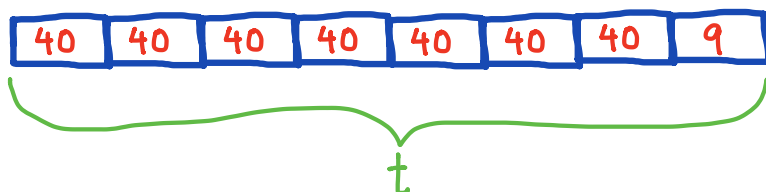Name _____   Date _____

Use the RDW process to solve the problem below. Use a letter to represent the unknown.

Sandra keeps her sticker collection in 7 albums. Each album has 40 stickers in it. She starts a new album that has 9 stickers in it. How many total stickers does she have in her collection?

| 40 | 40 | 40 | 40 | 40 | 40 | 40 | 9 |

t

$7 \times 40 = 280$

$280 + 9 = 289$

Sandra has 289 stickers in her collection.

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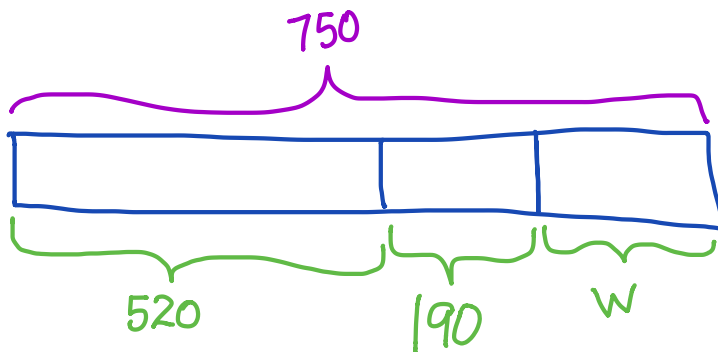Lesson 1:   Solve word problems in varied contexts using a letter to represent the unknown.

23

Name _____ Date _____

Use the RDW process to solve the problem below. Use a letter to represent the unknown.

Jaden's bottle contains 750 milliliters of water. He drinks 520 milliliters at practice and then another 190 milliliters on his way home. How many milliliters of water are left in Jaden's bottle when he gets home?

$$
\begin{array}{r}
520 \\
+\,190 \\
\hline
710
\end{array}
\qquad
\begin{array}{r}
750 \\
-710 \\
\hline
40
\end{array}
$$

750

520   190   w

w = 40

Jaden has 40 mL of water left.

EUREKA MATH™

Lesson 2:   Solve word problems in varied contexts using a letter to represent the unknown.
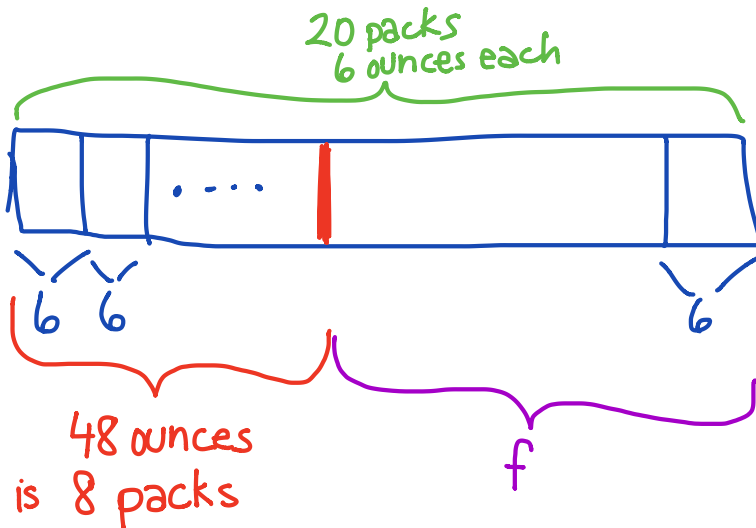
Name _____   Date _____

Use the RDW process to solve the problem below. Use a letter to represent the unknown.

Twenty packs of fruit snacks come in a box. Each pack weighs 6 ounces. Students eat some. There are 48 ounces of fruit snacks left in the box. How many ounces of fruit snacks did the students eat?

20 packs
6 ounces each

6 6

6

48 ounces
is 8 packs

f

$20 - 8 = 12$

They ate 12 packs.

$6 \times 12 =$

$6 \times 10 = 60$

$6 \times 2 = 12$

$60 + 12 = 72$

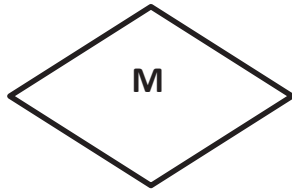The students ate 72 ounces of fruit snacks.

Solved by Duane   http://EMBARC.online

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MATH™

Lesson 3:   Share and critique peer solution strategies to varied word problems

NOTE: Students are not required to list every possible attribute.

Name _____   Date _____

List as many attributes as you can to describe each polygon below.

1.

M

- rhombus
- 4 sides with same length
- opposite angles equal
- two pairs of parallel sides
- parallelogram
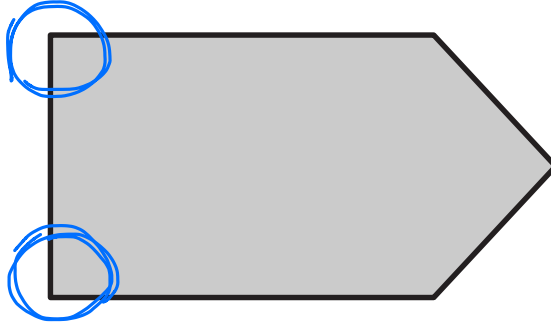- 4 sides (quadrilateral)
- has two diagonals

2.

N

- trapezoid
- 1 pair of parallel sides
- four sides (quadrilateral)
- has two diagonals

Solved by Duane   http://EMBARC.online

Name _____   Date _____

Jonah draws the polygon below. Use your ruler and right angle tool to measure his polygon. Then, answer the questions below.

1. Is Jonah's polygon a regular polygon? Explain how you know.

It is not a regular polygon because all the sides are not the same length.

2. How many right angles does his polygon have? Circle the right angles on his polygon.

There are 2 right angles.

3. How many sets of parallel lines does his polygon have?

There is one set of parallel lines.

4. What is the name of Jonah's polygon?

5 sides means this polygon is a pentagon.

Solved by Duane   http://EMBARC.online

Name _____   Date _____

Use a ruler and a right angle tool to help you draw a shape that matches the attributes of Jeanette's shape. Label your drawing to explain your thinking.

Jeanette says her shape has 4 right angles and 2 sets of parallel sides. It is not a regular quadrilateral.

Any rectangle would work as long as it isn't also a square.

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Lesson 6:   Draw polygons with specified attributes to solve problems.

Name _____   Date _____

Use your tetrominoes to make a rectangle that has an area of 20 square units. Then, color the grid to show how you made your rectangle. You may use the same tetromino more than once.

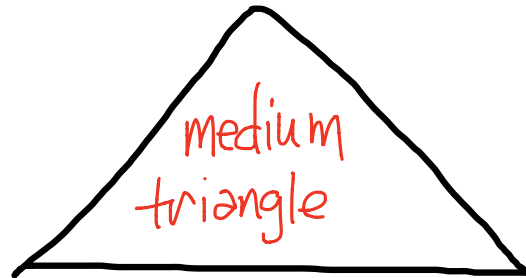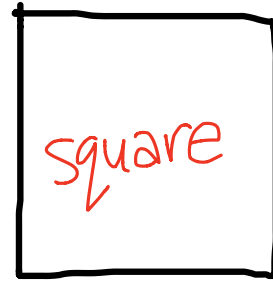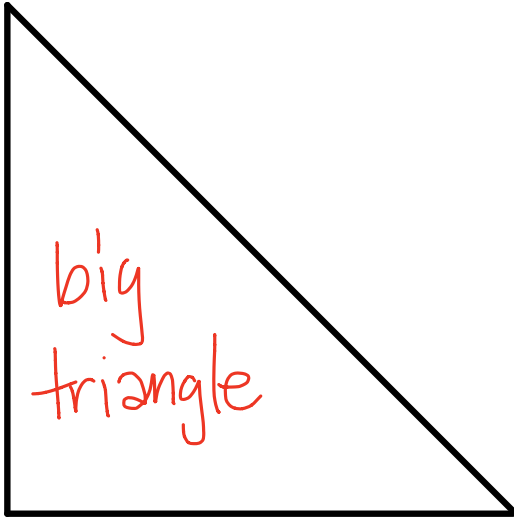**NOTE:** There are many possible answers.

Tetrominoes

Lesson 7:   Reason about composing and decomposing polygons using tetrominoes.   105

Name _____   Date _____

Choose three shapes from your tangram puzzle. Trace them below. Label the name of each shape, and describe *at least* one attribute that they have in common.

big
triangle

square

medium
triangle

All three figures have at least one right angle.

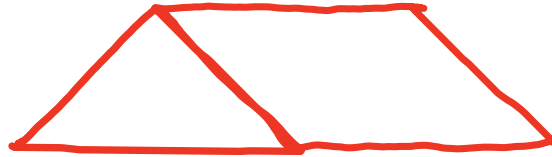NOTE: There are many possible solutions.

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Name _____   Date _____

Nancy uses her tangram pieces to make a trapezoid without using the square piece. Below, sketch how she might have created her trapezoid.

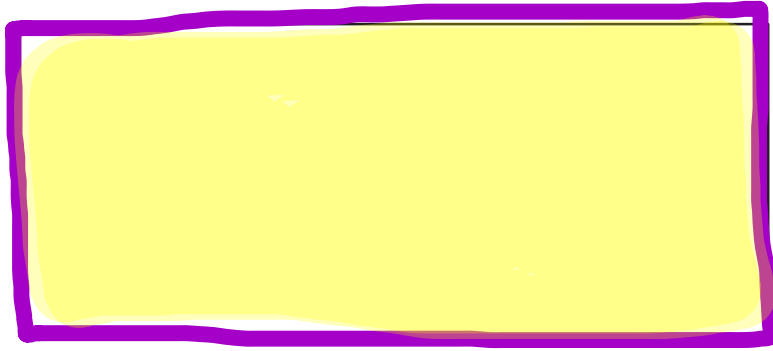One possibility is Nancy used the parallelogram and a small triangle.

Solved by Duane   http://EMBARC.online

Name _____   Date _____

Jason paints the outside edges of a rectangle purple. Celeste paints the inside of the rectangle yellow.

1. Use your crayons to color the rectangle that Jason and Celeste painted.

2. Which color represents the perimeter of the rectangle? How do you know?

The purple represents the perimeter of the rectangle because it is the boundary.
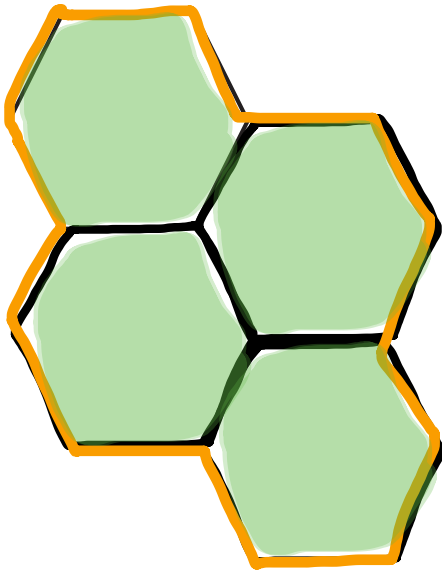
Name _____   Date _____

Estimate to draw at least four copies of the given regular hexagon to make a new shape, without gaps or overlaps. Outline the perimeter of your new shape with a highlighter. Shade in the area with a colored pencil.
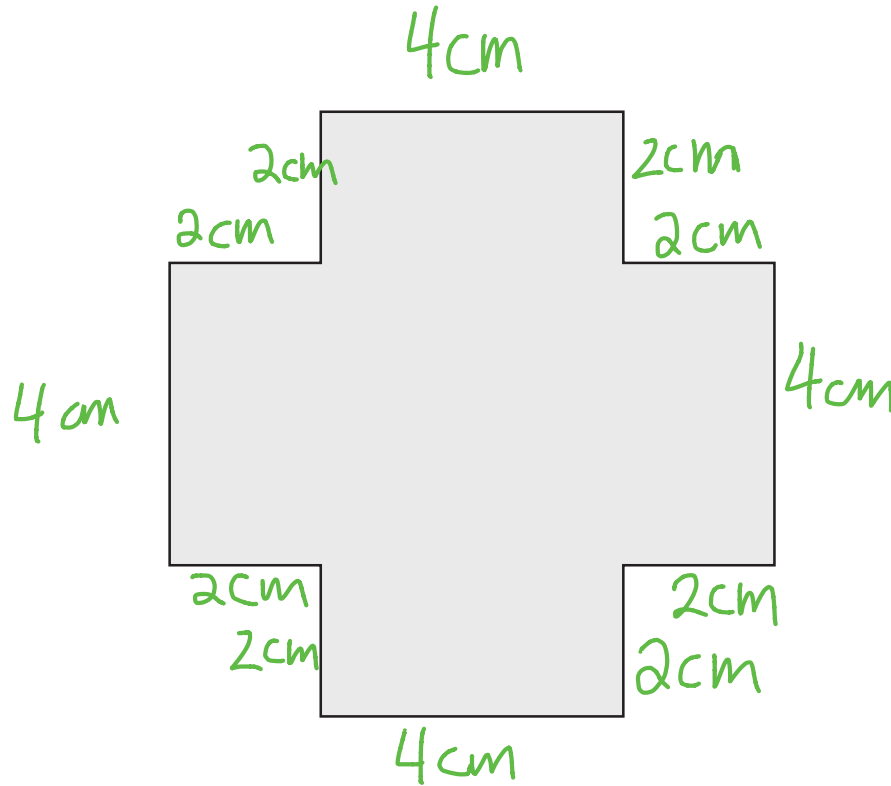
Perimeter is orange.
Area is green.

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Lesson 11:   Tessellate to understand perimeter as the boundary of a shape.
(Optional.)

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Name _____   Date _____

Measure and label the side lengths of the shape below in centimeters. Then, find the perimeter.

4cm

2cm   2cm
2cm   2cm

4 cm   4cm

2cm   2cm
2cm   2cm

4cm

4+2+2+ 4+2+2+ 4+2+2+ 4+2+2

Perimeter = _____

= 32 ___ cm

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Lesson 12:   Measure side lengths in whole number units to determine the
                     perimeter of polygons.

Name _____   Date _____

Which shape below has the greater perimeter? Explain your answer.

2 in	2 in

Shape A

2 in ... 2 in ... 2 in ... 2 in ... 2 in ... 2 in ... 2 in

4 in

Shape B

3 in ... 2 in ... 2 in ... 4 in
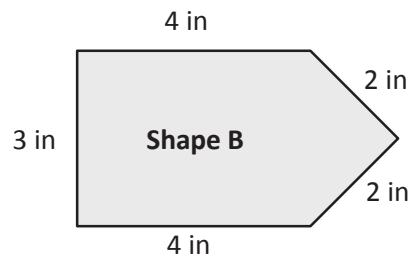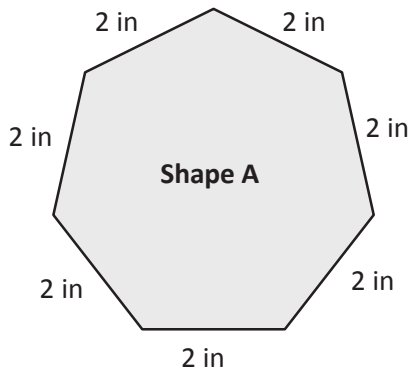
Shape A: 2+2+2+2+2+2+2 = 14 inches

Shape B: 4+2+2+4+3 = 15 inches

Shape B has the greater perimeter.

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Lesson 13:   Explore perimeter as an attribute of plane figures and solve problems.
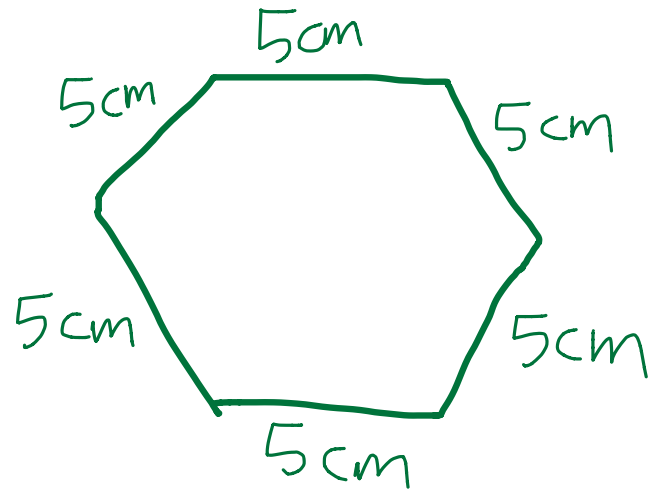
Name _____   Date _____

Travis traces a regular pentagon on his paper. Each side measures 7 centimeters. He also traces a regular hexagon on his paper. Each side of the hexagon measures 5 centimeters. Which shape has a greater perimeter? Show your work.

7c m   7cm   7cm   7cm   7cm

5cm   5cm   5cm   5cm   5cm   5cm
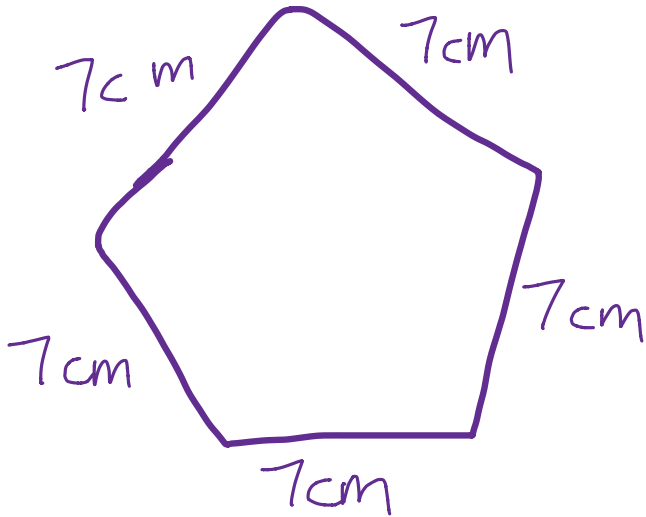
Perimeter: 7+7+7+7+7
= 5×7
= 35cm

Perimeter: 5+5+5+5+5+5
= 6×5
= 30cm

The pentagon has the greater perimeter.

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Lesson 14:   Determine the perimeter of regular polygons and rectangles when whole number measurements are unknown.

191
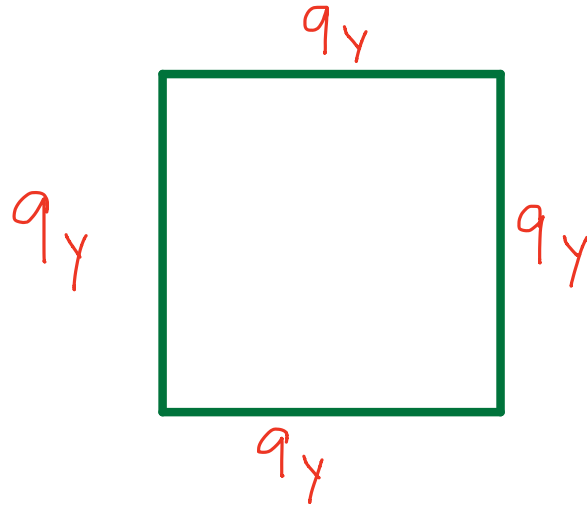
Name _____ Date _____

Marlene ropes off a square section of her yard where she plants grass. One side length of the square measures 9 yards. What is the total length of rope Marlene uses?

9 y

Perimeter: $9+9+9+9$

$= 4 \times 9$

$= 36$ yards

9 y ☐ 9 y

9 y

Marlene's rope is 36 yards long.

Solved by Duane   http://EMBARC.online

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Lesson 15: Solve word problems to determine perimeter with given side lengths.

203

Name _____   Date _____

Use your string to the find the perimeter of the shape below to the nearest quarter inch.
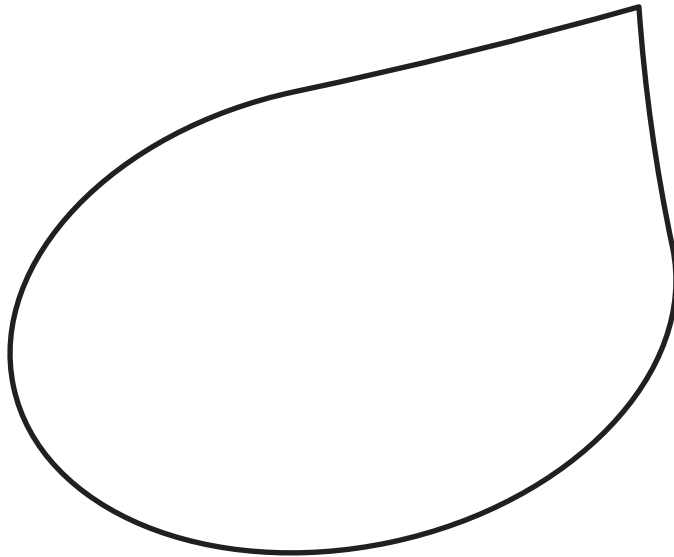
Answers will vary. We want students to be reasonably close. Accept a wide range of answers.
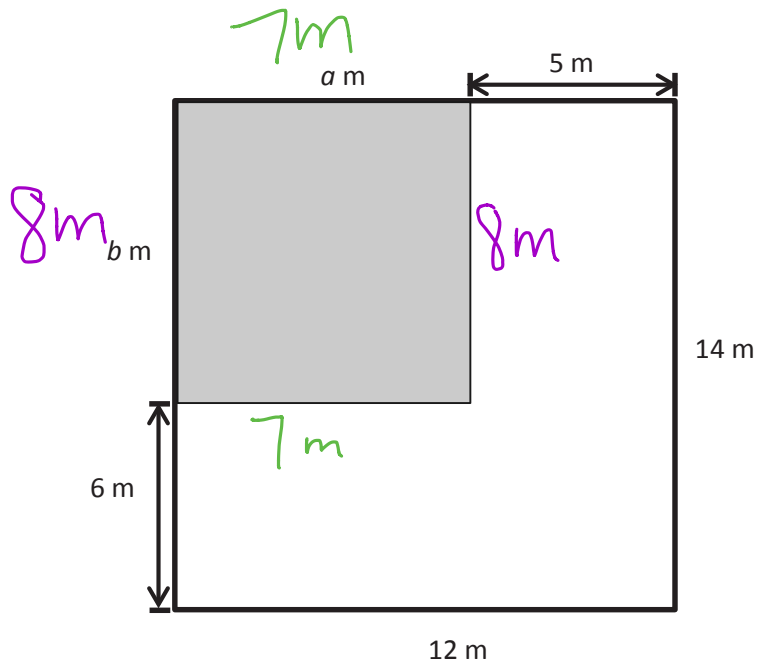
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Lesson 16:   Use string to measure the perimeter of various circles to the nearest quarter inch.

215

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Name _____   Date _____

Label the unknown side lengths. Then, find the perimeter of the shaded rectangle.

7m
a m   5 m

8m
b m   8m

$12m - 5m = 7m$

$14m - 6m = 8m$

14 m

7m

6 m

12 m

Perimeter: $8m + 7m + 8m + 7m$

$= 30 \text{ meters}$

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Lesson 17:   Use all four operations to solve problems involving perimeter and
unknown measurements.

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Name _____   Date _____

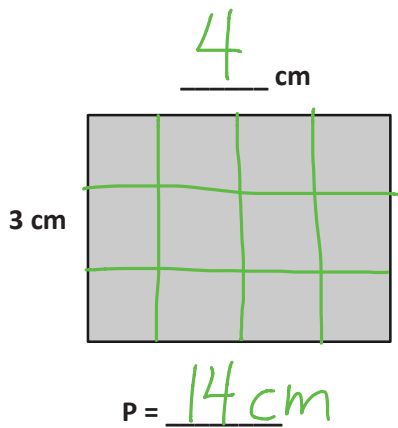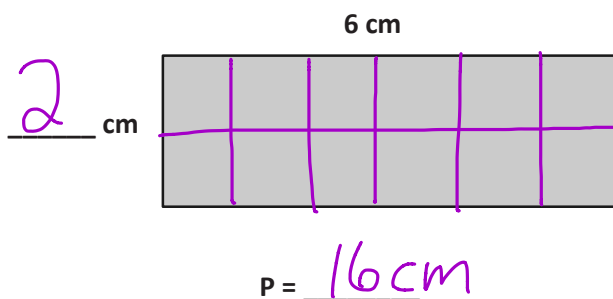Tessa uses square-centimeter tiles to build rectangles with an area of 12 square centimeters. She draws the rectangles as shown below. Label the unknown side lengths of each rectangle. Then, find the perimeter of each rectangle.

1 cm

12 cm

P = **26 cm**

$$\begin{array}{r} 12 \\ 12 \\ 1 \\ + 1 \\ \hline 26 \end{array}$$

4 cm

3 cm

P = **14 cm**

$$\begin{array}{r} 4 \\ 4 \\ 3 \\ + 3 \\ \hline 14 \end{array}$$

6 cm

2 cm

P = **16 cm**
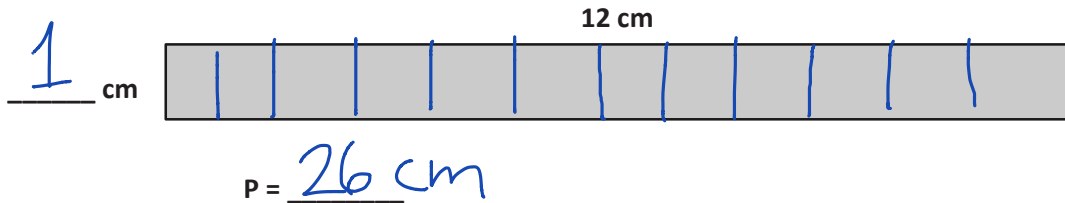
$$\begin{array}{r} 6 \\ 2 \\ 6 \\ + 2 \\ \hline 16 \end{array}$$

Solved by Duane   http://EMBARC.online

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Lesson 18:   Construct rectangles from a given number of unit squares and determine the perimeters.

Name _____   Date _____

Use unit square tiles to make rectangles for the given number of unit squares. Complete the chart to show how many rectangles you made for the given number of unit squares. You might not use all the spaces in the chart.

Number of unit squares = **20**

Number of rectangles I made: ___3___

Width	Length
1	20
2	10
4	5

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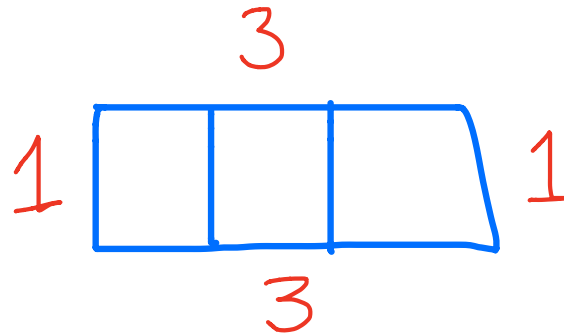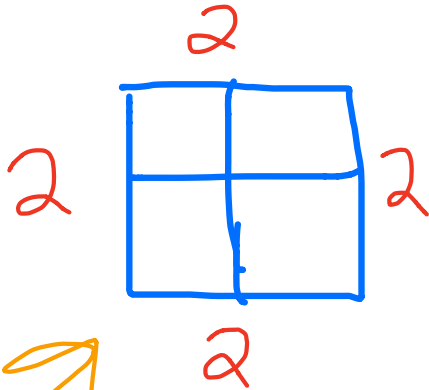**Lesson 19:**   Use a line plot to record the number of rectangles constructed from a given number of unit squares.

265

Name _____   Date _____

Use your square unit tiles to build as many rectangles as you can with a perimeter of 8 units.

    a.   Estimate to draw your rectangles below. Label the side lengths of each rectangle.

    b.   Find the areas of the rectangles in part (a) above.

Area is 4 square units.

Area is 3 square units.

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Lesson 20:   Construct rectangles with a given perimeter using unit squares and determine their areas.

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Name _____   Date _____

On the grid below, shade and label at least two different rectangles with a perimeter of 20 centimeters.

7

4

3   3

7

6   6

4

Other possibilities:
  2-by-8
  1-by-9
  5-by-5

Answers will vary

Solved by Duane   http://EMBARC.online

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Lesson 21: Construct rectangles with a given perimeter using unit squares and determine their areas.

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Name _____   Date _____

Suppose you have a rectangle with a perimeter of 2 cm. What can you conclude about the side lengths? Can all 4 sides of the rectangle measure a whole number of centimeters?

We know that :

- some of the side lengths will be fractions.
- some of the side lengths will be less than one.
- all the side lengths cannot be whole numbers

Lesson 22:   Use a line plot to record the number of rectangles constructed in Lessons 20 and 21.

303

Name _____   Date _____

Adriana traces a regular triangle to create the shape below. The perimeter of her shape is 72 centimeters. What are the side lengths of the triangle?
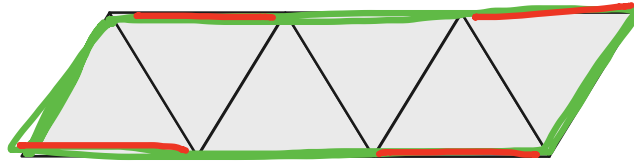
$8 \times \square = 72$

8 lengths equals 72 centimeters
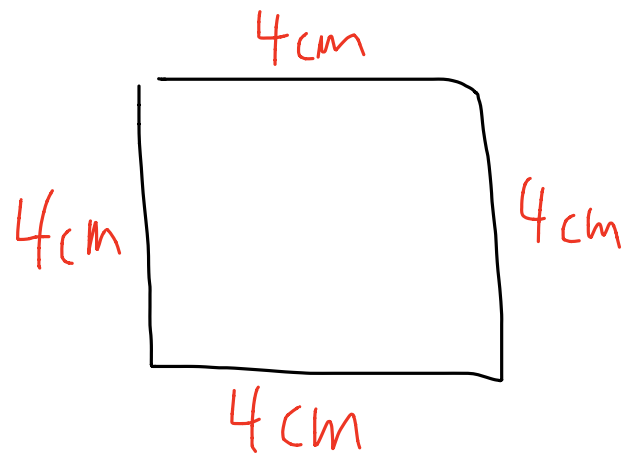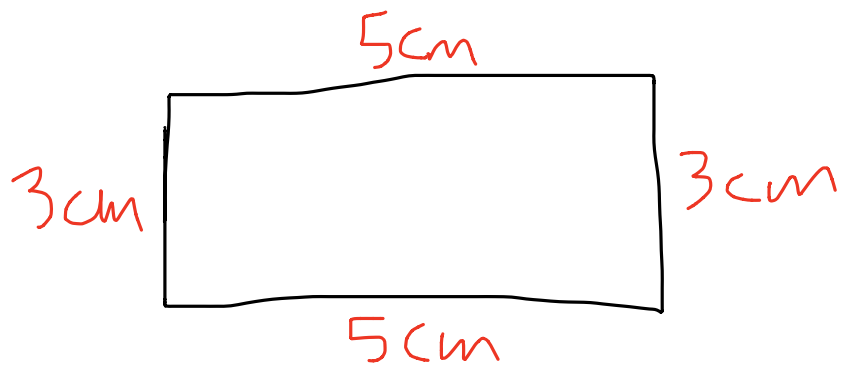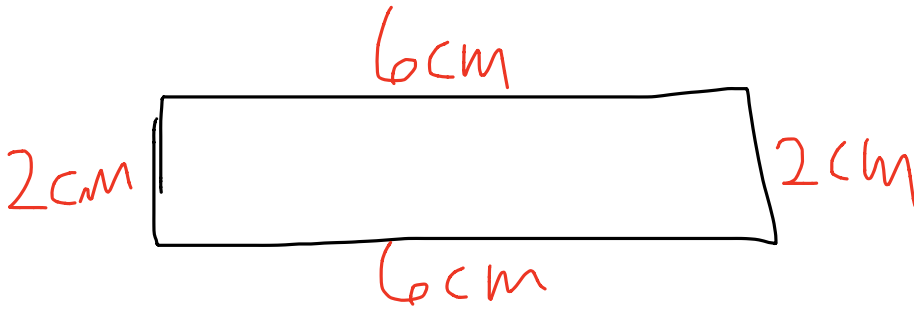   Each length must be 9 centimeters long.

Each side of the triangle is 9 cm long.

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Lesson 23:   Solve a variety of word problems with perimeter.

318

Name _____   Date _____

Estimate to draw three different rectangles with a perimeter of 16 centimeters. Label the width and length of each rectangle.

6 cm

2 cm   2 cm

6 cm

5 cm

3 cm   3 cm

5 cm

4 cm

4 cm   4 cm

4 cm

Answers will vary, so you will need to verify that the perimeters are 16 cm.

Solved by Duane   http://EMBARC.online

EUREKA MATH™

Lesson 24:   Use rectangles to draw a robot with specified perimeter measurements, and reason about the different areas that may be produced.

Name _____   Date _____

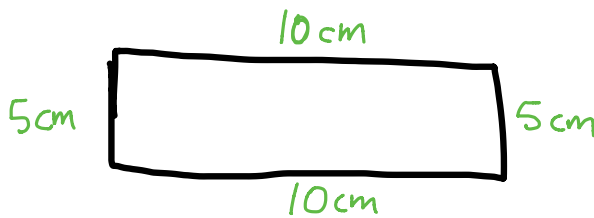1. Sketch rectangles with the following perimeters. Label the side lengths.

    a. 22 cm

    6cm

    5 cm   5 cm

    6cm

    b. 30 cm

    10 cm

    5cm   5 cm
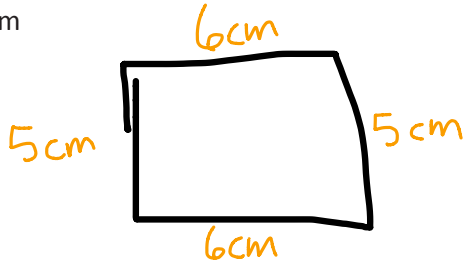
    10cm

2. Explain the steps you took to create the rectangles with the given perimeters.

I looked for two numbers that would have a sum equal
to HALF of the perimeter. That would give me the
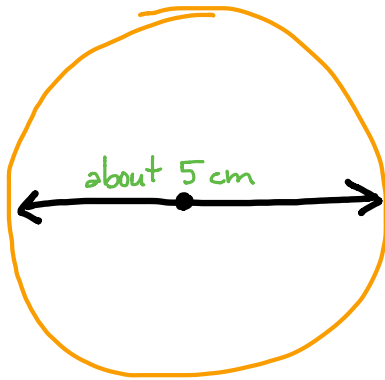length and width of the rectangle.

For example: $30 \div 2 = 15$ ... $5 + 10 = 15$

Solved by Duane   http://EMBARC.online

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Lesson 25:   Use rectangles to draw a robot with specified perimeter
measurements, and reason about the different areas that may be
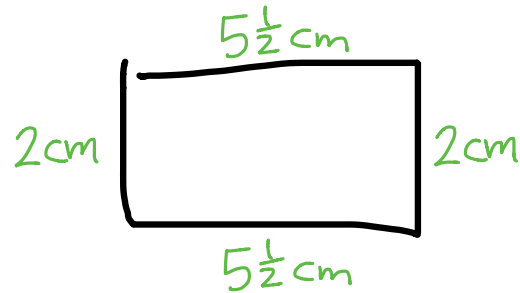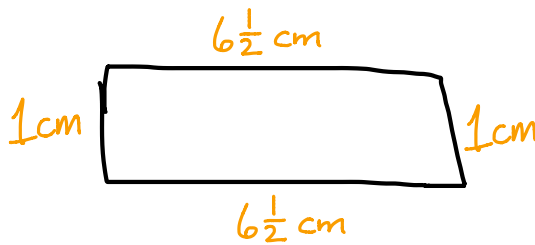produced.

337

Name _____ Date _____

1. Use string to help you sketch a circle with a perimeter of about 15 centimeters.

The circle should have a diameter of around 5 centimeters.

about 5 cm

2. Estimate to draw a rectangle with a perimeter of 15 centimeters. Label the width and length.

Answers will vary. Some possibilities...

$6\frac{1}{2}$ cm

1 cm   1 cm

$6\frac{1}{2}$ cm

$5\frac{1}{2}$ cm

2 cm   2 cm

$5\frac{1}{2}$ cm

Hint: the length and width will have a sum of $7\frac{1}{2}$ cm.

Solved by Duane   http://EMBARC.online

Lesson 26: Use rectangles to draw a robot with specified perimeter measurements, and reason about the different areas that may be produced.

349

Name _____   Date _____

1. Record the perimeters and areas of Rectangles A and B in the chart below.

5 cm

5 cm   **A**

2 cm

8 cm   **B**
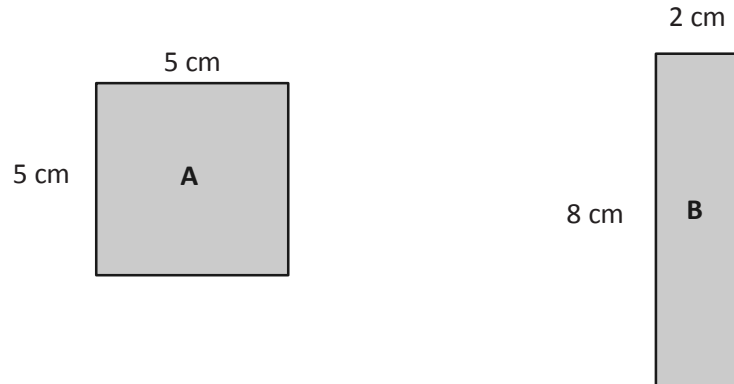
Rectangle:	Width and Length:	Perimeter	Area
A	__5__ cm by __5__ cm	20 cm	25 sq cm
B	__2__ cm by __8__ cm	20 cm	16 sq cm

2. What is the same about Rectables A and B? What is different?

The two rectangles have the exact same perimeter, but their areas are different.

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Lesson 27:   Use rectangles to draw a robot with specified perimeter measurements, and reason about the different areas that may be produced.

Name _____   Date _____

Jennifer measures her rectangular sandbox and finds the width is 8 feet and the length is 6 feet.

   a.   Estimate to draw Jennifer's sandbox, and label the side lengths.

6 ft

8 ft
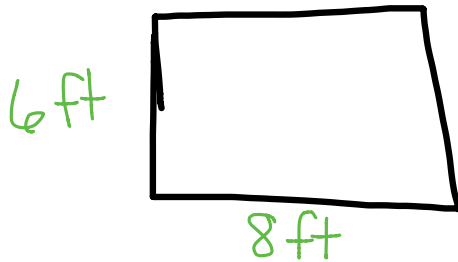
   b.   What is the area of Jennifer's sandbox?

$6 \times 8 = 48$

The area is 48 sq. ft.

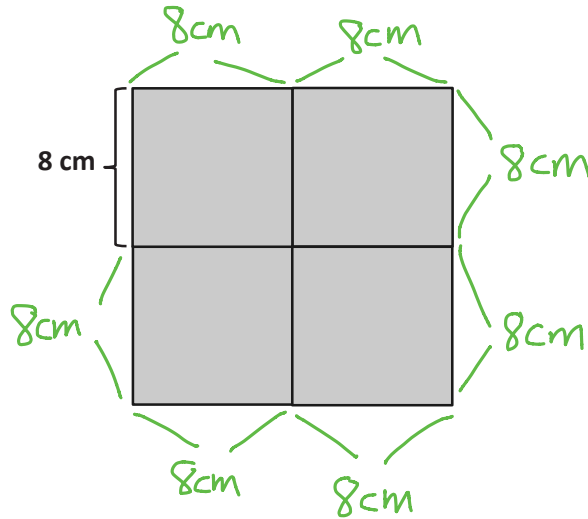   c.   What is the perimeter of Jennifer's sandbox?

$6 + 8 + 6 + 8 = 28$

The perimeter is 28 feet.

Solved by Duane   http://EMBARC.online

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Lesson 28:   Solve a variety of word problems involving area and perimeter using all four operations.

Name _____   Date _____

Jeannette draws four identical squares as shown below to make a new, larger square. The length of one of the small square sides is 8 centimeters. What is the perimeter of the new, larger square?

$8 \times 8 = 64$

The perimeter of the large square is 64 centimeters.

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Lesson 29:   Solve a variety of word problems involving area and perimeter using al four operations.

388
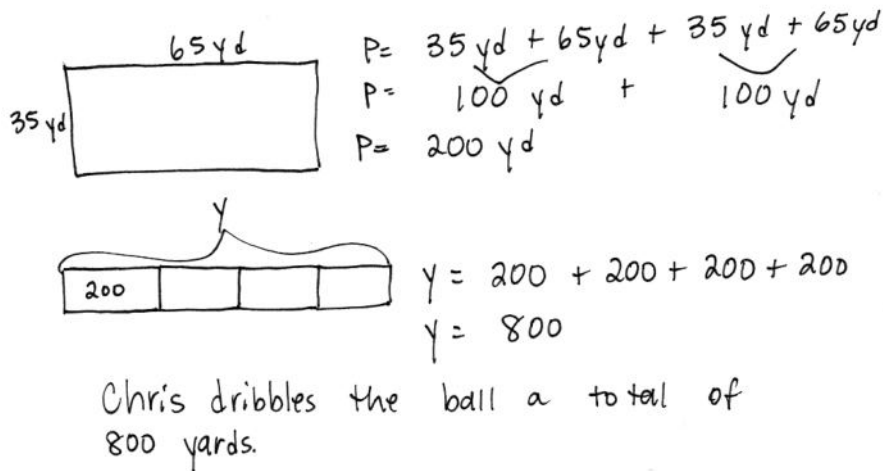
Name _____   Date _____

Jayden solves the problem as shown below.

The recreation center soccer field measures 35 yards by 65 yards. Chris dribbles the soccer ball around the field 4 times. What is the total number of yards Chris dribbles the ball?

1. What strategies did Jayden use to solve this problem?

Jayden drew a picture. Then he found the perimeter. Then found the total of <u>four</u> perimeters.

2. What did Jayden do well?

Jayden's strategy was efficient and accurate.
His drawings were very effective.

Solved by Duane   http://EMBARC.online