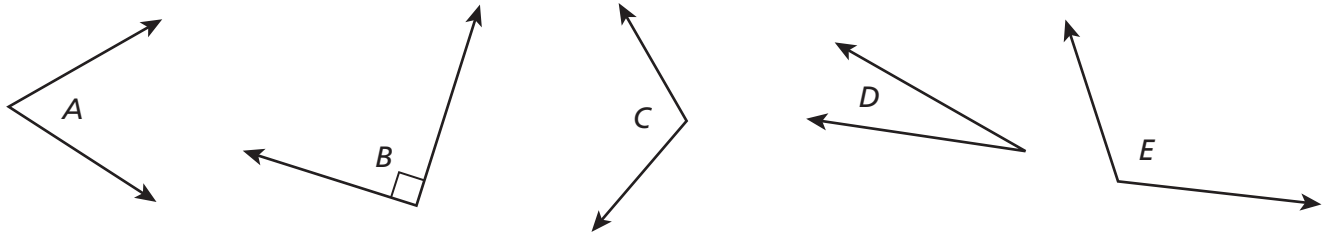**Name** _____   **Date** _____

Look at the angles below.

1. Which angles are right angles? ____*B*____

2. Which angles are larger than a right angle? __*C* and *E*__

3. Which angles are smaller than a right angle? __*A* and *D*__

**Use the triangles for 4–7. Write *W*, *X*, *Y*, or *Z*. Then complete the sentences.**
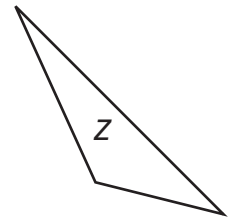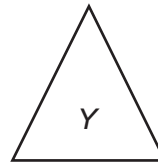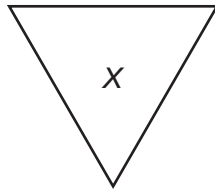
4. Triangle __*X*__ has 3 angles smaller than a right angle and __3__ sides of equal length.

5. Triangle __*Z*__ has 1 angle larger than a right angle and __0__ sides of equal length.

6. Triangle __*W*__ has 1 right angle and __0__ sides of equal length.

7. Triangle __*Y*__ has 3 angles smaller than a right angle and __2__ sides of equal length.

Draw an example of each figure described below. Then name the figure. Check students' drawings.
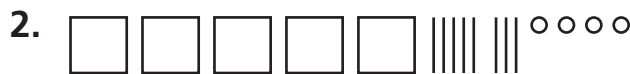
8. a polygon with 6 sides and 6 angles __hexagon__

9. a polygon with 4 sides and 4 angles __quadrilateral__

10. a polygon with 8 sides and 8 angles __octagon__

Remembering

Write the number for each place value drawing.

1. □□□□□ ▌▌▌▌ ∘∘
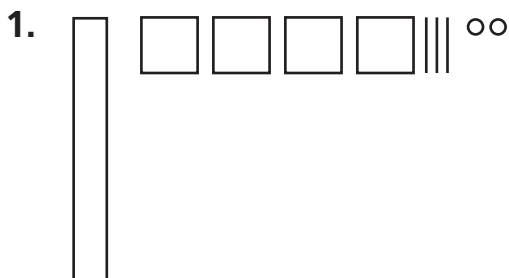
_____1,432_____

2. □□□□□ ▌▌▌▌ ▌▌▌ ∘∘∘∘

_____584_____

Write the number.

3. 600 + 30 + 8 = _____638_____

4. 200 + 50 + 1 = _____251_____

5. 8 hundreds + 7 ones = _____807_____

6. 2 thousands + 2 tens + 4 ones = _____2,024_____

Solve each problem. Label your answer.

> There are 147 third grade students going to the theater. Each row at the theater has ten seats.

7. How many rows of seats will the third grade students fill?

_____14 rows_____

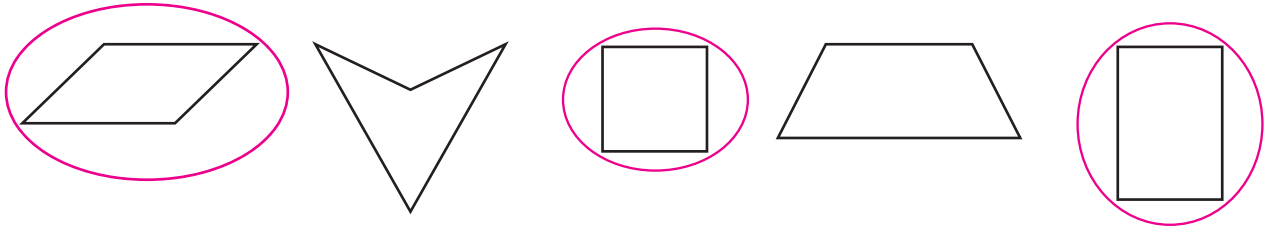**8.** How many students will be seated in a row that isn't filled?

_____7 students_____

9. Stretch Your Thinking Draw a right angle triangle with 0 sides of equal length.

Check students' drawings. Possible drawing shown.

1. Circle the figures that are parallelograms.

Read each sentence and write whether it is *true* or *false*.

2. All squares are rectangles. ___ *true* ___

3. All parallelograms are squares. ___ *false* ___

4. All quadrilaterals are parallelograms. ___ *false* ___

5. The opposite sides of a square are always parallel.
___ *true* ___

Circle all the words that describe the figure.

6.

square
~~rectangle~~
~~parallelogram~~
~~quadrilateral~~

7.

parallelogram
~~quadrilateral~~
rectangle
~~trapezoid~~

8.
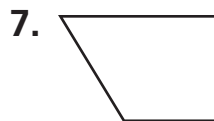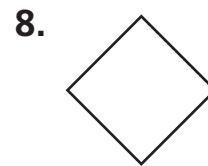
~~rectangle~~
~~parallelogram~~
~~quadrilateral~~
~~rhombus~~

Remembering

Round each number to the nearest hundred.

1. 554 _____600_____   **2.** 748 _____700_____   **3.** 381 _____400_____

Draw a Math Mountain and write an equation to solve each problem.   *Show your work.*

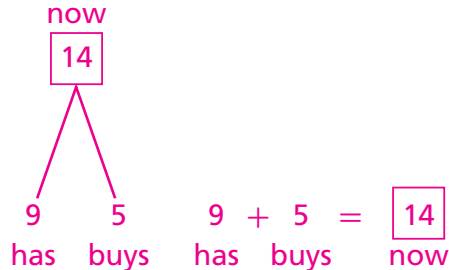**4. Take Apart** Abby is baking 12 rolls. She makes 8 of them plain. She makes the rest of them with cinnamon. How many rolls have cinnamon?

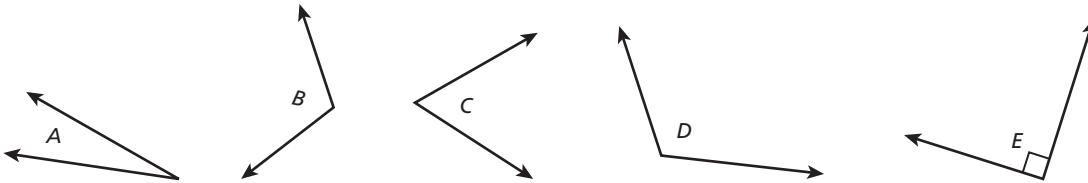_____**4 rolls**_____

total
12

8   4
plain cinnamon

$12 - 8 = \boxed{4}$
total plain cinnamon

5. Add To Danny has 9 CDs. He buys 5 more CDs at a yard sale. How many CDs does Danny have now?

_____**14 CDs**_____

now
14

9   5
has   buys

$9 + 5 = \boxed{14}$
has   buys   now

Look at the angles below.

B

A

C

D

E

6. Which angles are larger than a right angle? _____**B and D**_____

7. Which angles are smaller than a right angle? _____**A and C**_____

8. Which angles are right angles? _____**E**_____

9. Stretch Your Thinking Explain how a square is a rectangle.

Possible answer: A rectangle has 2 pairs of sides of equal length and 4 right angles. A square also has 4 right angles. A square is a special rectangle because all the sides are the same length.

Name _____ **Date** _____

1. Draw a parallelogram with no right angles.

2. Draw a parallelogram with right angles.

3. Draw a rectangle with equal side lengths. Drawings will vary.

Draw Quadrilaterals **239**
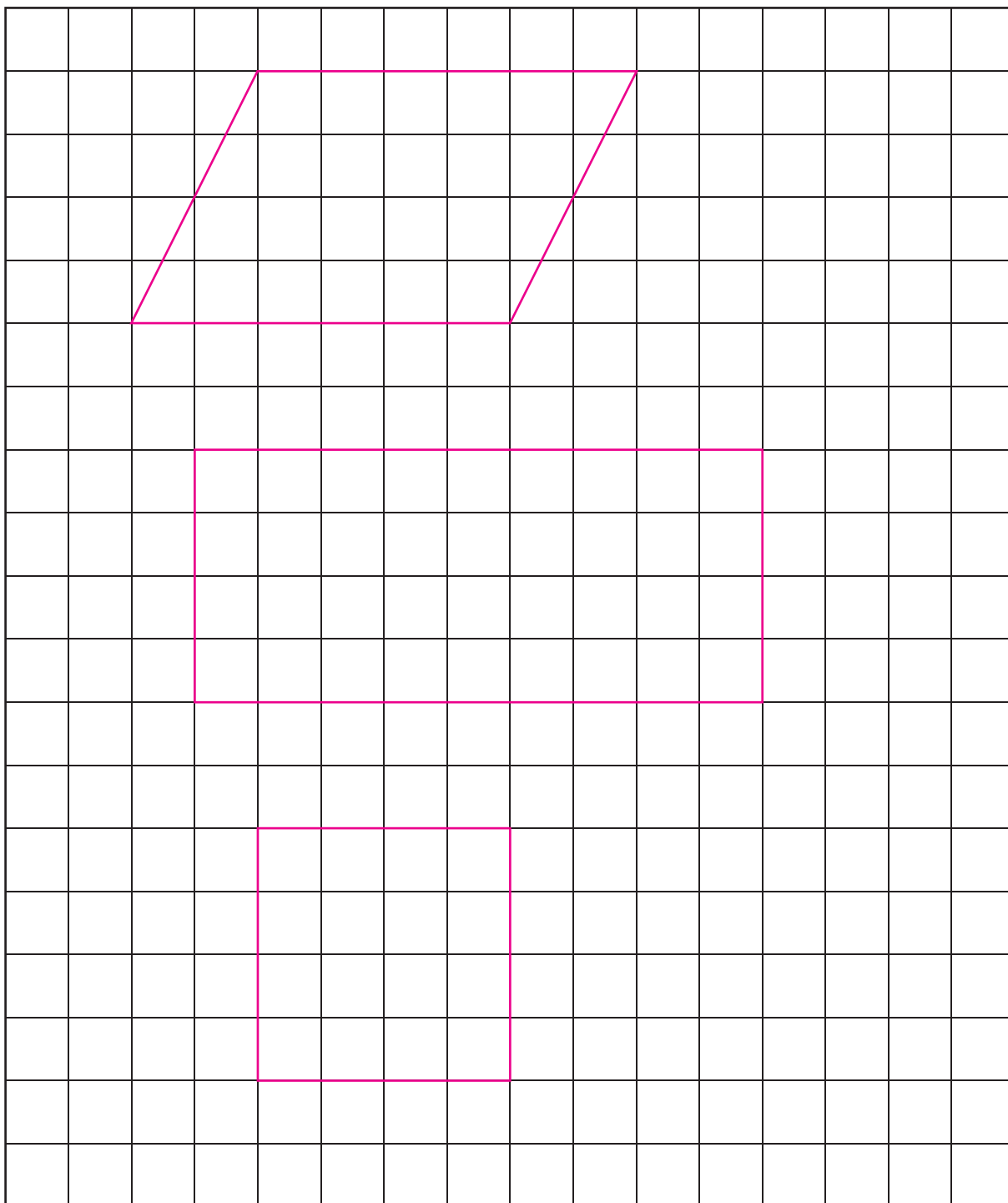
Remembering

Use rounding to decide if the answer is reasonable.
Then find the answer to see if you were right.

1. $136 - 87 = 49$

reasonable; 49

2. $94 - 56 = 83$

not reasonable; 38

3. $165 + 28 = 163$

not reasonable; 193

Solve each problem. Label your answers.

Show your work.

4. Sierra has 13 stuffed animals. Five of them are
polar bears. The rest are penguins. How many
penguins does Sierra have?

Check student's work.

8 penguins

5. Ben has a CD tower with 54 CDs. There are
6 shelves. Each shelf has an equal number of
CDs. How many CDs are on each shelf?

9 CDs

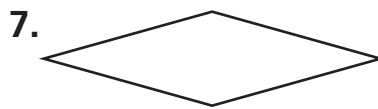**Circle all the words that describe the figure.**

6.

parallelogram

~~quadrilateral~~

rectangle

~~trapezoid~~

7.

rectangle

~~parallelogram~~

~~quadrilateral~~

~~rhombus~~

8.
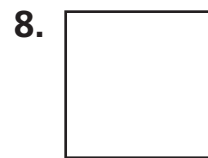
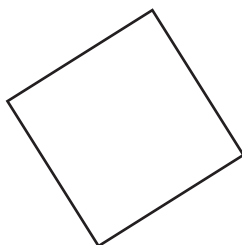~~square~~

~~rectangle~~

~~parallelogram~~

~~quadrilateral~~

9. Stretch Your Thinking Charlotte says her porch is a
parallelogram that has four equal sides and no right
angles. Draw a shape that matches the description of
Charlotte's porch. Check student's drawings. Drawings should be in the
shape of a rhombus.

Draw Parallelograms and Rectangles

Circle every name that describes the figure.

1. (quadrilateral)

parallelogram

rectangle

(trapezoid)

2. (quadrilateral)

(parallelogram)

(rectangle)

(square)

3. (quadrilateral)

(parallelogram)

rectangle

square

Draw each figure.   Possible drawings are shown.

4. Draw a quadrilateral that is *not* a square.

5. Draw a parallelogram that is *not* a square.
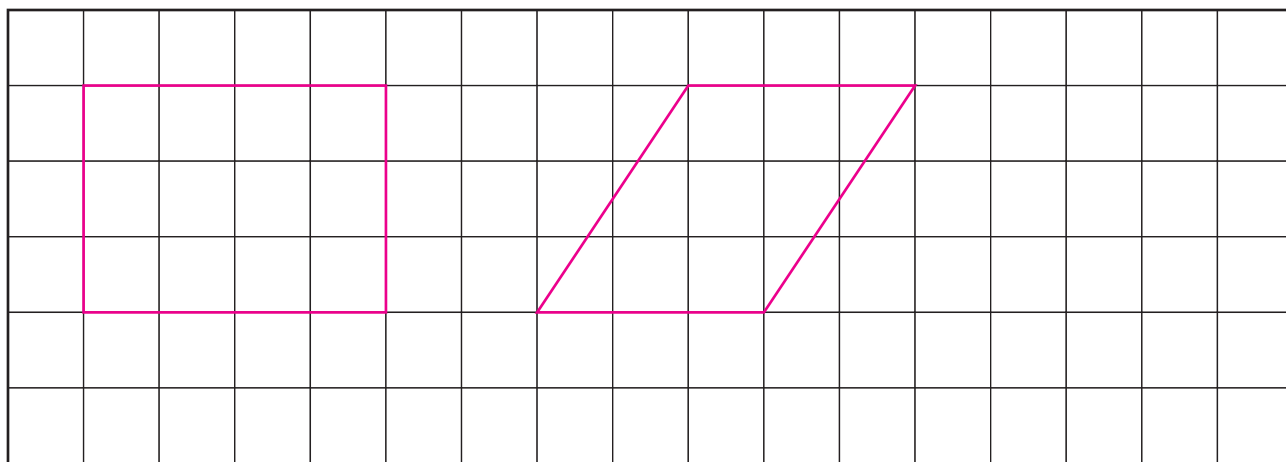
6. Explain why it is not possible to draw a square that is not a parallelogram.
   Since all squares have two pairs of opposite sides
   that are parallel, all squares are parallelograms.

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Name _____ **Date** _____

Remembering

Unscramble the place values and write the number.

1. 4 ones + 6 hundreds ___604___

2. 2 ones + 3 hundreds + 5 tens ___352___

3. 8 tens + 9 hundreds ___980___

## Solve each problem. Label your answers.

Show your work.

4. Autumn has some stickers. She uses 16 of them. Now she has 18 left. How many stickers did she start with?

___34 stickers___

Check student's work.

5. Landon owns some video games. His friend owns 19 video games. Together they own 37 video games. How many video games does Landon own?

___18 video games___

6. Draw a parallelogram with no right angles. Drawings will vary.
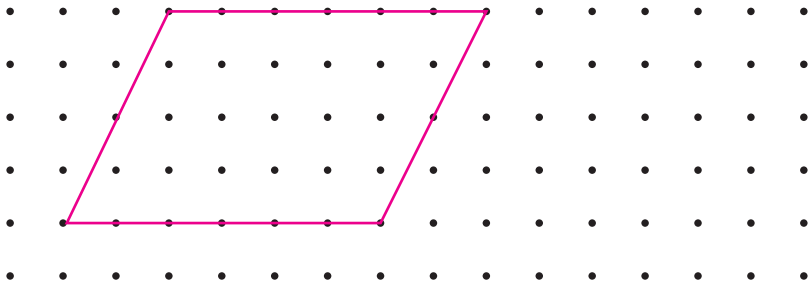
7. Stretch Your Thinking Draw a quadrilateral with sides that are not equal.

Check student's drawings. Drawings should be of a shape with four sides that are not equal in length. Possible drawing shown.

Classify Quadrilaterals

Name _____ **Date** _____
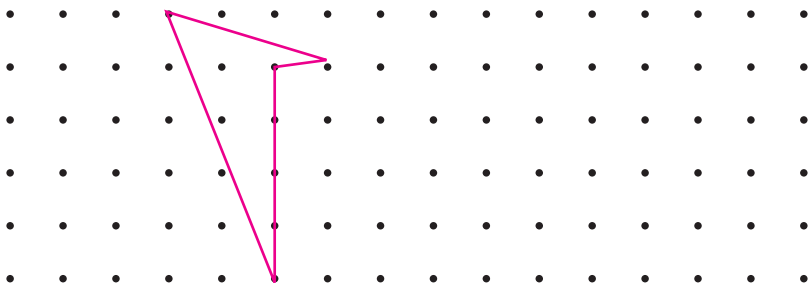
Draw each rectangle on the dot paper. Find the perimeter and area.

1. A rectangle 5 cm long and 3 cm wide

Perimeter = ___16 cm___

Area = ___15 sq cm___

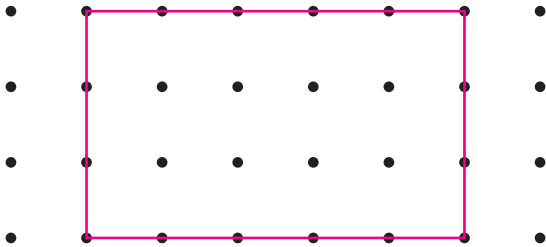**2.** A rectangle 3 cm long and 3 cm wide
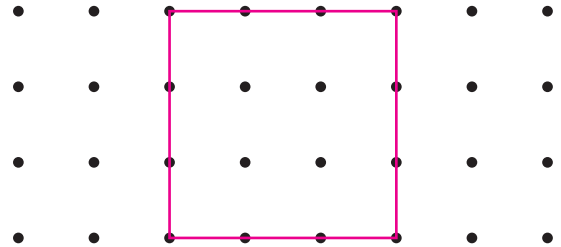
Perimeter = ___12 cm___

Area = ___9 sq cm___

Find the perimeter and area of each figure. Remember to include the correct units in your answers.

3.

|—1 cm—|
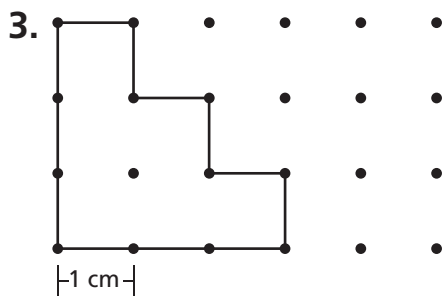
Perimeter = ___12 cm___

Area = ___6 sq cm___

4.
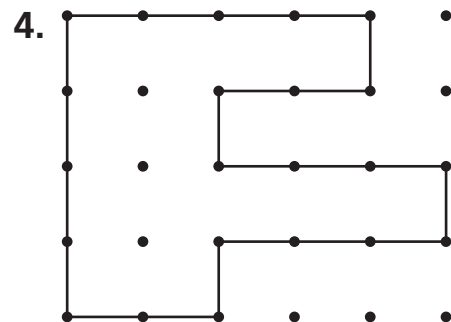
Perimeter = ___22 cm___

Area = ___13 sq cm___

5. Harvey wants to paint one wall in his room with squares of different colors. He wants the sides of each square to measure 1 foot. He does not want to repeat any color. The wall is 8 feet high and 10 feet long. How many different colors does Harvey need?

___80 different colors___

1 ft

1 ft

Remembering

Solve the problem using a numerical method and a proof drawing.

1. The stadium snack bar has 478 cups in the dispenser. The manager opens up a new package, and puts 335 more cups into the dispenser. How many cups are now in the dispenser?

478
+335
813

1 new hundred   1 new ten

8 hundreds   1 ten   3 ones
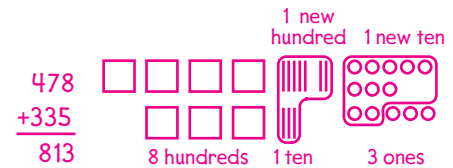
813 cups

Draw and label Comparison Bars to show each situation.

2. Marissa has 4 fewer strawberries than Amy has.

Marissa | | 4

Amy | |

3. Carter has 6 more books than Juliana has.

Juliana | | 6
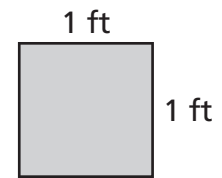
Carter | |

Circle every name that describes the figure.
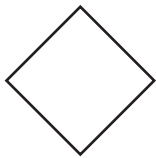
4. (quadrilateral)

(parallelogram)

(rectangle)

(square)

5. (quadrilateral)

parallelogram

rectangle

(trapezoid)

6. (quadrilateral)

(parallelogram)

rectangle

square

7. Stretch Your Thinking Draw a shape that has a perimeter of 12 cm and an area of 6 sq cm.

Check student's drawing. Possible drawing is shown.

1 cm

Distinguish Between Perimeter and Area

Write an equation for the area of each rectangle.

1.

```
      3   +       7
 ┌──────┬────────────┐
 │      │            │
6│      │            │
 │      │            │
 └──────┴────────────┘
```

$(6 \times 3) + (6 \times 7) = 6 \times 10$

2.

```
      3  +    6
 ┌──────┬────────┐
 │      │        │
5│      │        │
 └──────┴────────┘
```
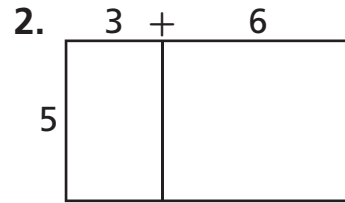
$(5 \times 3) + (5 \times 6) = 5 \times 9$

Find the unknown side length in each diagram.

3.

```
        8 in.
 ┌──────────────┐
 │              │
?│              │
 │              │
 └──────────────┘
```
Area = 56 sq in.

7 in.

4.
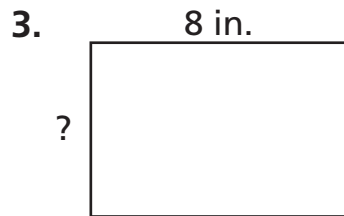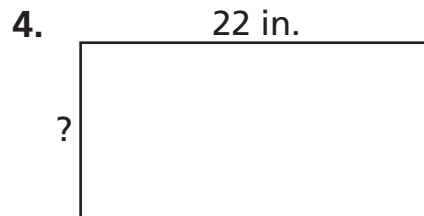
```
           22 in.
 ┌────────────────────┐
 │                    │
?│                    │
 │                    │
 └────────────────────┘
```
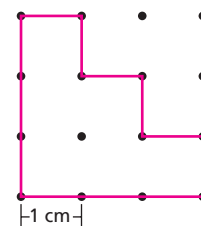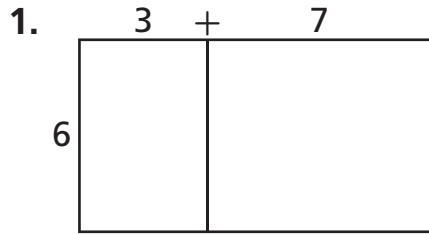Perimeter = 66 in.

11 in.

5.
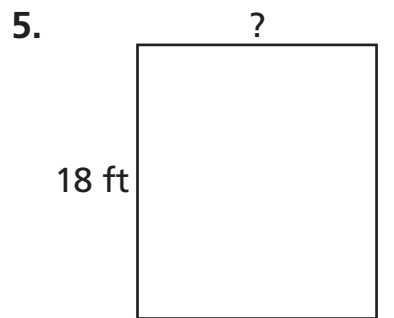
```
          ?
 ┌──────────────┐
 │              │
 │              │
18 ft           │
 │              │
 │              │
 └──────────────┘
```
Perimeter = 50 ft

7 ft

6.
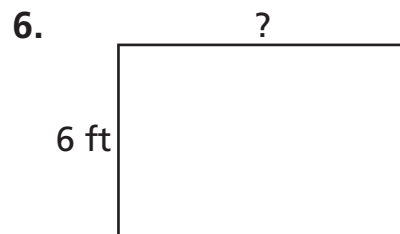
```
          ?
 ┌──────────────┐
 │              │
6 ft            │
 │              │
 └──────────────┘
```
Area = 54 sq ft

9 ft

Solve.

7. Sarah is lining a square tray with 1 inch square tiles. The side length of the tray is 9 inches. How many tiles does Sarah need?

81 tiles

8. Mark is gluing a ribbon around the sides of a picture frame. The frame is 11 inches long and 7 inches wide. How much ribbon does Mark need?

36 inches

Remembering

Add or subtract.

1. 465	**2.** 579	**3.** 600	**4.** 539
+ 184	− 498	− 285	+ 281
649	**81**	**315**	**820**

Solve each problem. Label your answers.   *Show your work.*

5. Kenzie bakes 9 oatmeal cookies. Kenzie bakes 7 fewer cookies than Lisa. How many oatmeal cookies does Lisa bake?

16 oatmeal cookies

6. Hayden reads 8 books over the summer. He reads 5 more books than Max. How many books does Max read?

3 books

Find the perimeter and area of each figure. Remember to include the correct units in your answers.

7.

$\vdash$1 cm$\dashv$
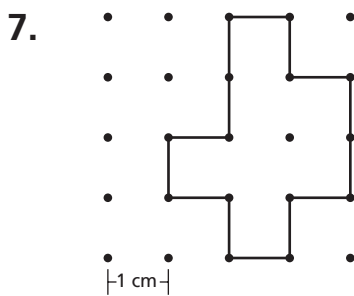
Perimeter = **14 cm**

Area = **7 sq cm**

8.
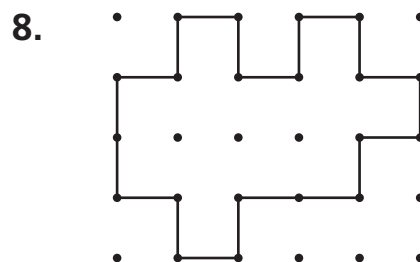
Perimeter = **20 cm**

Area = **12 sq cm**

9. Stretch Your Thinking Fill in the unknown numbers. Explain how you solved.

Possible answer: The area is 54 sq cm. The length times the width equals 54. I know 54 ÷ 6 = 9, so the numbers on top must be addends of 9. The line divides the rectangle near the middle, so I chose 4 and 5.

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

6

Area = 54 sq cm

![Homework]

Complete.

1. On a centimeter dot grid, draw all possible rectangles with a perimeter of 16 cm and sides whose lengths are whole centimeters. Label the lengths of two adjacent sides of each rectangle.

2. Find and label the area of each rectangle. Then complete the table.

| **Rectangles with Perimeter 16 cm** ||
Lengths of Two Adjacent Sides	Area
1 cm and 7 cm	7 sq cm
2 cm and 6 cm	12 sq cm
3 cm and 5 cm	15 sq cm
4 cm and 4 cm	16 sq cm

3. Compare the shapes of the rectangles with the least and greatest areas.

Possible answer: The rectangle with the least area is long and skinny; the rectangle with the greatest area is a square.

4. On a centimeter dot grid, draw all possible rectangles with an area of 16 sq cm and sides whose lengths are whole centimeters. Label the lengths of two adjacent sides of each rectangle.

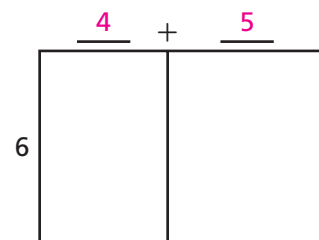**5.** Find and label the perimeter of each rectangle. Then complete the table.

| **Rectangles with Area 16 sq cm** ||
Lengths of Two Adjacent Sides	Perimeter
1 cm and 16 cm	34 cm
2 cm and 8 cm	20 cm
4 cm and 4 cm	16 cm

6. Compare the shapes of the rectangles with the least and greatest perimeters.

Possible answer: The rectangle with the least perimeter is a square; the rectangle with the greatest perimeter is long and skinny.

Students in Schools

School	Number
Rivers Elementary	269
Pine Middle School	382
Audubon High School	468

Write an equation and solve the problem.   *Show your work.*

1. What is the total number of students at Audubon
   High School and Rivers Elementary?
   <u>737 students; 468 + 269 = *n*, *n* = 737</u>

2. The total number of which two schools is about
   900 students?
   Pine Middle and Audubon High; 400 + 500 = *n*, *n* = 900

Read the problem. Cross out any extra information or circle the hidden information. Then solve.

3. Brian has 8 rolls in one bag and a (dozen) in another
   bag. How many rolls does Brian have?
   <u>20 rolls</u>

Find the unknown side length in each diagram.

4.
```
        7 in.
   ┌──────────────┐
 ? │              │
   └──────────────┘
     Area = 42 sq in.
```
<u>6 in.</u>
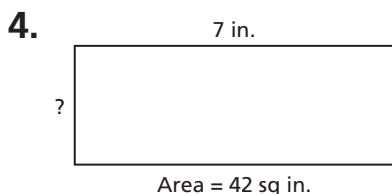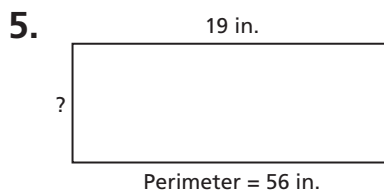
5.
```
         19 in.
   ┌──────────────┐
 ? │              │
   └──────────────┘
    Perimeter = 56 in.
```
<u>9 in.</u>

6. **Stretch Your Thinking** Give an example of a square
   that has the same number for its area and perimeter.
   Possible answer: A square with a side length of 4 cm
   has a perimeter of 16 cm and an area of 16 sq cm.

Decompose each figure into rectangles.
Then find the area of the figure. Drawings will vary.

1.

40 square units

2.

76 square units

3.

4.

45 square units   45 square units
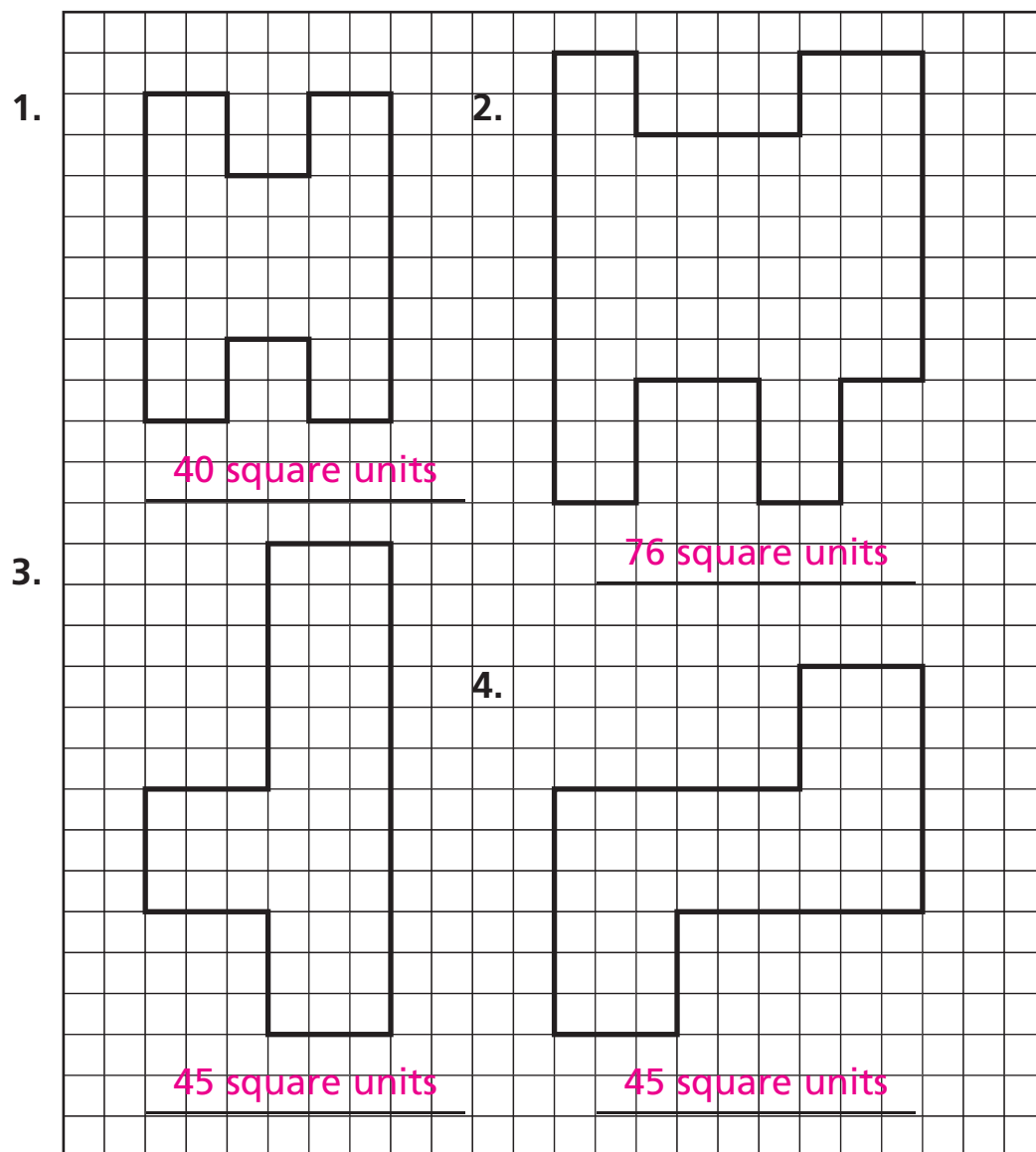
5. Choose one figure from Exercises 1–4. Explain how
   and why you decomposed it as you did.
   Possible answer: I decomposed Figure 4 into 5 squares,
   each with an area of 9 square units, because then I
   could just multiply 5 × 9 to get the total area.

Remembering

**Make a proof drawing and subtract numerically.
Show your ungroupings.**

1. Mrs. Razaki has 235 programs to hand out at the
concert. So far she has handed out 72. How many
programs does she have left?

$$\begin{array}{r} {\scriptstyle 1\ 13} \\ \cancel{2}\cancel{3}5 \\ -72 \\ \hline 163 \end{array}$$

☐ ⊠ ⫴ ∘∘∘∘∘

163 programs

**Write the first step question and answer. Then solve
the problem.**

2. Dominic puts his cars in 6 rows with 5 in each row.
His sister changes them into 3 rows with the same
number in each row. How many cars did she put
in each row?

How many cars does Dominic have? 30 cars;

10 cars

Complete.

3. On centimeter dot paper, draw
all the possible rectangles with a
perimeter of 12 cm and sides whose
lengths are whole numbers. Label
the lengths of two adjacent sides
of each rectangle.

4. Find and label the area of each
rectangle. Then complete the table.

5. Stretch Your Thinking Gwen decomposes
the figure into 4 rectangles and 1 square.
Draw lines on the figure to show how Gwen
decomposed the figure. Then find the area.

36 sq units

Rectangles with Perimeter 12 cm

Lengths of Two Adjacent Sides	Area
1 cm and 5 cm	5 sq cm
2 cm and 4 cm	8 sq cm
3 cm and 3 cm	9 sq cm

Check student's drawings.
Possible drawings shown.

Solve. Circle whether you need to find a perimeter, an area, or an unknown side length. Draw a diagram to represent each situation.

Show your work.

1. Carl is making a rectangular dog run. He has 36 one-yard sections of fence that he plans to use to keep his dog inside. He wants the run to be as long as possible. What is the longest whole-number length he can use for the run?

(Perimeter)   Area   Side Length
17 yards long

2. Bob has 37 tiles with dimensions of 1 foot by 1 foot. He wants to tile a closet that is 7 feet long and 5 feet wide. Does he have enough tiles? If so, how many more will be left over?

Perimeter   (Area)   Side Length
Yes; 2 extra tiles

3. A stage is 10 yards long and 5 yards wide. The orchestra pit in front of the stage is 4 yards long and 2 yards wide. How much floor space do the stage and the orchestra pit take up?

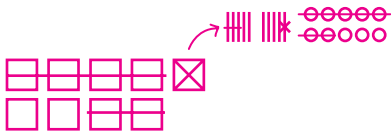Perimeter   (Area)   Side Length
58 square yards

4. Tracy embroidered 26 quilt blocks with letters and 10 quilt blocks with numbers. She wants her quilt to have 6 rows. How many quilt blocks will be in each row?

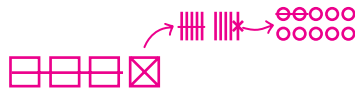Perimeter   Area   (Side Length)
6 quilt blocks

Remembering

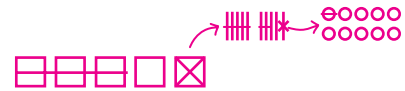**Subtract. Show your ungroupings. Use proof drawings if you need to.**

1. 900
− 637
263

2. 400
− 352
48
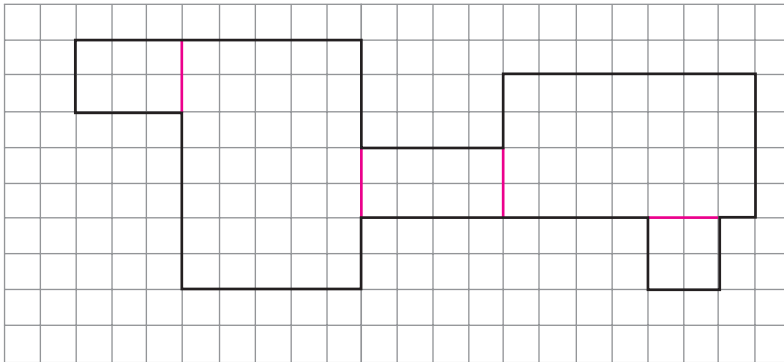
3. 500
− 371
129

Solve the problem. Label your answers.

4. Emma reads 16 pages of her book. Tom reads 7 fewer pages than Emma. How many pages do they read in all?

25 pages

Decompose the figure into rectangles. Then find the area of the figure. Check students' drawings. Possible drawings shown.

5.

81 square units

6. Stretch Your Thinking Abbie makes two different quilts. Each quilt is a square. However, the quilts have different perimeters and areas. Describe the areas and perimeters the two quilts could have. Possible answers shown.

Quilt 1 __**25 square inches**__ area __**20 inches**__ perimeter

Quilt 2 __**49 square inches**__ area __**28 inches**__ perimeter

Name   **Date**

1. Color the two large triangles purple.

2. Color the two small triangles green.

3. Color the square, the parallelogram, and the medium triangle blue.

4. Cut out the tangram pieces.

5. Use the pieces to make other tangram shapes.

6. Choose one shape and copy it on a separate sheet of paper.

7. Find the area of the shape you made. Remember, the square is one square inch.
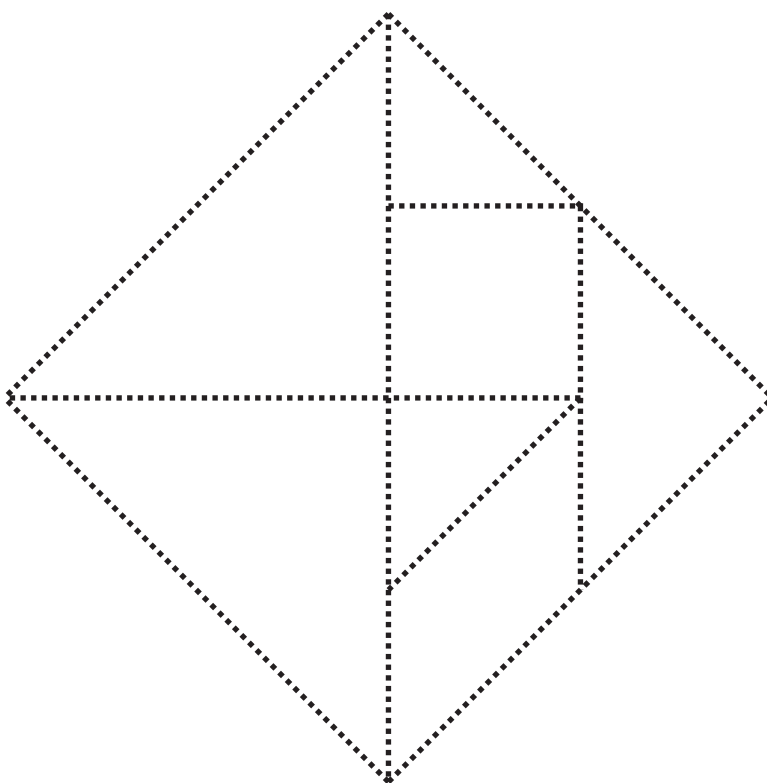
Solve the problem.

1. David buys a package of 375 straws. He uses 182 to build a bridge for a project. How many straws does he have left?

<center>193 straws</center>

The table below shows the number of vehicles in the parking garage on Monday and Tuesday.

<center>**Vehicles in the Garage**</center>

	Trucks	**Cars**	**SUVs**
Monday	49	129	163
Tuesday	68	207	235

Write an equation and solve the problem.

2. How many vehicles in all were parked in the garage on Tuesday?

510 vehicles; $68 + 207 + 235 = n$, $n = 510$

3. How many more trucks and cars combined were parked on Monday than SUVs?

15 more; $49 + 129 - 163 = n$, $n = 15$

Solve. Circle whether you need to find a perimeter, an area, or an unknown side length. Draw a diagram to represent the situation.

4. Brian buys a package of 25 one-inch square tiles. He wants to make a mosaic picture 5 inches long and 4 inches wide. Does he have enough tiles? If so, how many more will be left over?

Perimeter   (Area)   Side Length

<center>Yes; 5 extra tiles</center>

5. Stretch Your Thinking Which tangram pieces can make a square with the area of 9 square inches? Remember, the square is one square inch.

Answers will vary. Possible answer: 6 squares and 6 small triangles

Tangrams and Area