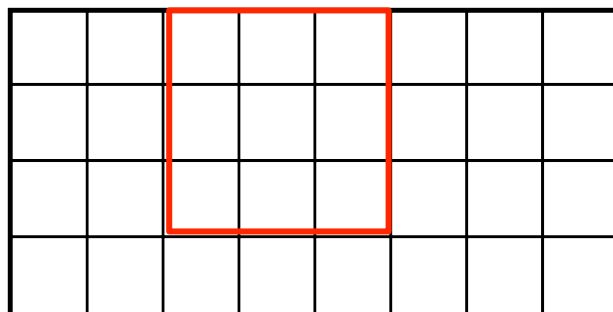


What fraction is shaded?



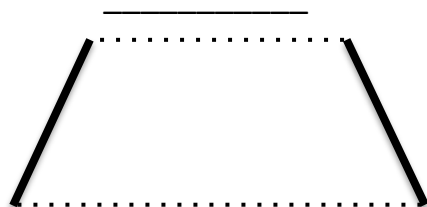
$\frac{1}{2}$

Draw a shape with an area of 9 square units.



Answers will vary. A possible answer is given.

In the quadrilateral below, are the dotted lines parallel to each other?

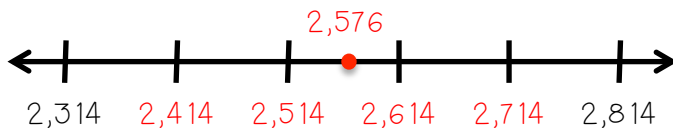


Explain your reasoning.

Yes, the dotted lines are parallel to each other because they could go on forever and never intersect.

### CHALLENGE

Fill in the missing numbers on the number line below. Place a point on the number line to represent 2,576.



Describe the pattern of the gray sections in the multiplication table.

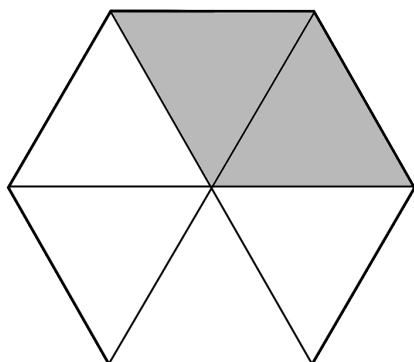
The numbers are increasing by 9.

X	5	6	7	8	9
5	25	30	35	40	45
6	30	36	42	48	54
7	35	42	49	56	63
8	40	48	56	64	72
9	45	54	63	72	81

Fill in the missing numbers on the number line below. HINT: Decide if the number line is counting by 2s, 5s or 10s.

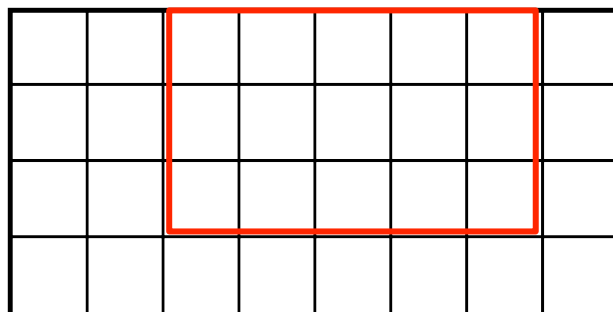


What fraction is shaded?



$\frac{2}{6}$   
or  
 $\frac{1}{3}$

Draw a shape with an area of 15 square units.



Answers will vary. A possible answer is given.

What is the difference between intersecting lines and parallel lines?

Answers will vary.

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### CHALLENGE

Use the patterns you notice to fill in the multiplication table.

X	8	9	10	11	12
8	64	72	80	88	96
9	72	81	90	99	108
10	80	90	100	110	120
11	88	99	110	121	132
12	96	108	120	132	144

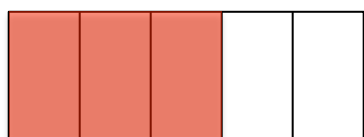


Antonio was saving his money to buy a video game. In January, he had \$8 saved. In February, he had \$16 saved. In March, he had \$24 saved. If this pattern continues, how much money will he have saved in May? Fill in the table below to help you solve the problem.

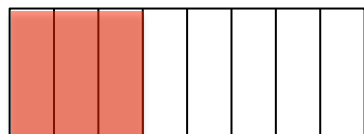
\$ 40.00

Jan.	Feb.	March	April	May
\$8	\$16	\$24	\$32	\$40

Shade the quadrilaterals below according to the fraction next to it. Then, circle the bigger fraction.

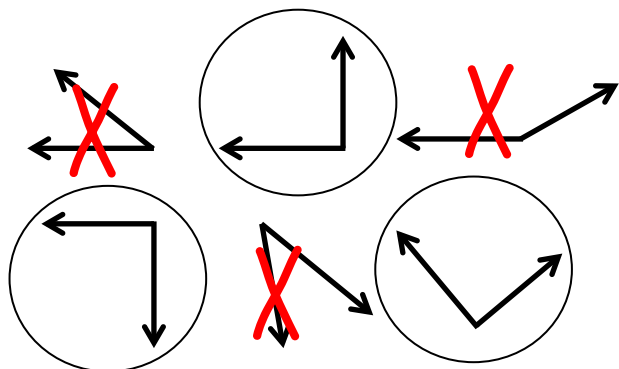


$\frac{3}{5}$



$\frac{3}{8}$

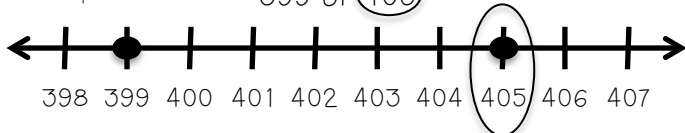
Right angles measure exactly  $90^\circ$ . The right angles below are circled. Cross out the remaining angles that are NOT right angles.



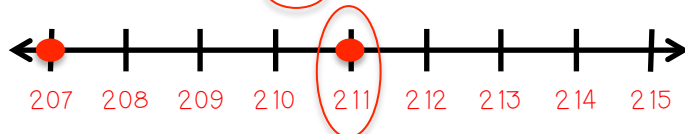
Look at the two numbers below, and then circle the larger number. Prove your answer using the number line. An example is provided.

Example

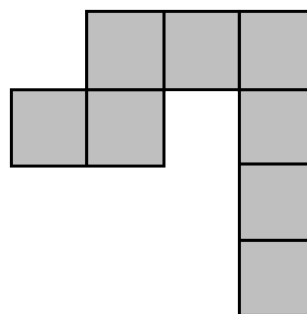
399 or 405



211 or 207



Find the area and perimeter of the figure below.



P = 18 units

A = 8 square units

### CHALLENGE

Draw as many different shapes as you can that have at least one right angle.

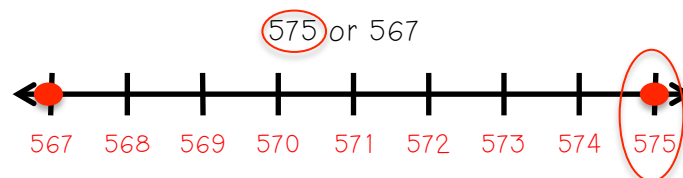
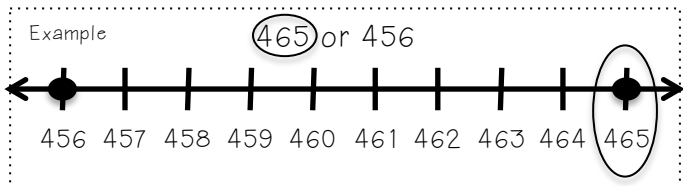
Answers will vary.

Minh was sorting her toys into stacks. The first stack had 19 toys in it. The next stack had only 15 toys in it. The third stack had 11 toys in it. If this pattern continues, how many toys will the fifth stack have? Fill in the table below to help you solve this problem.

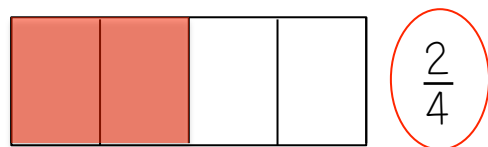
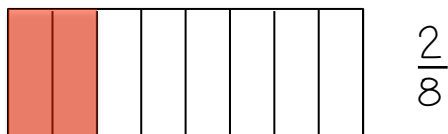
3 toys

Stack 1	Stack 2	Stack 3	Stack 4	Stack 5
19	15	11	7	3

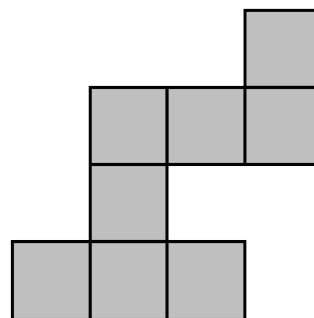
Look at the two numbers below, and then circle the larger number. Prove your answer using the number line. An example is provided.



Shade the quadrilaterals below according to the fraction next to it. Then, circle the bigger fraction.



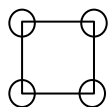
Find the area and perimeter of the figure below.



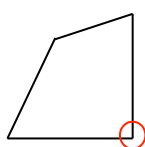
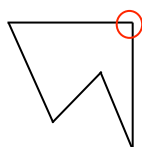
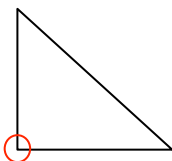
$P = 18$  units

$A = 8$  square units

Right angles measure exactly  $90^\circ$ . A square has 4 right angles. They are circled below.



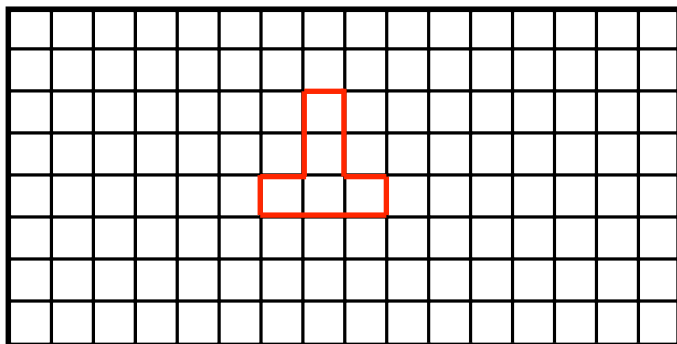
The shapes below each have 1 right angle. Circle the right angle.



### CHALLENGE

Draw an octagon with an area of 5 square units.

Answers will vary. A possible answer is given.



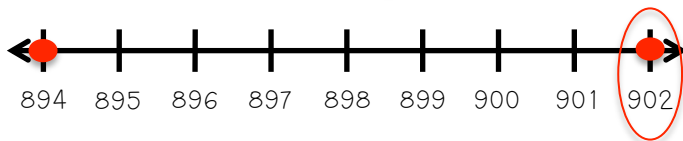
Every day, Clint buys a drink to go with his lunch. The table below shows how much money he had at the end of each day. If the pattern continues, how much will he have left on Friday?

\$ 4.00

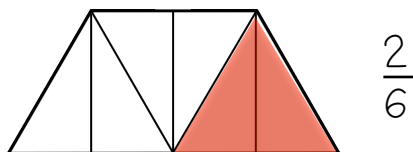
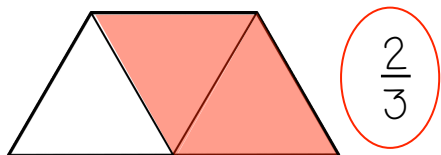
Mon.	Tues.	Wed.	Thurs.	Fri.
\$16	\$13	\$10	\$7	\$4

Look at the two numbers below, and then circle the larger number. Prove your answer using the number line.

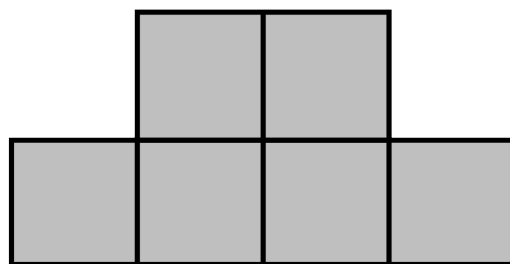
894 or 902



Shade the quadrilaterals below according to the fraction next to it. Then, circle the bigger fraction.



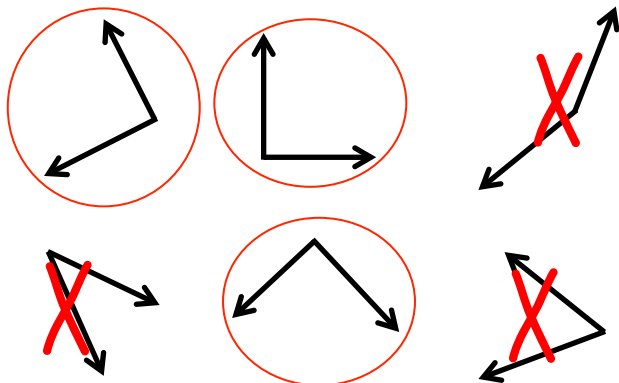
Find the area and perimeter of the figure below.



P = 12 units

A = 6 square units

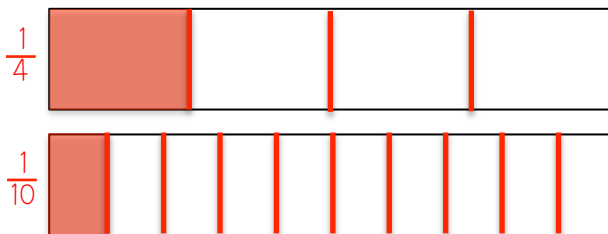
Circle the right angles below. Cross out the angles that are not right angles.



### CHALLENGE

Which is bigger:  $\frac{1}{10}$  or  $\frac{1}{4}$ ? Use the shapes below to prove your answer.

$\frac{1}{4}$  is larger than  $\frac{1}{10}$ .

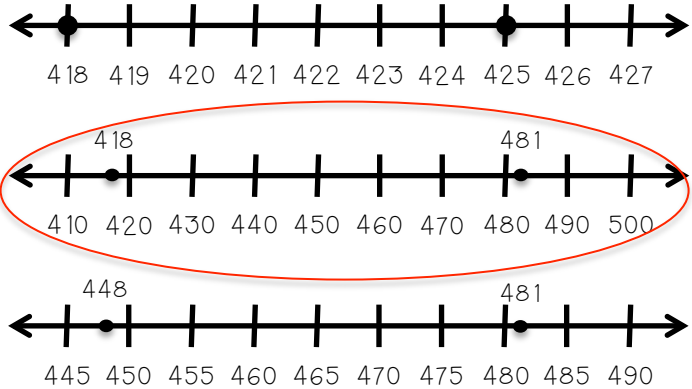


Sharissa read 3 books the first week of school. The second week, she read 10 books. Sharissa read 17 books the third week of school. If this pattern continues, how many books will she read the fourth week of school? Fill in the table below to help you solve the problem.

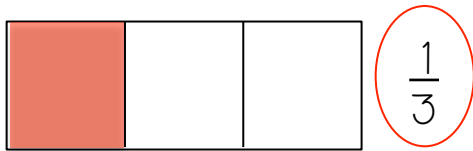
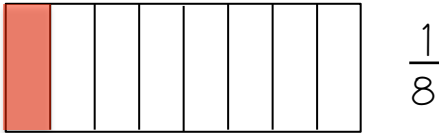
24 books

Week 1	Week 2	Week 3	Week 4	Week 5
3	10	17	24	31

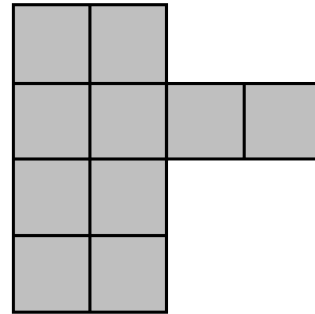
Look at the number lines below. Which number line should be used to prove that 481 is larger than 418? Circle the number line that proves this.



Shade the quadrilaterals below according to the fraction next to it. Then, circle the bigger fraction.



Find the area and perimeter of the figure below.



P = 16 units

A = 10 square units

Look around the room. What objects do you see that form right angles? List them below.

Answers will vary.

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### CHALLENGE

Draw a number line below that proves that 3,781 is larger than 3,511.

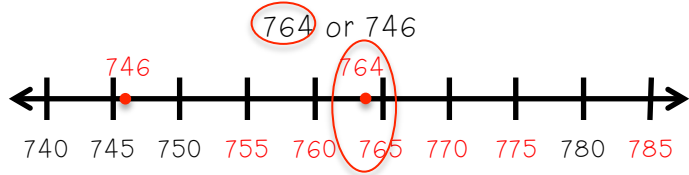
Number lines will vary.

Belija practiced the piano every day. On Monday, she practiced 10 minutes. On Tuesday, she practiced 15 minutes. On Wednesday, she practiced 20 minutes. If this pattern continues, how many minutes will she practice on Friday? Fill in the table below to help you solve the problem.

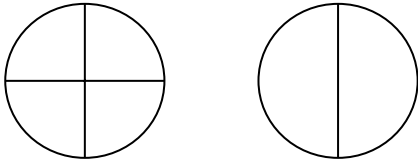
\_\_\_\_\_ **30** \_\_\_\_\_ minutes

Mon.	Tues.	Wed.	Thurs.	Fri.
10	15	20	25	<b>30</b>

Look at the two numbers below, and then circle the larger number. Prove your answer using the number line below.

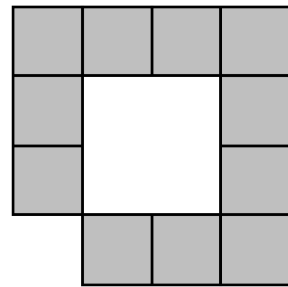


Autumn says that  $\frac{1}{4}$  is bigger than  $\frac{1}{2}$ . DeEricka disagrees. Who is correct? Use the shapes below to help.



DeEricka is correct because \_\_\_\_\_  
answers will vary

Find the area and perimeter of the figure below.



P = 24 units  
 A = 11 square units

Circle the right angle. Then, explain how you knew it was a right angle.



Answers will vary.

### CHALLENGE

Create your own number pattern below.

Answers will vary.

Continue the patterns below.

14, 20, 26, 32, 38, 44, 50

53, 50, 47, 44, 41, 38, 35

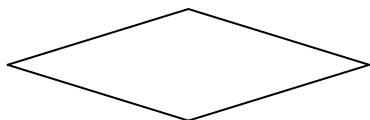
Callie was trying to figure out the difference between 54 and 11 using the number line below. Explain what she did wrong.

$$54 - 11 = \underline{65}$$



Callie found the sum  
instead of the difference.

If you wanted to shade  $\frac{3}{4}$  of the quadrilateral below, how many equal pieces would you need to divide it into? Why?

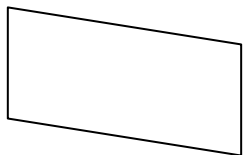


The quadrilateral would need to be divided into 4 equal pieces because the denominator is 4.

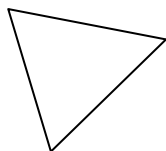
How is finding the area of a figure different from finding its perimeter?

Answers will vary.

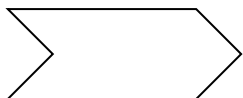
Label the shapes below as "triangle," "quadrilateral," or "hexagon."



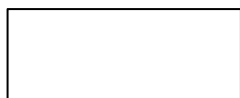
quadrilateral



triangle



hexagon



quadrilateral

### CHALLENGE

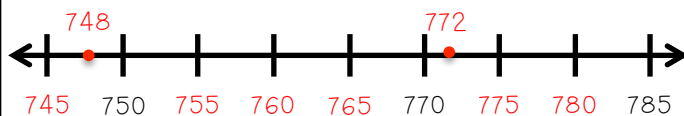
Create a drawing using only quadrilaterals and triangles.

Answers will vary.

Use the patterns you notice to fill in the multiplication table.

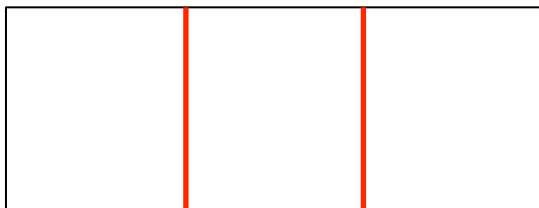
X	2	3	4	5	6
2	4	6	8	10	12
3	6	9	12	15	18
4	8	12	16	20	24
5	10	15	20	25	30
6	12	18	24	30	36

Fill in the missing numbers on the number line.

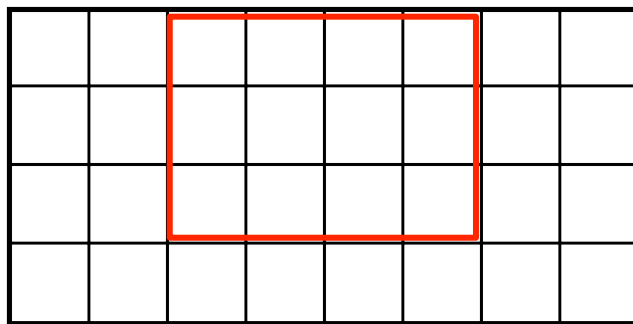


Now, place a point on the number line to represent the number 748, and place another point on the number line to represent the number 772.

Divide the quadrilateral below into thirds.

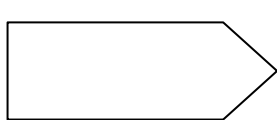


Draw a shape with a perimeter of 14 units.

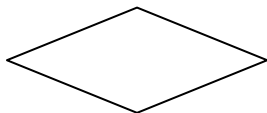


Answers will vary. A possible answer is given.

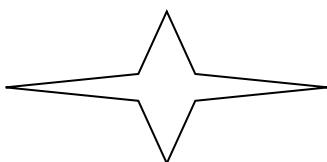
Label the shapes below as "quadrilateral," "pentagon," or "octagon."



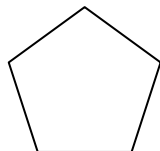
pentagon



quadrilateral



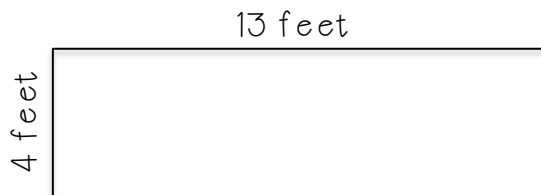
octagon



pentagon

### CHALLENGE

Dwayne's dog ran around the perimeter of the yard below 4 times. How many total feet did he run?



136 feet

Rule: Add 10

Fill in the in and out box using the rule listed above.

IN	OUT
23	33
51	61
78	88
91	101
126	136

Why are number lines useful? How can you use them to help solve math problems?

Answers will vary.

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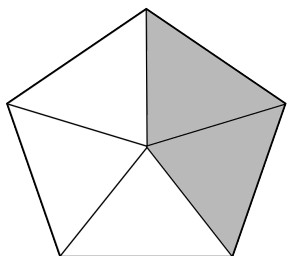


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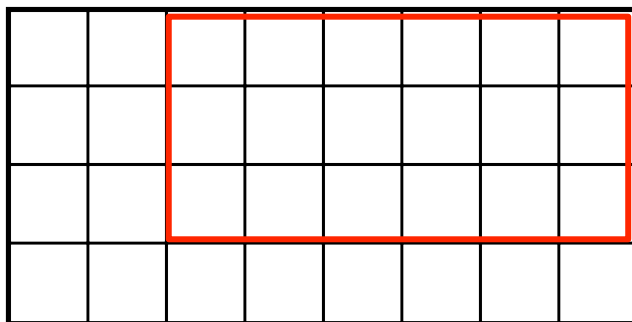
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What fraction of the pentagon is shaded?



$\frac{2}{5}$

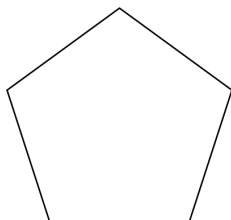
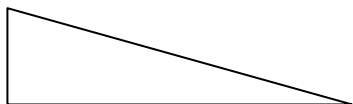
Draw a shape with an area of 18 units.



Answers will vary. A possible answer is given.

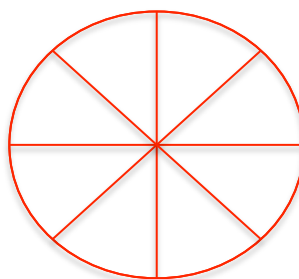
Which shape below has all equal sides?

the pentagon



CHALLENGE

Tristan ate  $\frac{1}{4}$  of a pizza. The pizza had been divided into 8 equal slices. How many slices are left?



6 slices



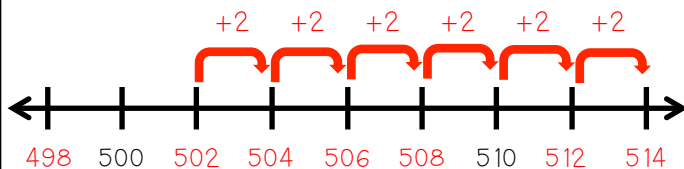
Kristoph was creating a pattern where the numbers increased by 5. His pattern is below. What did he do wrong?

50, 45, 40, 35, 30, 25

The numbers are decreasing by 5 instead of increasing.

Fill in the missing numbers on the number line. Then, use the number line to find the sum of 502 and 12.

$$\underline{\quad 514 \quad} = 502 + 12$$



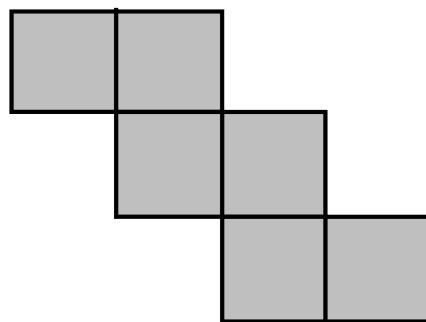
Place 4 in the numerator and 5 in the denominator.

$$\frac{4}{5}$$

Place 3 in the numerator and 2 in the denominator.

$$\frac{3}{2}$$

Find the area and perimeter of the figure below.



$$P = \underline{14} \text{ units}$$

$$A = \underline{6} \text{ square units}$$

Draw parallel lines.



Draw intersecting lines.



### CHALLENGE

Draw a number line below that proves that 2,314 is smaller than 2,322.

Answers will vary.

Alexandro was planting seeds in his backyard. He put 5 seeds in the first row. He put 7 seeds in the 2<sup>nd</sup> row and 9 seeds in the 3<sup>rd</sup> row. If the pattern continues, how many seeds will be in the 5<sup>th</sup> row? Use the table below to help you solve the problem.

13 seeds

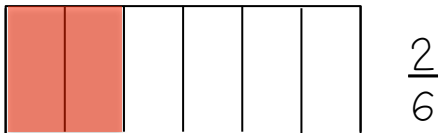
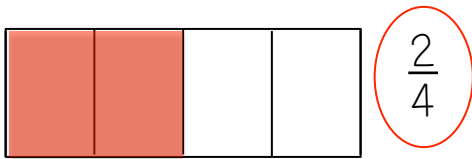
1 <sup>st</sup> Row	2 <sup>nd</sup> Row	3 <sup>rd</sup> Row	4 <sup>th</sup> Row	5 <sup>th</sup> Row
5	7	9	11	13

Durant was filling in the missing numbers on the number line below. He decided to count by 10s. Do you agree with him? Why or why not?

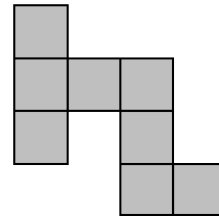


I disagree with Durant because counting by 10s would put 450 at a different location.

Shade the quadrilaterals below according to the fraction next to it. Then, circle the bigger fraction.

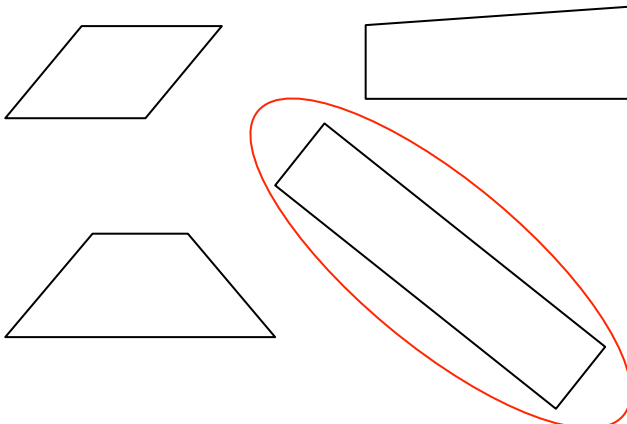


Mia said that the perimeter of the shape below was 8 units. What did she do wrong?



Mia found the area of the shape instead of the perimeter.

Circle the quadrilateral below that has 4 right angles.



### CHALLENGE

Briza was baking cookies. When she used 2 eggs, she got 10 cookies. When she used 3 eggs, she got 15 cookies. When she used 5 eggs, she got 25 cookies. How many cookies will she get if she uses 6 eggs?

30 cookies

2 eggs	3 eggs	4 eggs	5 eggs	6 eggs
10 cookies	15 cookies	20 cookies	25 cookies	30 cookies