



**6-minute practice: Drawing Parallel lines**

**Activity:** NB: " $n + m \leq 11$ "

T: Say "From point A draw a horizontal line that is " $n$ " units long.  
*Label the length of line A*

T: Say "From B draw another horizontal line that is " $m$ " units long.  
*Label the length of line B; (a line D can be added)*

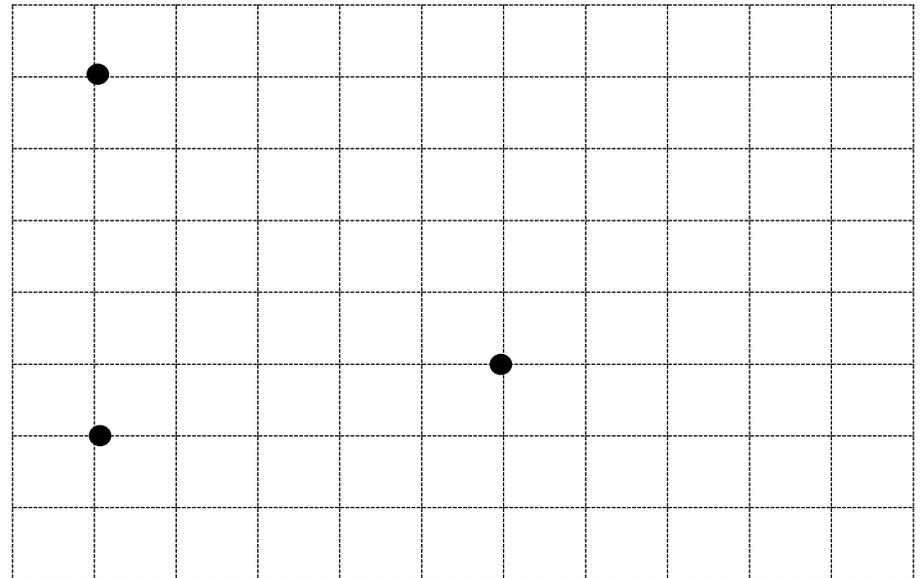
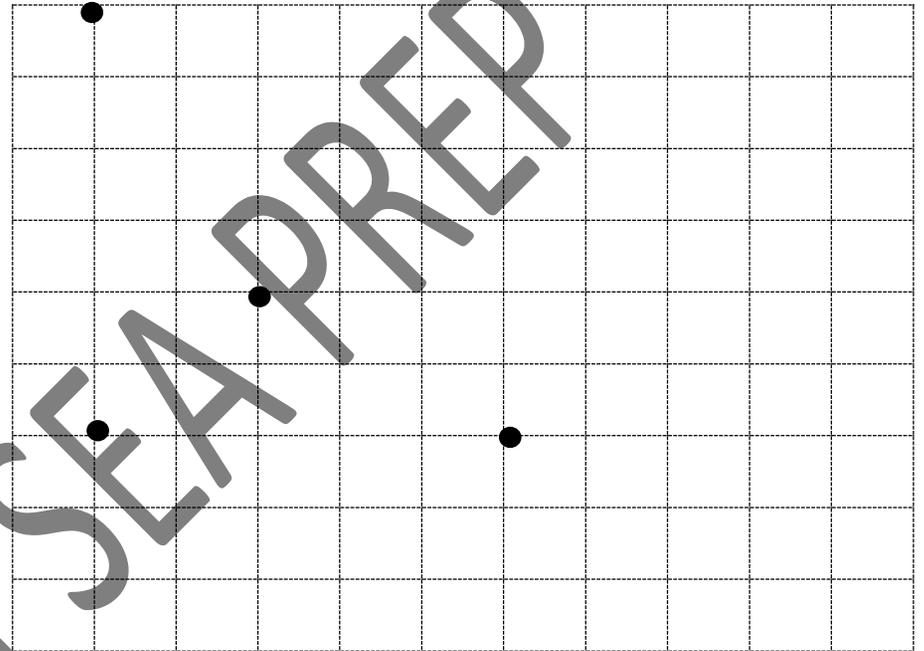
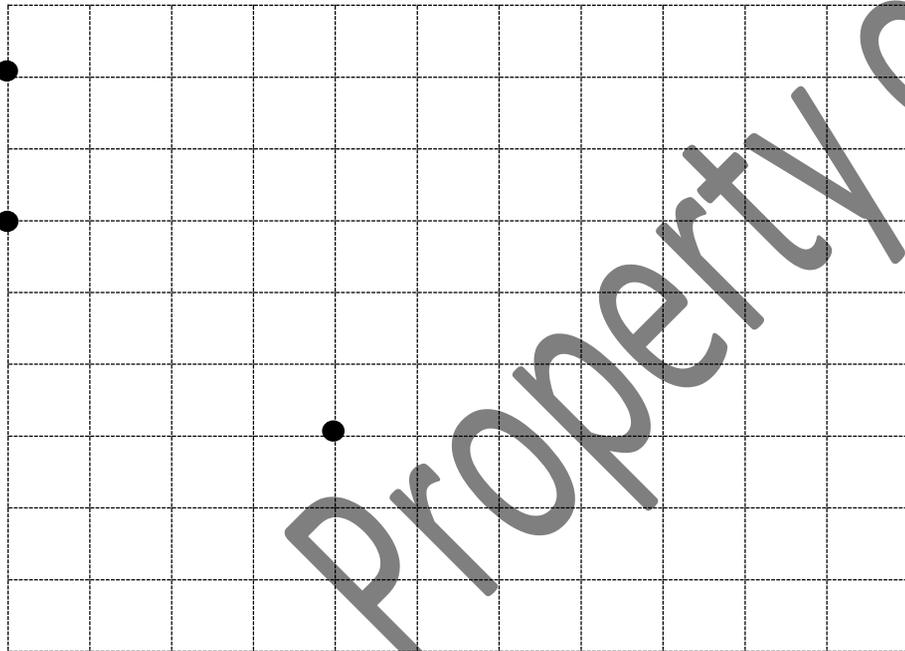
T: Say "From C draw another horizontal line that is " $m+n$ " units longer than line A. *Label the length of line C*

**Post Activity Discussion:**

T "How can you use lines A and B to determine line C?"

Repeat the process and to show how:

- B can be derived from A and C;
- A can be derived from B and C.



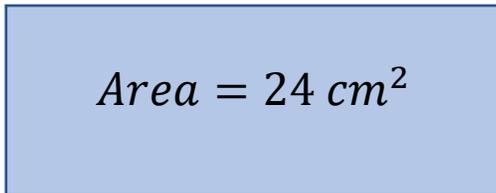
**6-minute Practice:**

**T:** Project diagram, say “What is the area of the rectangle?”

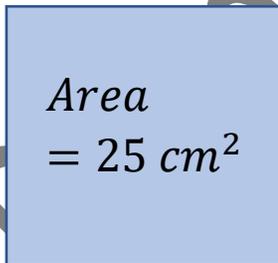
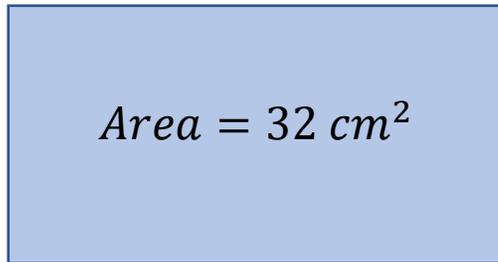
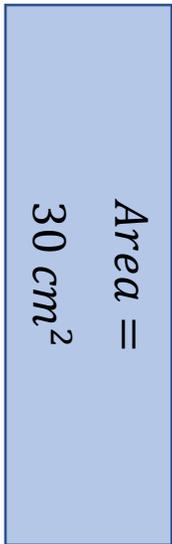
**S:** Say “24 cm squares”

**T:** Say, “What would be a suitable length and breadth for this rectangle?” and “Explain why this answer might make sense.”

**S:** Suggest answers.



Repeat with these:



**1-minute Sprint: 3 Addend Addition facts**

1 )  $9 + 4 + 4 =$

2 )  $2 + 7 + 9 =$

3 )  $6 + 3 + 6 =$

4 )  $2 + 5 + 1 =$

5 )  $5 + 0 + 6 =$

6 )  $9 + 9 + 1 =$

7 )  $4 + 7 + 1 =$

8 )  $3 + 5 + 5 =$

9 )  $6 + 9 + 9 =$

10)  $1 + 9 + 3 =$

11)  $7 + 9 + 7 =$

12)  $5 + 5 + 2 =$

13)  $1 + 7 + 7 =$

14)  $3 + 2 + 2 =$

15)  $1 + 9 + 7 =$

16)  $1 + 9 + 6 =$

17)  $1 + 6 + 1 =$

18)  $3 + 0 + 0 =$

19)  $3 + 2 + 0 =$

20)  $4 + 5 + 8 =$

21)  $0 + 3 + 3 =$

22)  $7 + 6 + 4 =$

23)  $9 + 8 + 1 =$

24)  $6 + 4 + 7 =$

25)  $9 + 6 + 8 =$

26)  $6 + 2 + 5 =$

27)  $0 + 3 + 9 =$

28)  $6 + 5 + 3 =$

29)  $7 + 7 + 5 =$

30)  $2 + 6 + 9 =$

**S.E.A. 2001 Application Problems** – You have eight (12) minutes to do the next five (8) questions. **TIME YOURSELF**

1. What number is missing from the box below?

$$9618 = (9 \times 1000) + (6 \times ( \quad )) + (1 \times 10 + (8 \times 1))$$

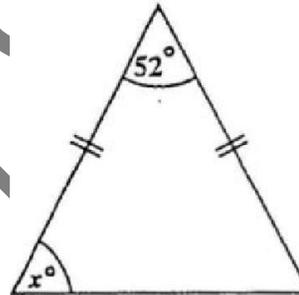
Answer = \_\_\_\_\_

2. Calculate 12% of \$50.00

3. 5 boxes each containing 48 marbles were repacked into 8 smaller boxes. How many marbles were in each of the 8 boxes?

4. A vendor bought 6 dozen eggs for \$30.00. While transporting, 6 eggs were broken. The remainder was sold at \$7.50 per dozen. What was the profit?

5. Look carefully at the diagram below.



- a. Name the triangle by looking at its sides.

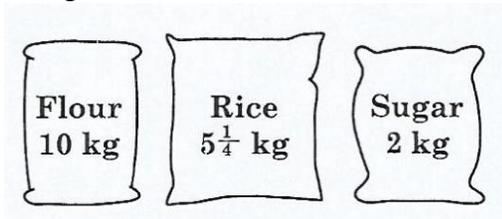
Answer - \_\_\_\_\_

- b. Calculate the size of the angle marked x in the triangle shown above.

6. What is the value of N?

$$\sqrt{36} \times 7 = 3 \times N$$

7. The weights of bags are shown below.



a. How many GRAMS of rice is in the bag.

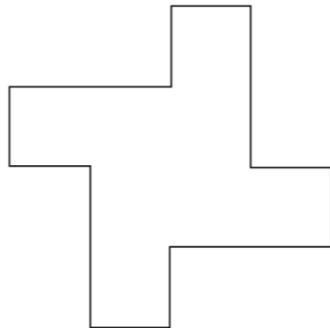
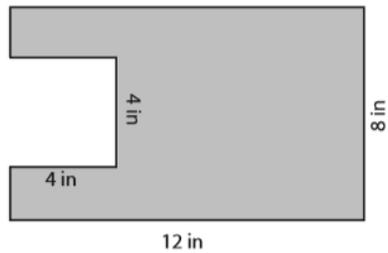
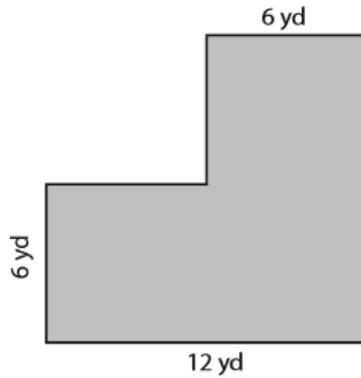
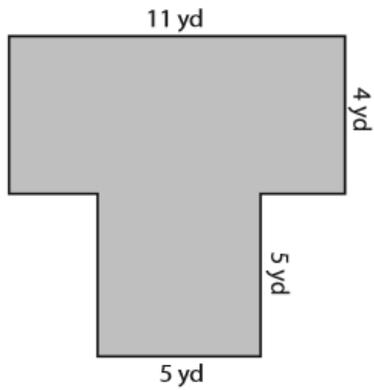
b. How many bags of sugar would weigh the same as 2 bags of flour?

8. Jane is 9 years old. The SUM of her parents' age is eight times as much as Jane's age. If her mother is 6 years younger than her father.

a. How old are each of her parents?

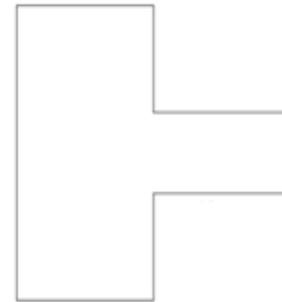
**Decomposing compound shape in to squares and rectangles**

Squares, rectangles and triangles can be joined together to form larger shapes. There are two different methods for finding the area of this shape:



**Try these**

Draw a dotted line to separate these compound shapes in to squares and rectangles. When you are finished explain What lines would be the length and breadth of each shape.



Property of

### Calculate the areas of compound shapes

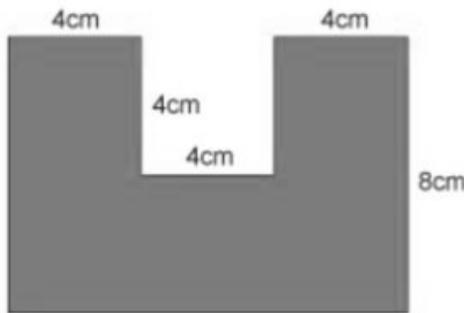
There are two different methods for finding the area of this shape:

#### Method 1

Decompose the shape into squares and rectangles and find their individual areas. Then add them together.

#### Example

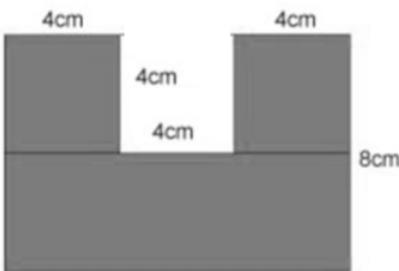
What is the area of the shape below.



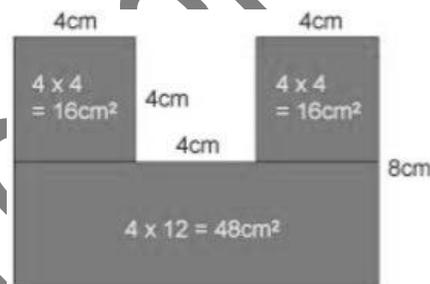
Always write in the missing sides by using the parallel lines that are already



*Step 1* – Decompose the shapes into squares or rectangles.



*Step 2* – Calculate the area of each of the small shapes.



*Step 3* – Calculate the total area of the shapes by adding the smaller areas together.

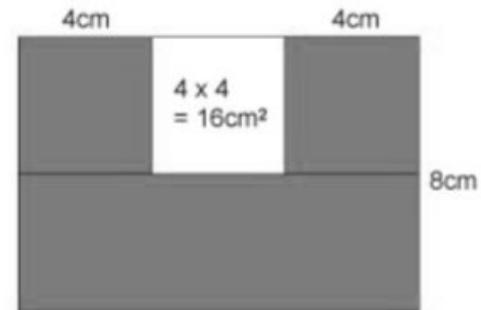
$$48 + 16 + 16 = 80\text{cm}^2$$

#### Method 2

Imagine the shape as a large rectangle with a section cut out.

#### Example

Remember – write in the missing sides by using parallel lines that are already given to you.



*Step 1* –

Find the area of the large rectangle -

$$12 \times 8 = 96\text{cm}^2$$

Then subtract the part that has been cut out

$$4 \times 4 = 16\text{cm}^2$$

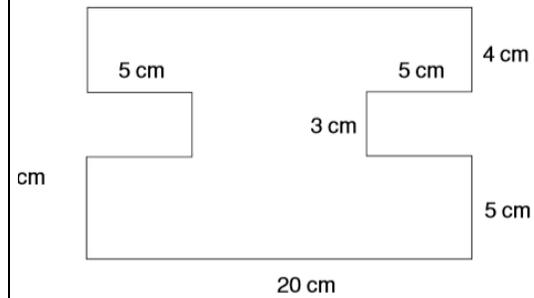
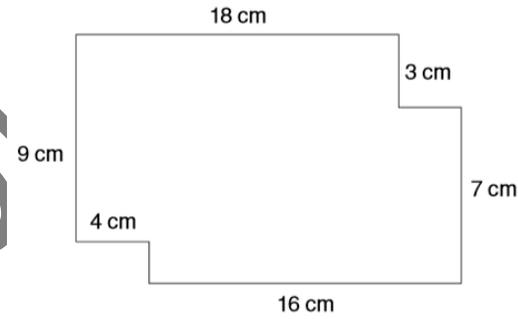
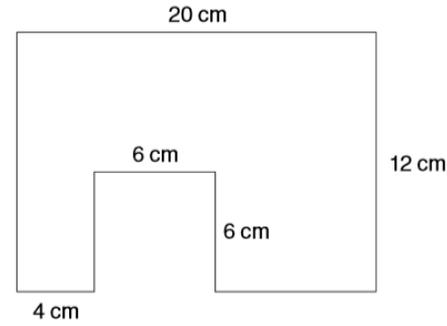
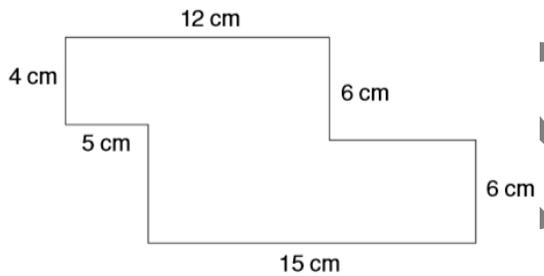
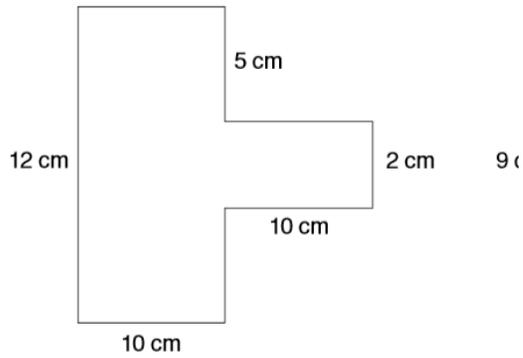
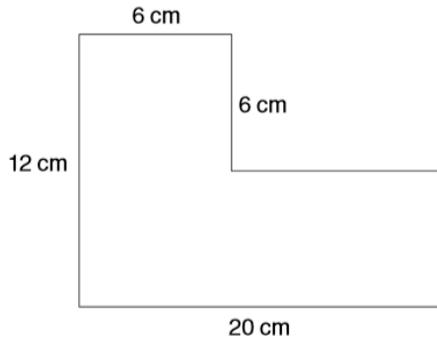
*Step 2* –

Subtract the cut out from the large rectangle.

$$96 - 16 = 80\text{cm}^2$$

Try these:

Instructions: Calculate the Area of the compound shapes.

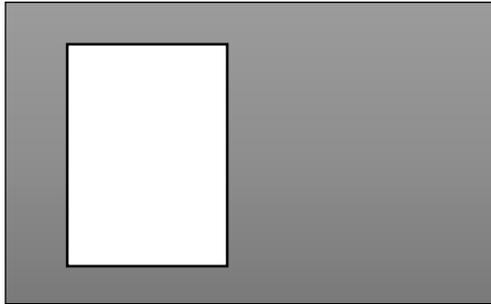


**Compound Shapes – Cut outs within the shape.**

So far, we have studied rectangles and squares that are cut out from the sides of a large shapes. However, rectangles or squares can be cut out from the inside of large shapes.

**Example**

In the diagram below. A rectangle is cut from a larger rectangle.



Before beginning the problem, what should we always do?



What is the area of the shape that remains?

**Step 1-**

Area of Large rectangle

$$\underline{\quad} \times \underline{\quad} = \underline{\quad} \text{cm}^2$$

Area of smaller rectangle

$$\underline{\quad} \times \underline{\quad} = \underline{\quad} \text{cm}^2$$

**Step 2 -**

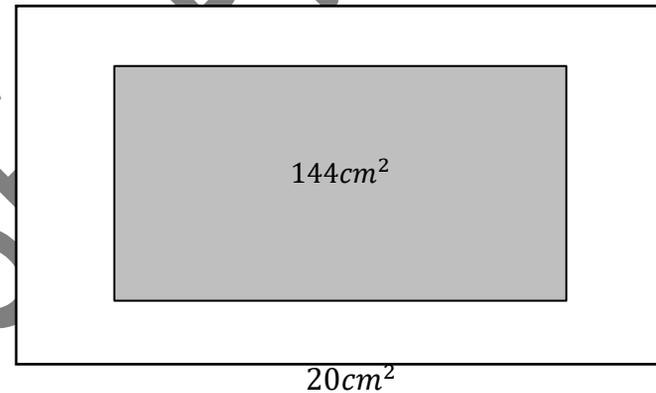
Area of shaded region (section)

$$\underline{\quad} \times \underline{\quad} = \underline{\quad} \text{cm}^2$$

Often, a clue might be given to help you calculate the length of a parallel line. Look at the following example.

**Example**

In the example below the area of the small rectangle is given.

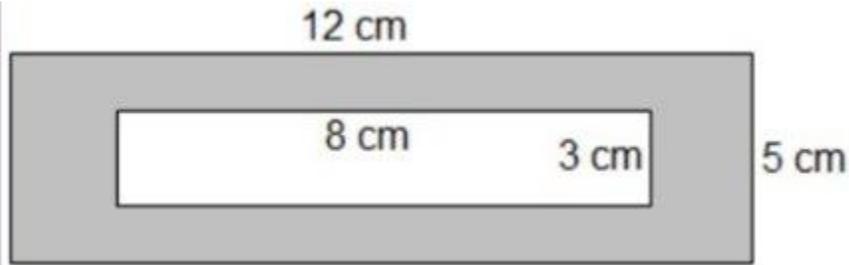


A rectangle with area 144 square centimetres if cut out from a larger rectangle. What is the area of the part that remains?

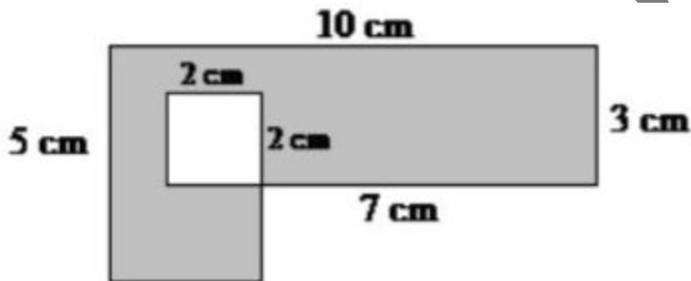


Try these:

- The diagram shows large rectangle with a smaller rectangle cut out from inside of it. Calculate the area of the shaded portion that remains.



- The diagram below shows a square cut out from a larger shape.



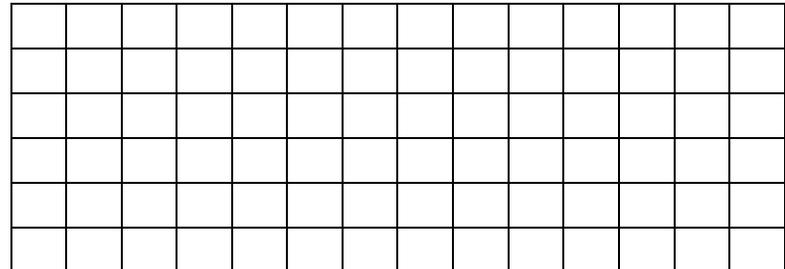
- Solve for the area of the shaded region.



- How many more FULL similar squares can be cut out from the shaded region?

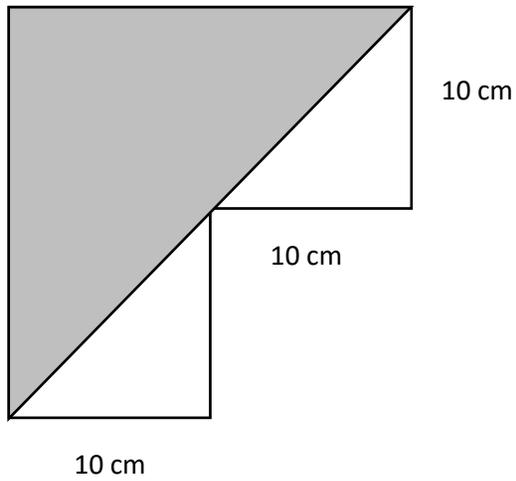


- The diagram shows a rectangular sheet of paper with smaller squares. Each square has an area of  $4 \text{ cm}^2$ .



- What is the length of the large rectangle.

4. The figure below shows a square with one quarter cut off.



- a. Calculate the area of the entire shape.

Blank dashed box for the answer to question a.

- b. Calculate the area of the shaded portion.

Blank dashed box for the answer to question b.

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