

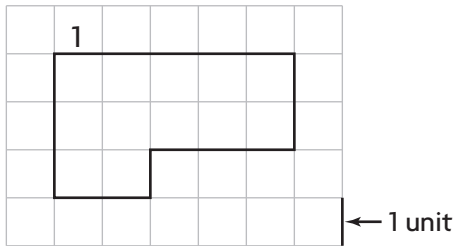
Name _____

Model Perimeter

Perimeter is the distance around a shape.

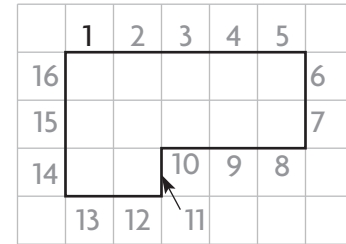
Find the perimeter of the shape.

Step 1 Choose a unit to begin counting and label it 1.



Step 2 Count each unit around the shape to find the perimeter.

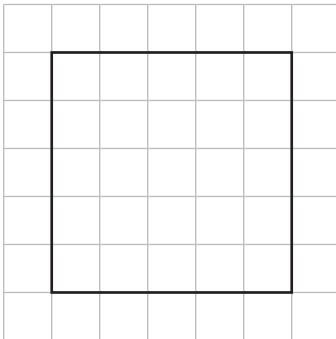
16 units



So, the perimeter of the shape is **16** units.

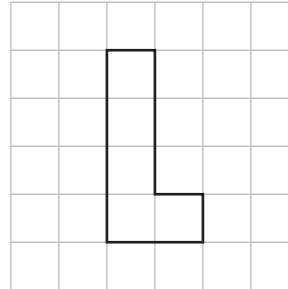
Find the perimeter of the shape. Each unit is 1 centimeter.

1.



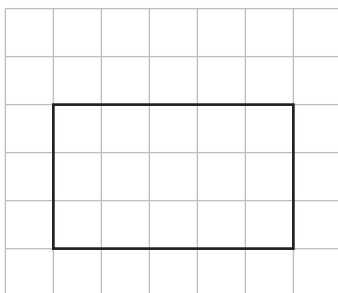
20 centimeters

2.



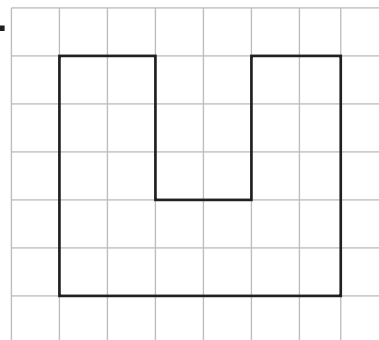
12 centimeters

3.



16 centimeters

4.



28 centimeters

Name _____

Find Perimeter

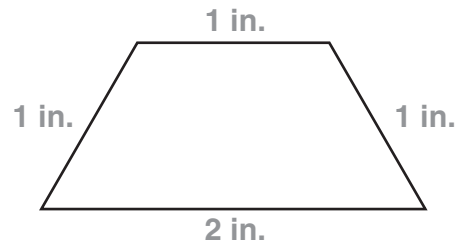
Kelsey wants to know the perimeter of the shape below. She can use an inch ruler to find the perimeter.

Step 1 Choose one side of the shape to measure. Place the zero mark of the ruler on the end of the side. Measure to the nearest inch. Write the length.

Step 2 Use the ruler to measure the other three sides. Write the lengths.

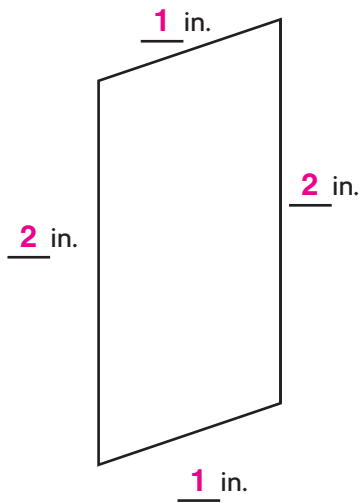
Step 3 Add the lengths of all the sides.
 $1 + 1 + 2 + 1 = 5$

So, the perimeter of the shape is **5** inches.



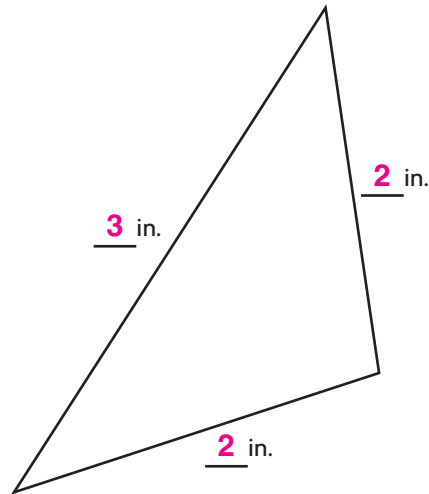
Use an inch ruler to find the perimeter.

1.



6 inches

2.



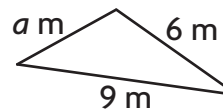
7 inches

Name _____

Algebra • Find Unknown Side Lengths

An unknown side length is a side that does not have its length labeled with a number. Instead the side is labeled with a symbol or letter, such as a .

**The perimeter of the shape is 20 meters.
Find the value of a .**



Think: There is only one unknown side length.

Step 1 Add the *known* side lengths.

$$6 + 9 = 15$$

Step 2 Subtract the sum of the known side lengths from the perimeter.

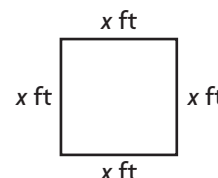
$$20 - 15 = 5$$

Step 3 Add to check your work.

$$6 + 9 + 5 = 20 \checkmark$$

So, the unknown side length, a , is **5** meters.

**The perimeter of the square is 12 feet.
What is the length of each side of the square?**



Think: A square has four sides of equal length.

Step 1 Divide the perimeter by the number of sides.

$$12 \div 4 = 3$$

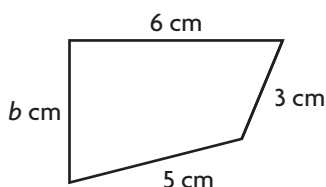
Step 2 Multiply to check your work.

$$4 \times 3 = 12 \checkmark$$

So, the length of each side, x , is **3** feet.

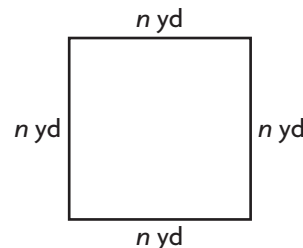
Find the unknown side lengths.

1. Perimeter = 18 centimeters



4 centimeters

2. Perimeter = 20 yards



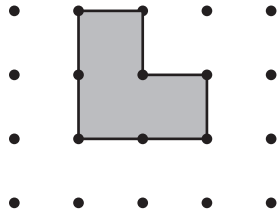
5 yards

Name _____

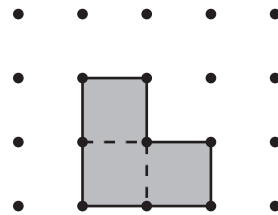
Understand Area

A unit square is a square with a side length of 1 unit. Area is the measure of the number of unit squares needed to cover a surface. A square unit is used to measure area.

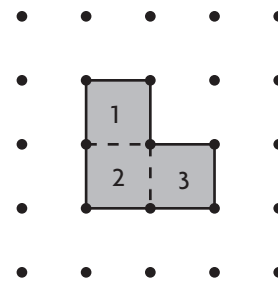
What is the area of the shape?



Step 1 Draw lines to show each unit square in the shape.

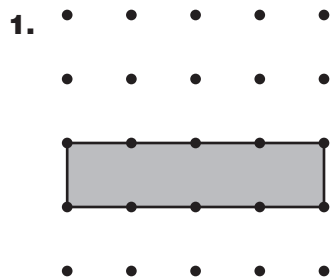


Step 2 Count the number of unit squares to find the area.

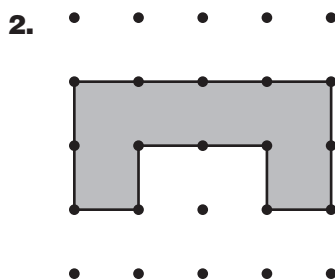


The area of the shape is **3** square units.

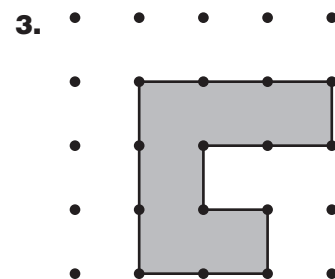
Count to find the area of the shape.



Area = **4** square units



Area = **6** square units



Area = **6** square units

Name _____

Measure Area

Find the area of the shape. Each unit square is 1 square inch.



Think: How many unit squares are needed to cover this flat surface?

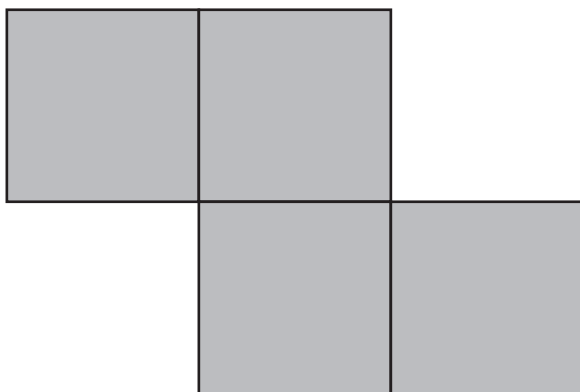
Step 1 Use 1-inch square tiles. Cover the surface of the shape with the tiles. Make sure there are no gaps (space between the tiles). Do not overlap the tiles.

Step 2 Count the tiles you used.
5 tiles are needed to cover the shape.

So, the area of the shape is **5** square inches.

Count to find the area of the shape.
Each square is 1 square inch.

1.



Area = 4 square inches

2.

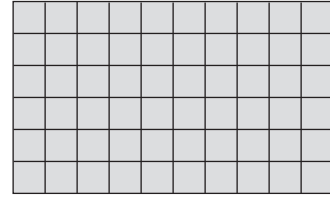


Area = 5 square inches

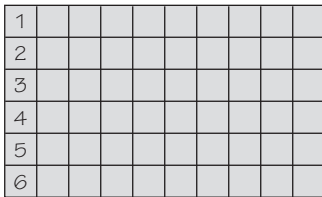
Name _____

Use Area Models

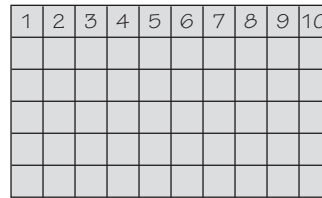
Use multiplication to find the area of the shape.
Each unit square is 1 square meter.



Step 1 Count the number of rows.
There are **6** rows.



Step 2 Count the number of unit squares in each row. There are **10** unit squares.



Step 3 Multiply the number of rows by the number in each row to find the area.

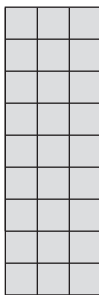
number of rows \times number in each row = area

$$6 \quad \times \quad 10 \quad = \quad 60$$

So, the area of the shape is **60** square meters.

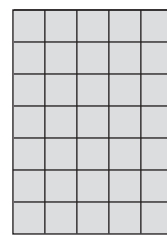
Find the area of the shape.
Each unit square is 1 square meter.

1.



27 square meters

2.

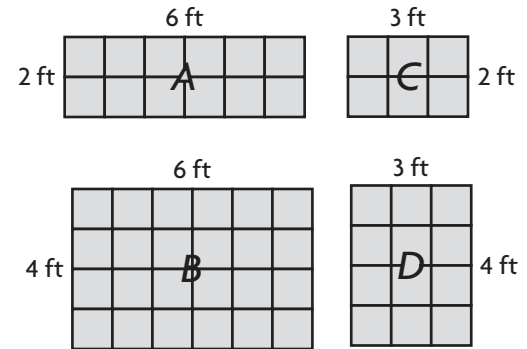


35 square meters

Name _____

Problem Solving • Area of Rectangles

Mrs. Wilson wants to plant a garden, so she drew plans for some sample gardens. She wants to know how the areas of the gardens are related. How will the areas of Gardens A and B change? How will the areas of Gardens C and D change?



Use the graphic organizer to help you solve the problem.

Read the Problem							
<p>What do I need to find?</p> <p>I need to know how the areas will change from <i>A</i> to <i>B</i> and from <u><i>C</i></u> to <u><i>D</i></u>.</p>	<p>What information do I need to use?</p> <p>I need to use the <u>length</u> and <u>width</u> of each garden to find its area.</p>			<p>How will I use the information?</p> <p>I will record the areas in a table. Then I will look for a pattern to see how the <u>areas</u> will change.</p>			
Solve the Problem							
	Length	Width	Area		Length	Width	Area
Garden A	2 ft	6 ft	12 sq ft	Garden C	2 ft	3 ft	6 sq ft
Garden B	4 ft	6 ft	24 sq ft	Garden D	4 ft	3 ft	12 sq ft
<p>From the table, I see that the lengths will be doubled and the widths will be the same.</p> <p>The areas in square feet will change from <u>12</u> to <u>24</u> and from <u>6</u> to <u>12</u>.</p> <p>So, the area will be <u>doubled</u>.</p>							

Solve.

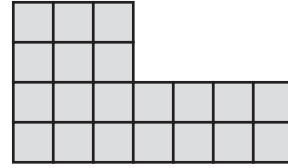
- Mrs. Rios made a flower garden that is 8 feet long and 2 feet wide. She made a vegetable garden that is 4 feet long and 2 feet wide. How do the areas change?

The area of the flower garden is double the area of the vegetable garden.

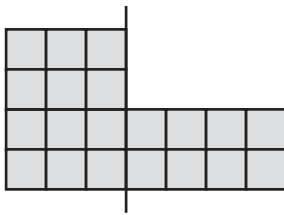
Name _____

Area of Combined Rectangles

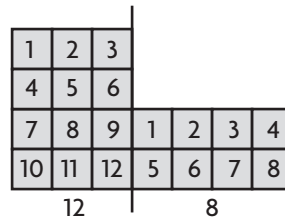
You can break apart a shape into rectangles to find the total area of the shape.



Step 1 Draw a line to break apart the shape into two rectangles.



Step 2 Count the number of unit squares in each rectangle.

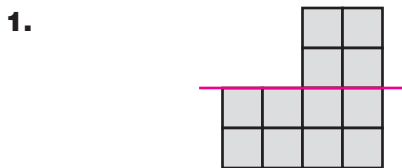


Step 3 Add the number of unit squares in each rectangle to find the total area.

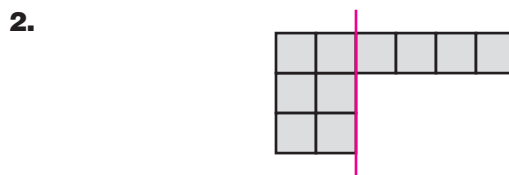
$$12 + 8 = 20 \text{ unit squares}$$

So, the area of the shape is **20** square units.

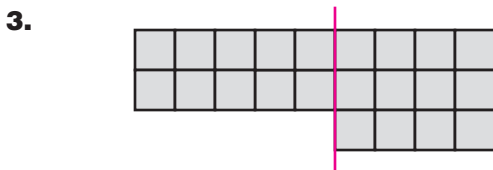
Draw a line to break apart the shape into rectangles.
Find the area of the shape. **Possible lines are shown.**



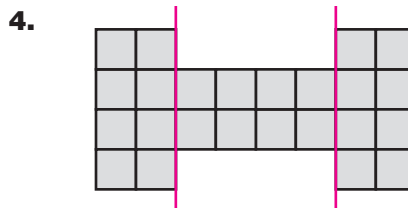
12 square units



10 square units



22 square units



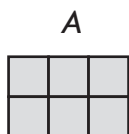
24 square units

Name _____

Same Perimeter, Different Areas

You can use perimeter and area to compare rectangles.

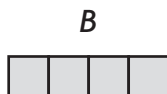
Compare the perimeters of Rectangle A and Rectangle B.



Find the number of units around each rectangle.

Rectangle A: $3 + 2 + 3 + 2 = 10$ units

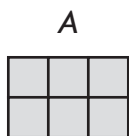
Rectangle B: $4 + 1 + 4 + 1 = 10$ units



Compare: 10 units = 10 units

So, Rectangle A has the same perimeter as Rectangle B.

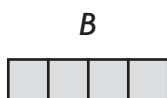
Compare the areas of Rectangle A and Rectangle B.



Find the number of unit squares needed to cover each rectangle.

Rectangle A: 2 rows of 3 = 2×3 , or 6 square units

Rectangle B: 1 row of 4 = 1×4 , or 4 square units

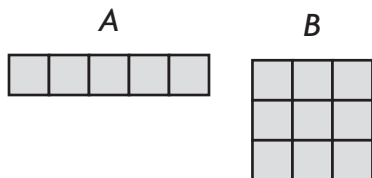


Compare: 6 square units $>$ 4 square units

So, Rectangle A has a greater area than Rectangle B.

Find the perimeter and the area. Tell which rectangle has a greater area.

1.

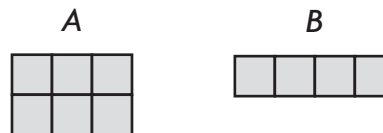


A: Perimeter = 12 units;
Area = 5 square units

B: Perimeter = 12 units;
Area = 9 square units

Rectangle B has a greater area.

2.



A: Perimeter = 10 units;
Area = 6 square units

B: Perimeter = 10 units;
Area = 4 square units

Rectangle A has a greater area.

Name _____

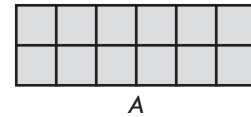
Same Area, Different Perimeters

Find the perimeter and area of Rectangles *A* and *B*.
Tell which rectangle has a greater perimeter.

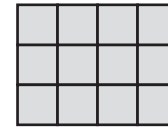
Step 1 Find the area of each rectangle. You can multiply the number of unit squares in each row by the number of rows.

Rectangle *A*: $2 \times 6 = 12$ square units

Rectangle *B*: $3 \times 4 = 12$ square units



A



B

Step 2 Find the perimeter of each rectangle. You can add the sides.

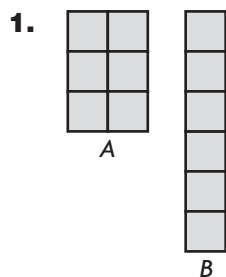
Rectangle *A*: $6 + 2 + 6 + 2 = 16$ units

Rectangle *B*: $4 + 3 + 4 + 3 = 14$ units

Step 3 Compare the perimeters. 16 units $>$ 14 units.

So, Rectangle *A* has a greater perimeter.

Find the perimeter and the area. Tell which rectangle has a greater perimeter.



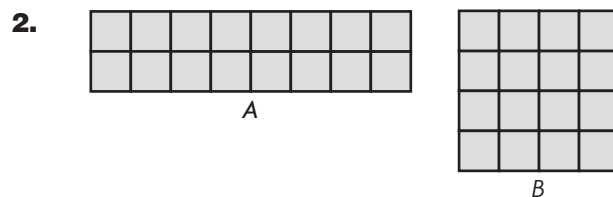
A: Area = 6 square units;

Perimeter = 10 units

B: Area = 6 square units;

Perimeter = 14 units

Rectangle **B** has a greater perimeter.



A: Area = 16 square units;

Perimeter = 20 units

B: Area = 16 square units;

Perimeter = 16 units

Rectangle **A** has a greater perimeter.