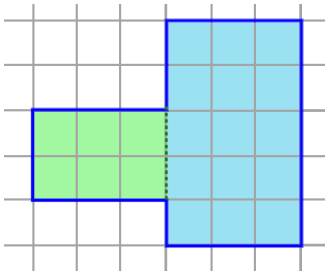
More about Area

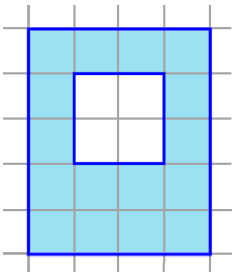
To find the area of this figure, we can divide the shape into two rectangles. We then use two multiplications, and add their results.

$3 \times 2 + 3 \times 5 = 6 + 15 = 21$ square units



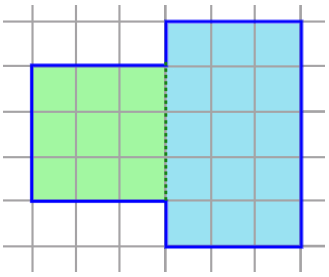
Here, can you think how to use multiplication and *subtraction* to find the shaded area? Don't look at the answer (below) yet! Think first!

It is $4 \times 5 - 2 \times 2 = 20 - 4 = 16$ square units



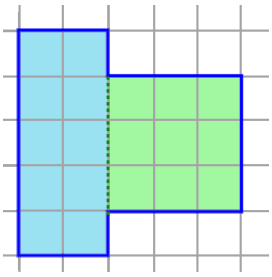
1. Write two multiplications to find the total area.

a.



___ × ___ + ___ × ___ = _____

b.



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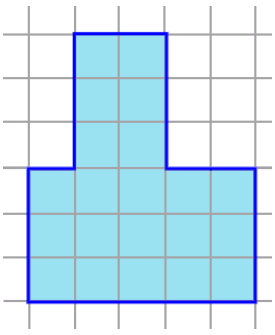
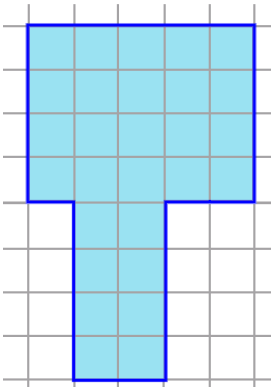
c.



_____

d.



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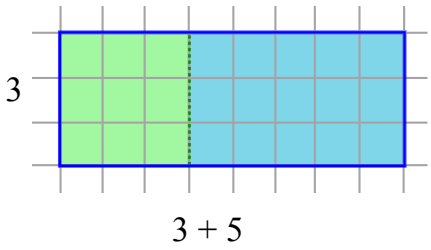
The total area of this rectangle is $3 \times 8 = 24$ square units. But notice: we can write the longer side of the rectangle as a sum $(3 + 5)$. Then, its area would be written as $3 \times (3 + 5)$.

But if we think of it as two rectangles, we can write the area as $3 \times 3 + 3 \times 5$.

So, thinking of it as a one rectangle or two rectangles, we get:

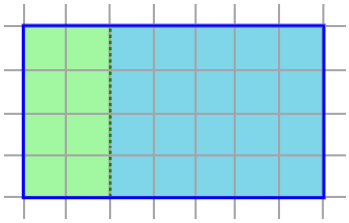


$$3 \times (3 + 5) = 3 \times 3 + 3 \times 5$$

area of the whole rectangle | area of the first part | area of the second part

2. Write a number sentence for the total area, thinking of one rectangle or two.

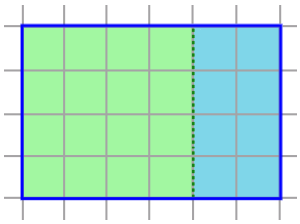
a.



___ × (___ + ___) = ___ × ___ + ___ × ___

area of the whole rectangle | area of the first part | area of the second part

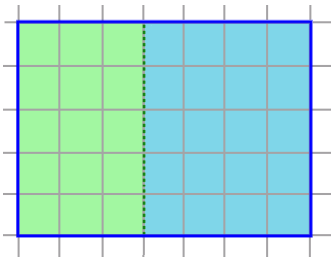
b.



___ × (___ + ___) = ___ × ___ + ___ × ___

area of the whole rectangle | area of the first part | area of the second part

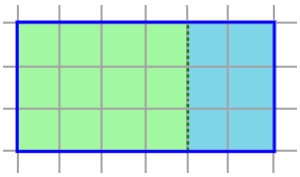
c.



___ × (___ + ___) = ___ × ___ + ___ × ___

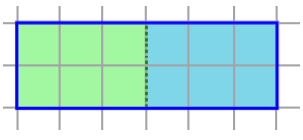
area of the whole rectangle | area of the first part | area of the second part

d.



___ × (___ + ___) = ___ × ___ + ___ × ___

e.



___ × (___ + ___) = ___ × ___ + ___ × ___

3. Now it's your turn to draw the rectangle. Fill in.

a.

$3 \times (2 + 4) = \_\_\_ \times \_\_\_ + \_\_\_ \times \_\_\_$

area of the whole rectangle | area of the first part | area of the second part

b.

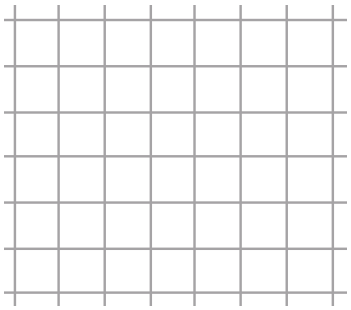
$5 \times (1 + 4) = \_\_\_ \times \_\_\_ + \_\_\_ \times \_\_\_$

area of the whole rectangle | area of the first part | area of the second part

c.

$4 \times (3 + 1) = \_\_\_ \times \_\_\_ + \_\_\_ \times \_\_\_$

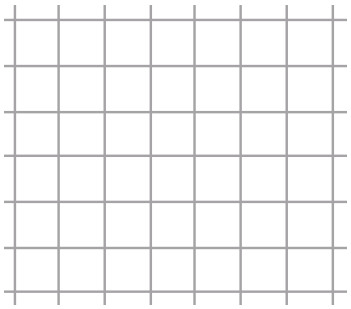
area of the whole rectangle | area of the first part | area of the second part



d.

$\_\_\_ \times (\_\_\_ + \_\_\_) = 3 \times 2 + 3 \times 1$

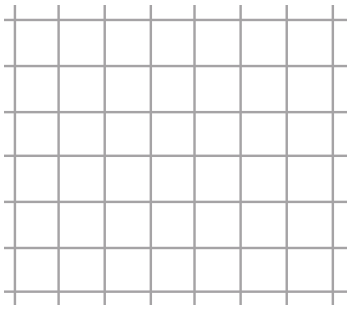
area of the whole rectangle | area of the first part | area of the second part



e.

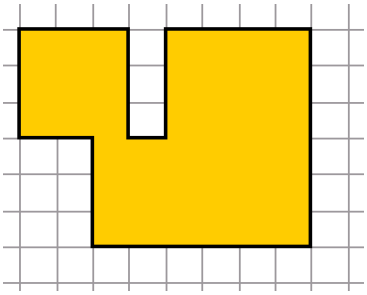
$\_\_\_ \times (\_\_\_ + \_\_\_) = 2 \times 5 + 2 \times 2$

area of the whole rectangle | area of the first part | area of the second part



4. Find the areas of the figures.

a. Find the shaded area. Write a number sentence for the area.



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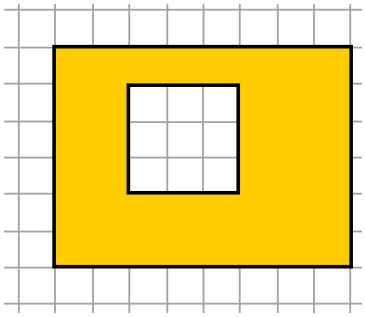
b. Find the shaded area.
Think what operations you can use this time.
Write a number sentence for the area.



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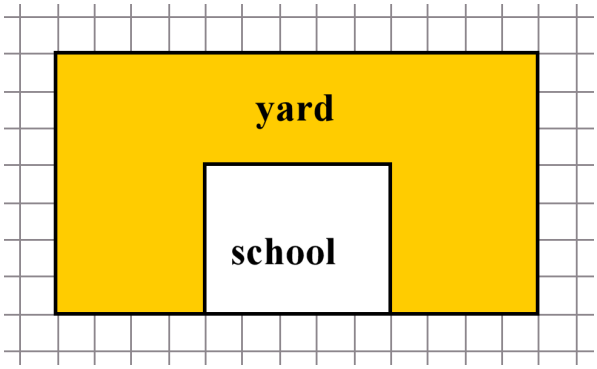
c. Find the shaded area *(not including the school)*. Write a number sentence for the area.



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Puzzle Corner

The area of this shape is 32 squares. Your task is to write a number sentence for the area.