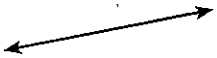
line
line segment
ray
intersecting lines
parallel lines

Points and Lines

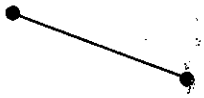
Name _____ Class _____ Date _____

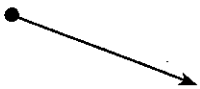
GET STARTED

1 a. •

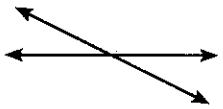
b. 

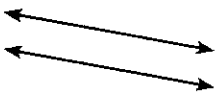
_____ _____

2 a. 

b. 

_____ _____

3 a. 

b. 

_____ _____

BUILD THE CONCEPT

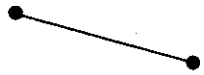
Begin with a point and draw a line segment, a ray, and a line.

• • _____ _____

_____ _____ _____ _____

TRY IT TOGETHER

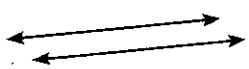
Identify each figure as a *line*, *line segment*, or *ray*.

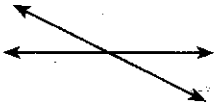
4. 

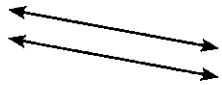
5. 

6.

Identify each pair of lines as *intersecting* or *parallel*.

7. 

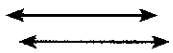
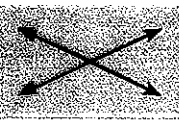
8. 

9. 

WORK ON YOUR OWN

HOW TO

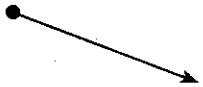
Identify Points and Lines in Geometry

Using Symbols	Using Words
•	A **point** is a location; it has no size.
	A **line** is a straight path with no endpoints.
	A **ray** is a part of a line with one endpoint.
	A **line segment** is part of a line with two endpoints.
	**Parallel lines** never cross and are always the same distance apart.
	**Intersecting lines** cross at one point.

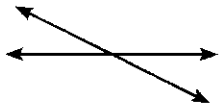
Angles

Name _____ Class _____ Date _____

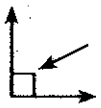
GET STARTED

1. 

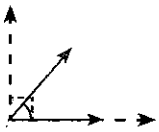
_____

2. 

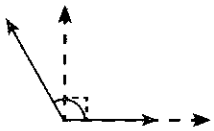
_____

3.  indicates a right angle

_____ angle

4. 

_____ a right angle

5. 

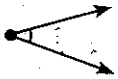
_____ a right angle

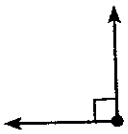
BUILD THE CONCEPT

Angles are used to form capital letters.

TRY IT TOGETHER

Name each angle. Write *right angle*, *larger than a right angle*, or *smaller than a right angle*.

6 

7 

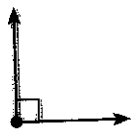
8 

WORK ON YOUR OWN

HOW TO

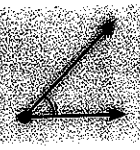
Classify Angles

Using Symbols

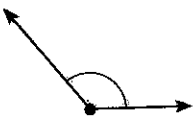


Using Words

A **right angle** forms a square corner.



This angle is smaller than a right angle.

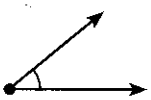


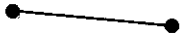
This angle is **larger than** a right angle.

Problem-Solving: Using Logical Reasoning

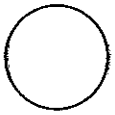
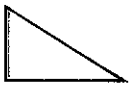
Name _____ Class _____ Date _____

GET STARTED

1.  _____ _____

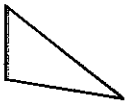
2.  _____

3. What is a triangle?

   a.  b.  c. 

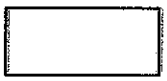
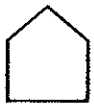
   Triangle: _____ sides; _____ angles

4. What is a quadrilateral?

   a.  b.  c. 

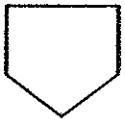
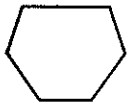
   Quadrilateral: _____ sides; _____ angles

5. What is a pentagon?

   a.  b.  c. 

   Pentagon: _____ sides; _____ angles

6. What is a hexagon?

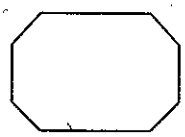
   a.  b.  c. 

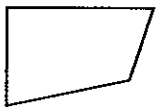
   Hexagon: _____ sides; _____ angles

TRY IT TOGETHER

Use logical reasoning to solve the problem.

7 Mr. Weaver shows his students the following polygons. He tells them that two of the polygons are octagons.

a. 

b. 

c. 

What is an octagon?

Octagon: _____ sides; _____ angles

WORK ON YOUR OWN

HOW TO

Solve a Problem Using Logical Reasoning

Karen made a name tag in the shape of a polygon. The name tag has fewer than 7 sides. It has an even number of sides. It is not a quadrilateral. What is the shape of the name tag?

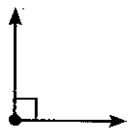
1. **Find:** the shape of the name tag
2. **How?** Use logical reasoning.
3. **Solve.** Start with the first fact and identify all the possible polygons. Then, use the other facts and logical reasoning to identify the polygon.
   - It is a polygon: a closed figure with straight sides.
   - It has fewer than 7 sides: triangle, quadrilateral, pentagon, hexagon.
   - It has an even number of sides: quadrilateral, hexagon.
   - It is not a quadrilateral: hexagon.

   The name tag is the shape of a hexagon.
4. **Is the answer reasonable? Explain.** Yes, a hexagon is a polygon that matches all the facts given in the problem.

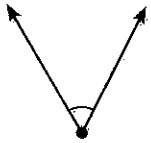
Triangles

Name _____ Class _____ Date _____

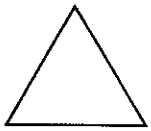
GET STARTED

1. 

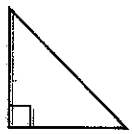
_____ angle

2. 

_____ a right angle

3. 

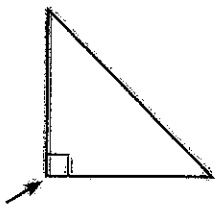
a. _____ sides
b. _____ angles
c. _____

4. 

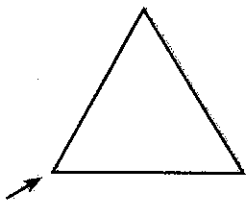
a. _____ sides
b. _____ angles
c. _____ triangle

BUILD THE CONCEPT

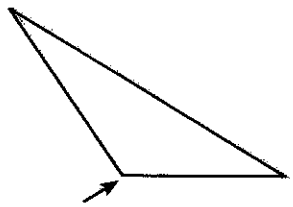
There are different kinds of triangles.



Right triangle?
yes no

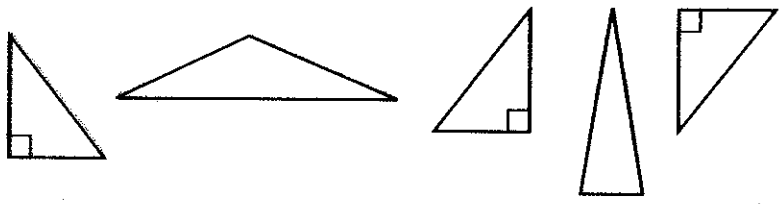


Right triangle?
yes no



Right triangle?
yes no

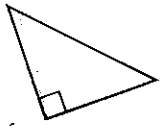
Sarah drew these triangles.

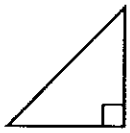


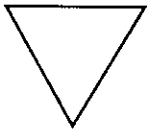
Sarah drew _____ right triangles.

TRY IT TOGETHER

Name each triangle. Write *right triangle* or *not a right triangle*.

5 

6 

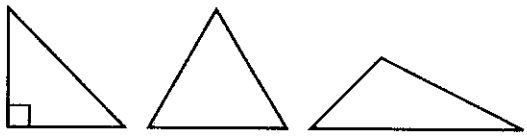
7 

WORK ON YOUR OWN

HOW TO

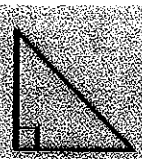
Name a Triangle

Using Symbols



Using Words

A **triangle** is a polygon with 3 sides and 3 angles.



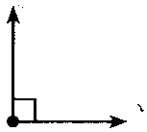
A **right triangle** is a triangle with 1 right angle.

New Vocabulary
quadrilateral
side
vertex
rectangle
square

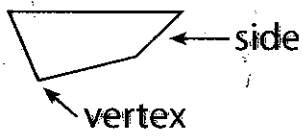
Quadrilaterals

Name _____ Class _____ Date _____

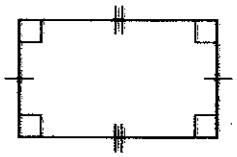
GET STARTED

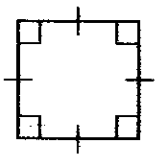
1.  _____

2.  _____

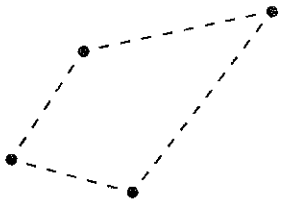
3. 

_____

4.  _____

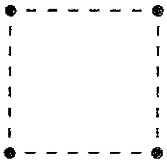
5.  _____

BUILD THE CONCEPT



This polygon is a _____.

This polygon is a _____.

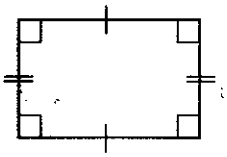


This polygon is a _____.

TRY IT TOGETHER

Write the best name for each figure. Write *quadrilateral*, *rectangle*, or *square*.

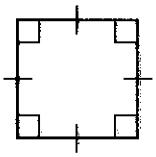
6



_____ sides
_____ right angles
_____ pairs of opposite sides of equal length

_____

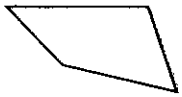
7



_____ equal sides
_____ right angles

_____

8



_____ sides
_____ angles

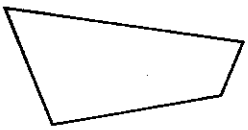
_____

WORK ON YOUR OWN

HOW TO

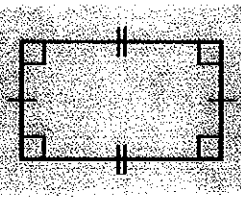
Name a Quadrilateral

Using Symbols

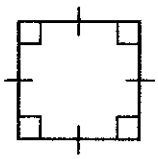


Using Words

A **quadrilateral** is a polygon with 4 sides and 4 angles.



A rectangle is a quadrilateral with 4 right angles and 2 pairs of opposite sides of equal length.



A **square** is a quadrilateral with 4 equal sides and 4 right angles.

New Vocabulary
circle
center
radius
diameter

Circles

Name _____ Class _____ Date _____

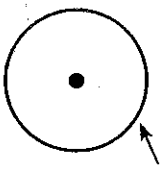
GET STARTED

1. •

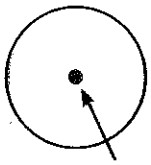
_____

2. 

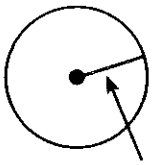
_____

3. 

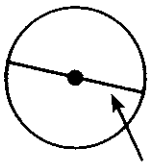
_____

4. 

_____

5. 

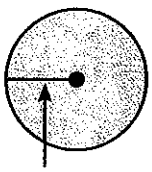
_____

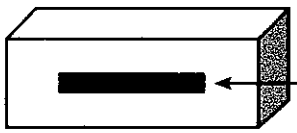
6. 

_____

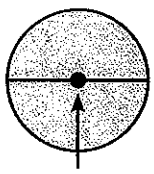
BUILD THE CONCEPT

Tom's Token Box





_____ = 2 centimeters

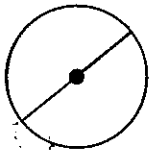


diameter = _____ centimeters

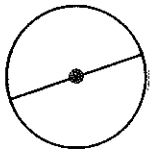
The slot in Tom's token box should be _____ centimeters wide.

TRY IT TOGETHER

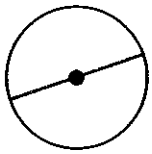
Name the part of each circle shown in blue.

7 

_____

8 

_____

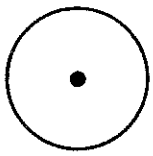
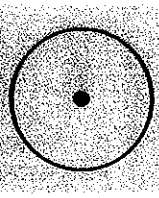
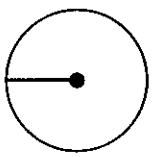
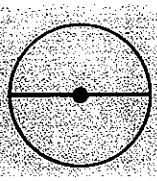
9 

_____

WORK ON YOUR OWN

HOW TO

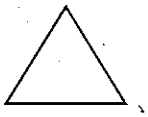
Identify Circles and Parts of Circles

Using Symbols	Using Words
	A **circle** is a closed figure made up of points that are the same distance from the center.
	The **center** is the point in the middle of a circle that is the same distance from anywhere on the circle.
	The **radius** is the distance from the center of a circle to any point on the circle.
	The **diameter** is the distance across a circle through the center of the circle.

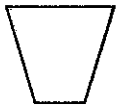
Congruent Figures

Name _____ Class _____ Date _____

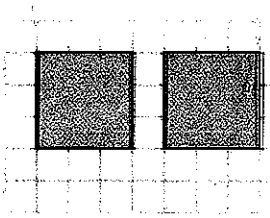
GET STARTED

1. 

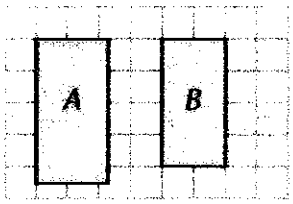
_____

2. 

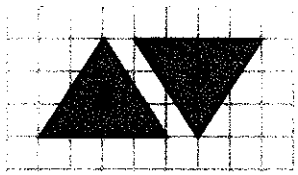
_____

3. 

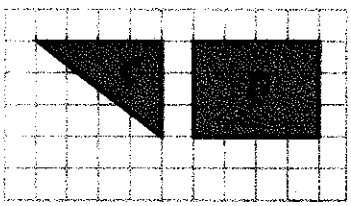
_____

4. 

_____

5. 

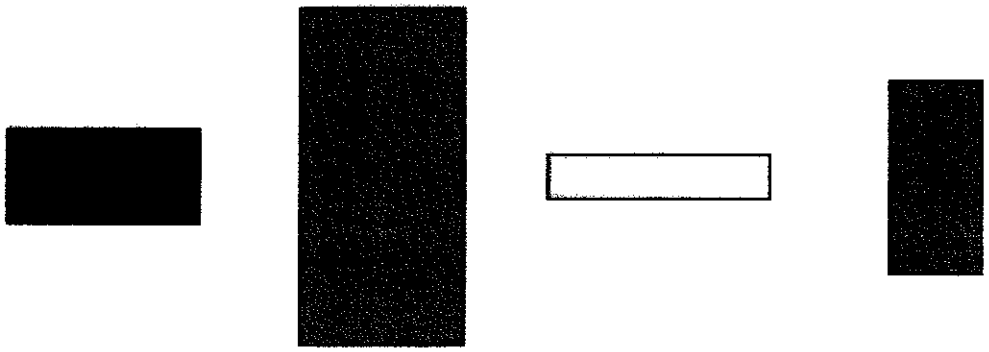
_____

6. 

_____

BUILD THE CONCEPT

Congruent figures have the same shape and size. Find the figure that is congruent to the blue figure.



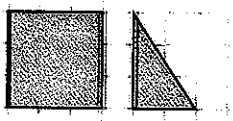
TRY IT TOGETHER

Determine whether the figures are congruent. Write *congruent* or *not congruent*.

7

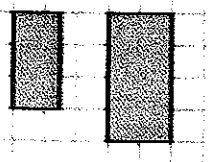
Same shape? _____
Same size? _____
_____

8



Same shape? _____
Same size? _____
_____

9



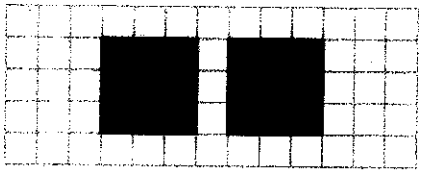
Same shape? _____
Same size? _____
_____

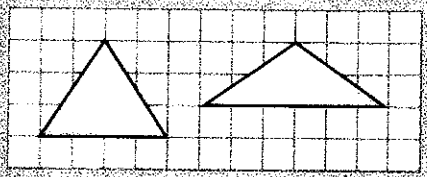
WORK ON YOUR OWN

HOW TO

Determine Whether Two Figures Are Congruent

Using Symbols





Using Words

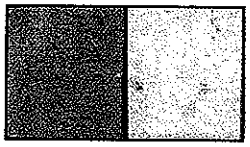
Two figures are congruent if they are the same shape and same size.

Two figures are not congruent if they are a different shape or different size.

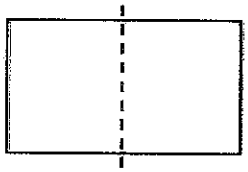
Symmetry

Name _____ Class _____ Date _____

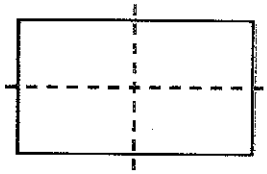
GET STARTED

1. 

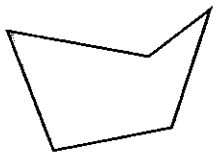
_____

2. 

line symmetry? _____

3. 

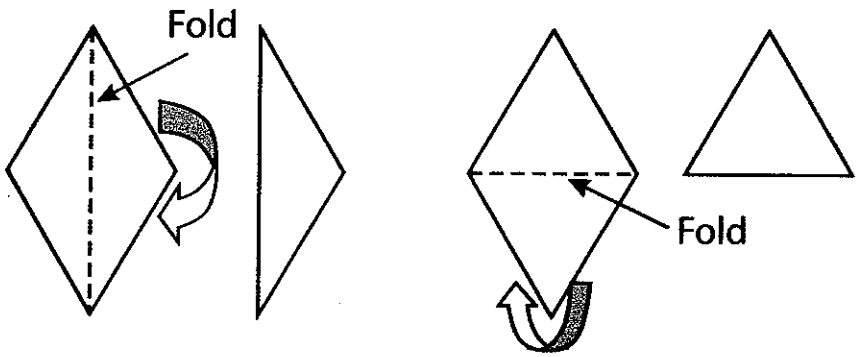
_____ lines of symmetry

4. 

line symmetry? _____

BUILD THE CONCEPT

A figure has line symmetry if it can be folded along a line so that the two parts match exactly.

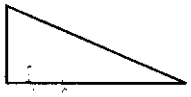


This figure has _____ symmetry.

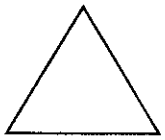
This figure has _____ lines of symmetry.

TRY IT TOGETHER

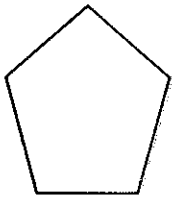
Draw all the lines of symmetry. How many lines of symmetry does each figure have?

5 

_____ lines of symmetry

6 

_____ lines of symmetry

7 

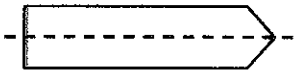
_____ line of symmetry

WORK ON YOUR OWN

HOW TO

Determine Whether a Figure Has Line Symmetry

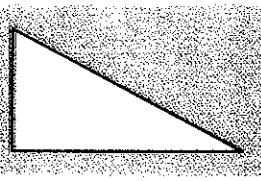
Using Symbols



Using Words

A figure has **line symmetry** if a line divides it into two congruent parts that are mirror images of each other.

The dashed line is the **line of symmetry**.



This figure does not have line symmetry.

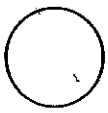
New Vocabulary

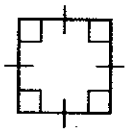
solid	cube
face	pyramid
edge	cone
vertex	cylinder
base	sphere

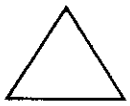
Solids

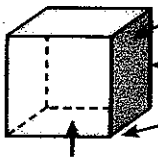
Name _____ Class _____ Date _____

GET STARTED

1 a.  _____

b.  _____

c.  _____

2 

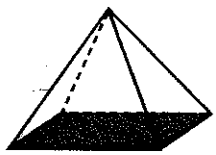
a. _____

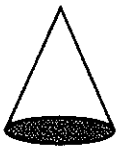
b. _____

c. _____

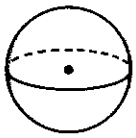
d. _____

e. _____

3  _____

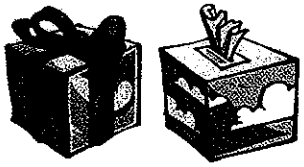
4 a.  _____

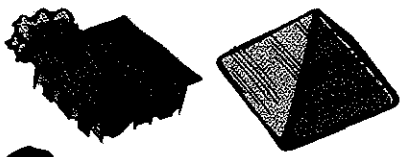
b.  _____

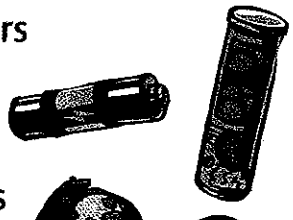
c.  _____

BUILD THE CONCEPT

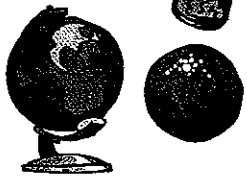
Solid figures are found in many places.

Cubes 

Pyramids 

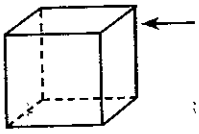
Cylinders 

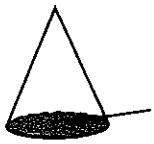
Cones 

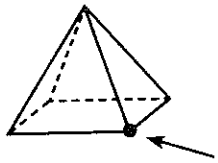
Spheres 

TRY IT TOGETHER

Name each solid. Identify the part that each arrow points to.

5 

6 

7 

WORK ON YOUR OWN

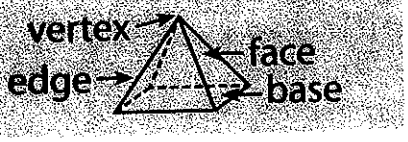
HOW TO

Identify Solids and Parts of Solids

Using Symbols

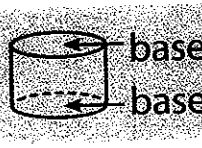
Using Words

A **cube** is a solid figure with six congruent square faces.

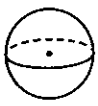


A **pyramid** is a solid, pointed figure that has a polygon base and faces that are triangles.

A **cone** is a solid, pointed figure that has one base that is a circle.



A **cylinder** is a solid figure with two bases that are circles.

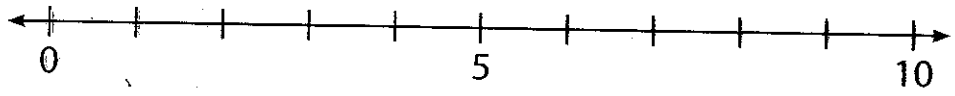


A **sphere** is a solid, round figure with a set of all points that are the same distance from a fixed point.

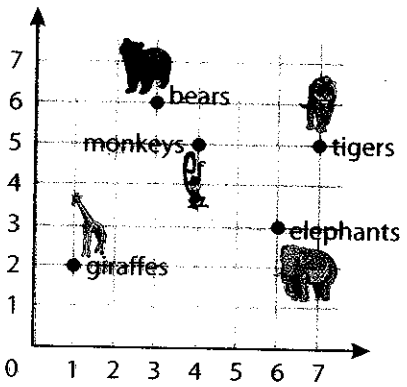
Coordinate Graphs

Name _____ Class _____ Date _____

GET STARTED

1. 

2. Jacob and his family are at the zoo. They use this map to help them find the animals. Jacob wants to see the giraffes first. Where are the giraffes located?
right _____, up _____



3. Where are the tigers located?
right _____, up _____

4. Which animals are located at the point right 3, up 6? _____

BUILD THE CONCEPT

Carly has clues for a secret shape.

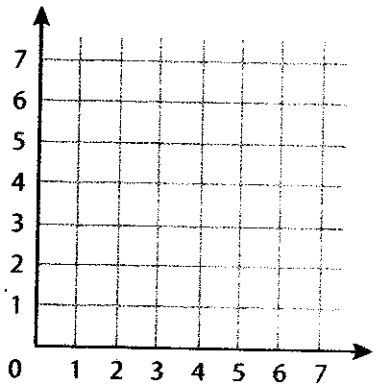
Graph the points on the coordinate graph to find the secret shape.

Point *A* right 5, up 2

Point *B* right 1, up 5

Point *C* right 1, up 2

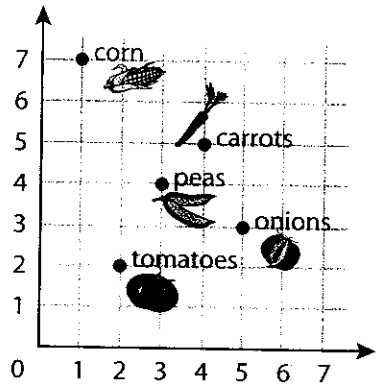
Connect Point *A* to Point *B*, Point *B* to Point *C*, and Point *C* to Point *A*.



Carly's secret shape is a _____.

TRY IT TOGETHER

Use the coordinate graph to answer each question.



5. Where are the tomatoes planted?
   right _____, up _____

6. Which vegetable is planted at the point right 3, up 4? _____

7. Where is the corn planted? _____

WORK ON YOUR OWN

HOW TO

Name a Point on a Coordinate Graph

Using Symbols	Using Words
1. What is the location of the carrots in the graph above?	Find the point on the coordinate graph.
2. Right: 4	Start at 0 and move to the right to the line on which the point is located. Record that number.
3. Up: 5 The carrots are right 4, up 5.	Move up to the point. Record that number.

Find the Point at a Given Location on a Coordinate Graph

Using Symbols	Using Words
1. Which vegetable is located at the point right 5, up 3?	Read the location.
2. Move right 5 lines.	Start at 0 and move to the right the number of units given.
3. Move up 3 lines. The onions are right 5, up 3.	Move up the number of units given.

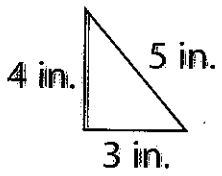
Perimeter

Name _____ Class _____ Date _____

GET STARTED

1.
$$\begin{array}{r} 3 \\ 8 \\ +\ 2 \\ \hline \end{array}$$

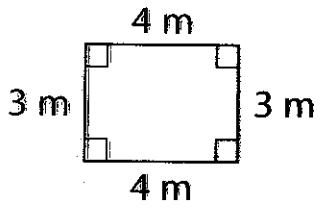
2.
$$\begin{array}{r} 16 \\ 24 \\ +\ 12 \\ \hline \end{array}$$

3. 

Perimeter = 4 + 5 + 3

$$\begin{array}{r} 4 \\ 5 \\ +\ 3 \\ \hline \end{array}$$

Perimeter = _____ inches

4. 

Perimeter = _____ + _____ + _____ + _____

+ ____ + ____

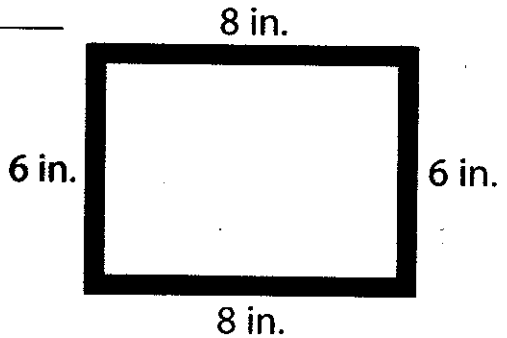
Perimeter = _____ meters

BUILD THE CONCEPT

Neil made a rectangular picture frame. How much wood did he use to make the frame?

Perimeter = _____ + _____ + _____ + _____

+ ____ + ____

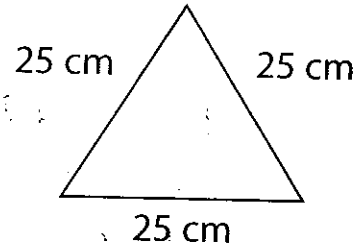


Neil used _____ inches of wood for the frame.

TRY IT TOGETHER

Find the perimeter of each figure.

5

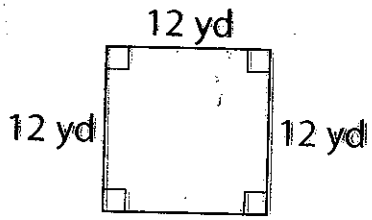


Perimeter = _____ + _____ + _____

_____ +

Perimeter = _____ centimeters

6



Perimeter = _____ + _____ + _____ + _____

_____ + _____ +

Perimeter = _____ yards

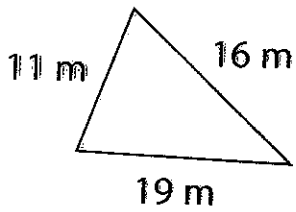
WORK ON YOUR OWN

Find the Perimeter of a Figure

HOW TO

Using Symbols

1.



Perimeter = 11 + 16 + 19

Using Words

Add the lengths of the sides of the figure.

2. Perimeter = 46 meters

Record the perimeter in units. Remember in. is inches, ft is feet, yd is yards, cm is centimeters, dm is decimeters, and m is meters.

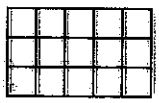
Area of Rectangles and Squares

Name _____ Class _____ Date _____

GET STARTED

1. $3 \times 5 =$ _____

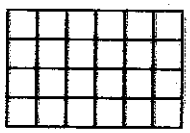
2. $4 \times 6 =$ _____

3. ☐ 1 square inch 

_____ square inches

_____ rows of _____ square inches

Area = _____ × _____ = _____ square inches

4.  centimeters

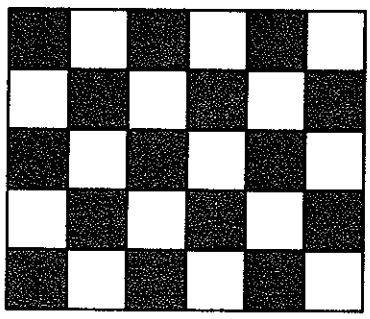
centimeters

_____ rows of _____ square centimeters

Area = _____ × _____ = _____ square centimeters

BUILD THE CONCEPT

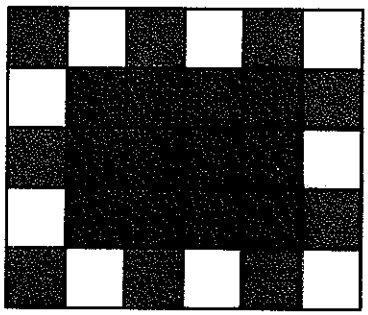
This floor is covered with gold and white square tiles. Each tile is 1 square unit.



How many tiles cover the floor? _____

Area of floor = _____ square units

This blue rug covers some of the floor tiles.



How many floor tiles does the rug cover? _____

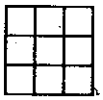
Area of rug = _____ square units

TRY IT TOGETHER

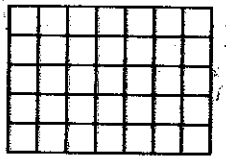
Find the area of each figure.

5.  feet
feet

Area = _____ × _____ = _____ square feet

6.  meters
meters

Area = _____ × _____ = _____

7.  inches
inches

Area = _____ × _____ = _____

WORK ON YOUR OWN

HOW TO

Find the Area of a Rectangle or Square

Using Symbols	Using Words
1. Find the area of the figure.  feet, 2 rows, feet	Find the number of rows in the figure.
2.  feet, 5 squares in each row, feet	Find the number of squares in each row.
3. $2 \times 5 = 10$	Find the product of the number of rows and the number of squares in each row.
4. Area = 10 square feet	Record the area in square units. _____