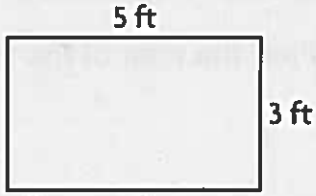
Name _____

Perimeter

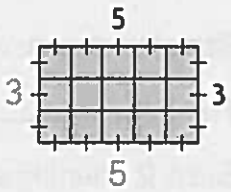
Perimeter is the distance around a shape. You can use grid paper to count the number of units around the outside of a rectangle to find its perimeter.

How many feet of ribbon are needed to go around the bulletin board?



Step 1 On grid paper, draw a rectangle that has a length of **5** units and a width of **3** units.

Step 2 Find the length of each side of the rectangle. Mark each unit of length as you count.



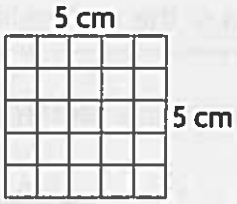
Step 3 Add the side lengths. 5 + 3 + 5 + 3 = 16

The perimeter is 16 feet.

So, 16 feet of ribbon are needed to go around the bulletin board.

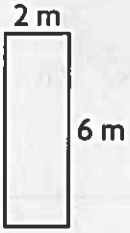
1. What is the perimeter of this square?

___ + ___ + ___ + ___ = ___ centimeters



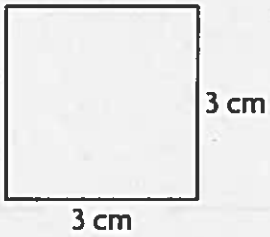
Find the perimeter of the rectangle or square.

2.



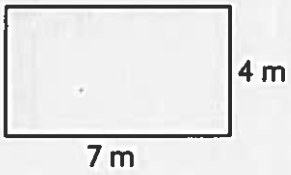
_____ meters

3.



_____ centimeters

4.



_____ meters

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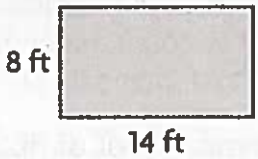
Area

Area is the number of **square units** needed to cover a flat surface.

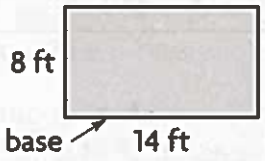
Find the area of the rectangle at the right.



You can use the formula **Area = base × height.**

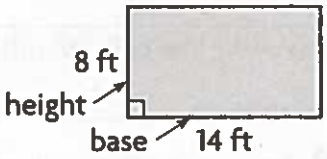
Step 1 Identify one side as the base.

The base is 14 feet.



Step 2 Identify a perpendicular side as the height.

The height is 8 feet.



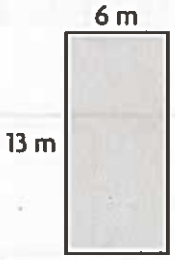
Step 3 Use the formula to find the area.

Area = base × height
= 14 × 8
= 112

So, the area of the rectangle is 112 square feet.

Find the area of the rectangle or square.

1.



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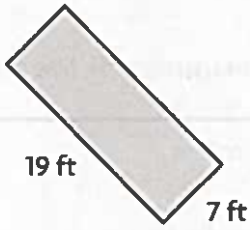
2.



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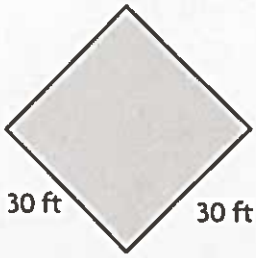
3.



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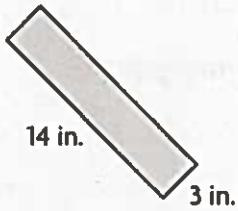
4.



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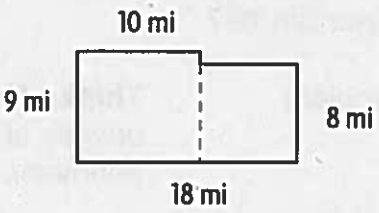
Area of Combined Rectangles

Find the area of the combined rectangles.



Step 1 First, find the area of each section of the shape.

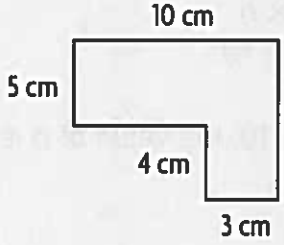
LEFT	RIGHT	
$A = b \times h$	$A = b \times h$	
$= 10 \times 9$	$= 8 \times 8$	**Think:** $18 - 10 = 8$
$= 90$	$= 64$	

Step 2 Add the two areas. $90 + 64 = 154$

So, the total area is 154 square miles.

Find the area of the combined rectangles.

1.



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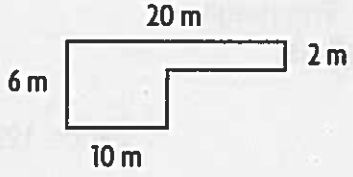
2.



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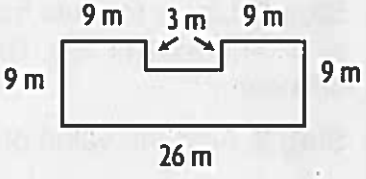
3.



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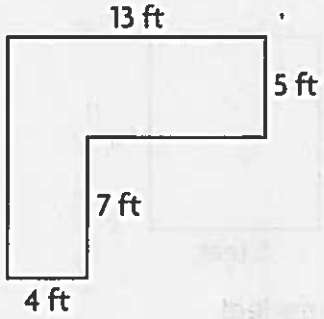

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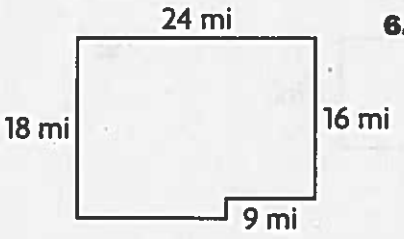
5.



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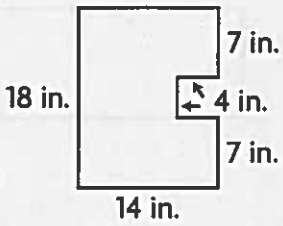
6.



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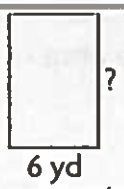
Name _____

Find Unknown Measures

Fred has 30 yards of fencing to enclose a rectangular vegetable garden. He wants it to be 6 yards wide. How long will his vegetable garden be?



Step 1 Decide whether this problem involves area or perimeter.

Think: The fencing goes *around the outside* of the garden. This is a measure of perimeter.

Step 2 Use a formula for perimeter. The width is 6. The perimeter is 30. The length is unknown.

$P = (2 \times l) + (2 \times w)$

$30 = (2 \times l) + (2 \times 6)$

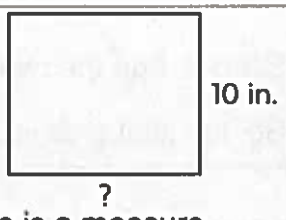
$30 = 2 \times l + 12$

Step 3 Find the value of l.

$18 = 2 \times l$, so the value of l is 9.

The length of Fred's garden will be 9 yards.

Carol has 120 square inches of wood. The piece of wood is rectangular and has a height of 10 inches. How long is the base?



Step 1 Decide whether this problem involves area or perimeter.

Think: *Square inches* is a measure of area.

Step 2 Use a formula for area. The height is 10. The area is 120. The length is unknown.

$A = b \times h$

$120 = b \times 10$

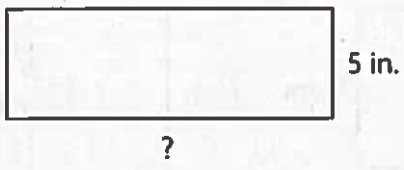
Step 3 Find the value of b.

Since $120 = 12 \times 10$, the value of b is 12.

The base of Carol's piece of wood is 12 inches.

Find the unknown measure.

1.



Perimeter = 40 inches

width = _____

2.

Area = 72 square feet

height = _____

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Name _____

Problem Solving • Find the Area

Use the strategy *solve a simpler problem*.

Marilyn is going to paint a wall in her bedroom. The wall is 15 feet long and 8 feet tall. The window takes up an area 6 feet long and 4 feet high. How many square feet of the wall will Marilyn have to paint?

Read the Problem	Solve the Problem
What do I need to find? I need to find how many square feet of the wall Marilyn will paint.	First, find the area of the wall. $A = b \times h$ $= 15 \times 8$ $= 120$ square feet
What information do I need to use? The paint will cover the wall. The paint will not cover the window. The base of the wall is 15 feet and the height is 8 feet. The base of the window is 6 feet and the height is 4 feet.	Next, find the area of the window. $A = b \times h$ $= 6 \times 4$ $= 24$ square feet
How will I use the information? I can solve simpler problems. Find the area of the wall. Then, find the area of the window. Last, subtract the area of the window from the area of the wall.	Last, subtract the area of the window from the area of the wall. $120 - 24 = 96$ square feet So, Marilyn will paint 96 square feet of her bedroom wall.

1. Ned wants to wallpaper the wall of his bedroom that has the door. The wall is 14 feet wide and 9 feet high. The door is 3 feet wide and 7 feet high. How many square feet of wallpaper will Ned need for the wall?

_____

2. Nicole has a rectangular canvas that is 12 inches long and 10 inches wide. She paints a blue square in the center of the canvas. The square is 3 inches on each side. How much of the canvas is NOT painted blue?

_____

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