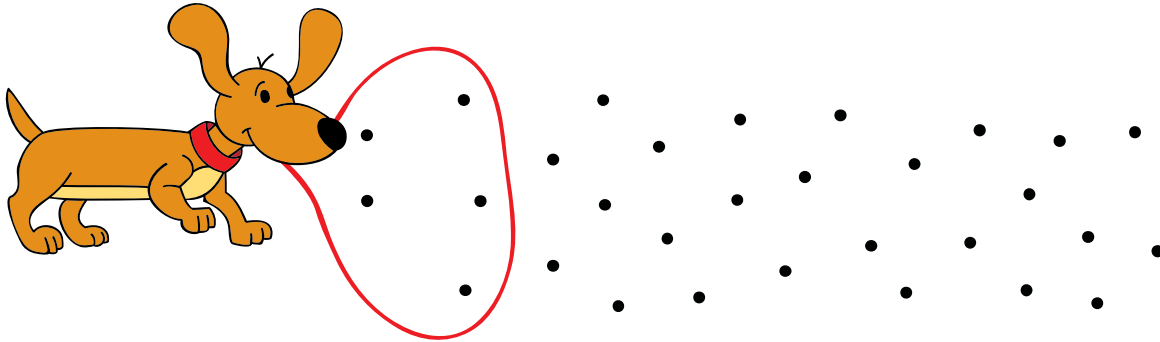


Lesson 2

Multiplication and Division

1 Divide the points in the picture below into groups of five.

Count the points in the drawing.



How many points are there in the drawing? _____

$$30 \div 5 = \underline{\quad}$$

How many groups of five did you count? _____

Grouping points is division.
Counting points divided into groups is multiplication.

2 Simplify the expressions

$$4 + 4 + 4 + 4 + 4 + 4 = \underline{\quad} \times \underline{\quad}$$

$$\underbrace{4 + 4 + \dots + 4}_{16 \text{ times}} = \underline{\quad} \times \underline{\quad}$$

$$a + a + a + a + a + a = \underline{\quad} \times \underline{\quad}$$

$$\underbrace{a + a + \dots + a}_{12 \text{ times}} = \underline{\quad} \times \underline{\quad}$$

$$\underbrace{4 + 4 + 4 \dots + 4 + 4}_{b \text{ times}} = \underline{\quad} \times \underline{\quad}$$

$$\underbrace{a + a + \dots + a}_{z \text{ times}} = \underline{\quad} \times \underline{\quad}$$

3 Solve the word problems:

a) Sophie, Tom, and Betty planted 8 flowers on the first day. The next day they planted 10 flowers. How many flowers did they plant in those two days?

b) Sophie, Tom, and Betty continued to plant 8 flowers per day for the next 10 days. How many flowers did they plant in those 10 days?

c) Betty spends x minutes watering the flowers every day. How many minutes in total did she spend watering flowers after q days?



Order of operations with multiplication and division.

Operations of multiplication and division precede the operations of addition and subtraction.
 Operations of multiplication and division are performed in the order they are written.
 Parentheses are used to modify this order of operations

4 Indicate the order of operations in the following expressions. Evaluate when possible.

$a + x \times 12 + q$

$m \times n - p \div z$

$12 + 8 \div 4 - 2 =$

$(a + x) \times 12 + q$

$m \times (n - p) \div z$

$(12 + 8) \div 4 - 2 =$

$a + x \times (12 + q)$

$(m \times n - p) \div z$

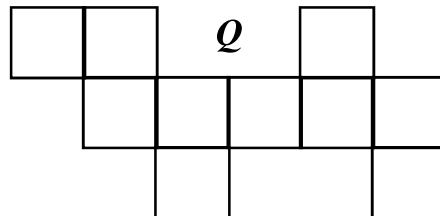
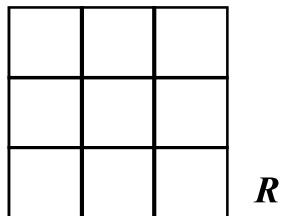
$12 + 8 \div (4 - 2) =$

?



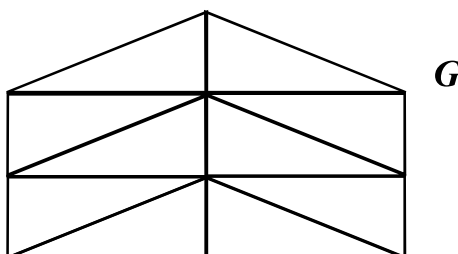
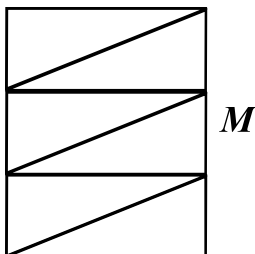
Areas of Rectangles and Random Shapes

5 Measure the areas of the following shapes using the provided unit of measurement, a . Do the same for the unit e below.



$R = \square a$

$Q = \square a$



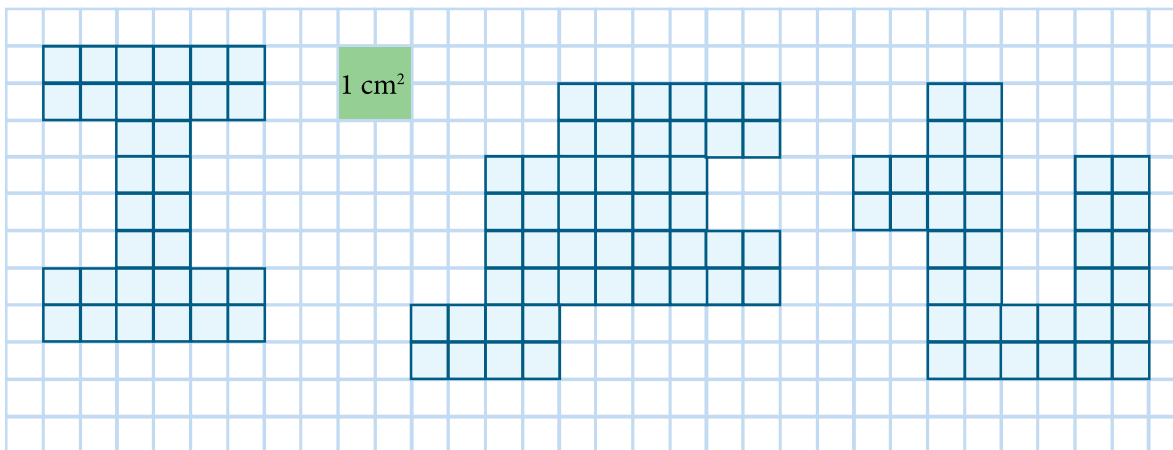
$M = \square e$

$G = \square e$

Square Centimeter

A square centimeter is the area of a square $1 \text{ cm} \times 1 \text{ cm}$.

6 Measure the areas of the following shapes:



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

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

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

$a = \underline{\quad} \text{ cells}$

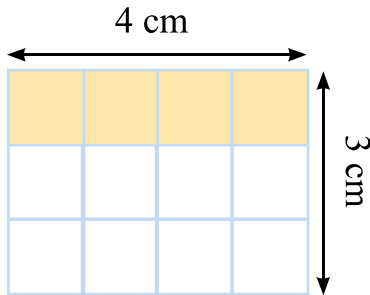
$b = \underline{\quad} \text{ cells}$

$c = \underline{\quad} \text{ cells}$

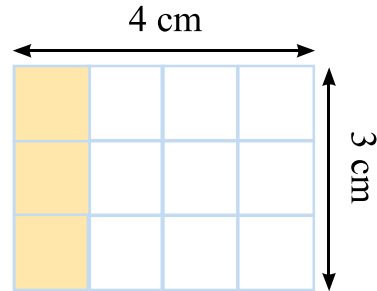
Finding Areas of Rectangles and Commutative Property of Multiplication

- 7 A rectangle is 4 cm long and 3 cm wide. Find the area of the rectangle in square centimeters.

Look at the two ways to solve the problem:



Method I: $S = 4 \text{ cm} \times 3 = \underline{\quad} \text{ cm}^2$

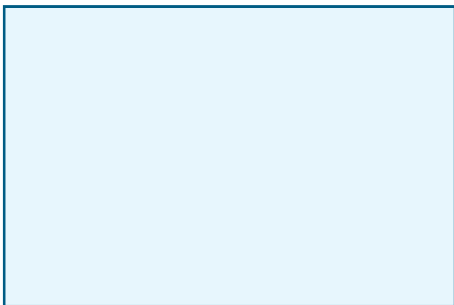


Method II: $S = 3 \text{ cm} \times 4 = \underline{\quad} \text{ cm}^2$

The area of a rectangle equals the product of its sides:

$$S = a \times b = b \times a$$

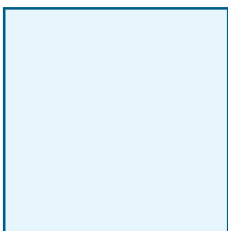
- 8 Measure the sides of the blue rectangles in centimeters and calculate their areas:



$a = \underline{\quad} \text{ cm}$

$b = \underline{\quad} \text{ cm}$

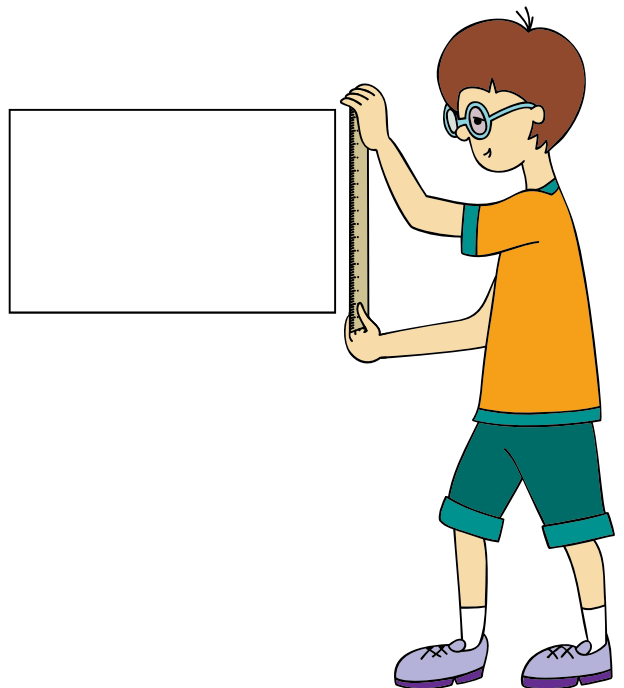
$S = \underline{\quad} \text{ cm}^2$



$a = \underline{\quad} \text{ cm}$

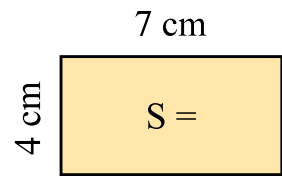
$b = \underline{\quad} \text{ cm}$

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

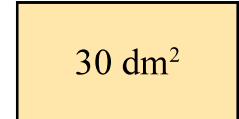


9 Complete the drawing to solve the following word problems:

a) One side of a rectangle is 7 cm. Another side is 4 cm.
What is the area of the rectangle?



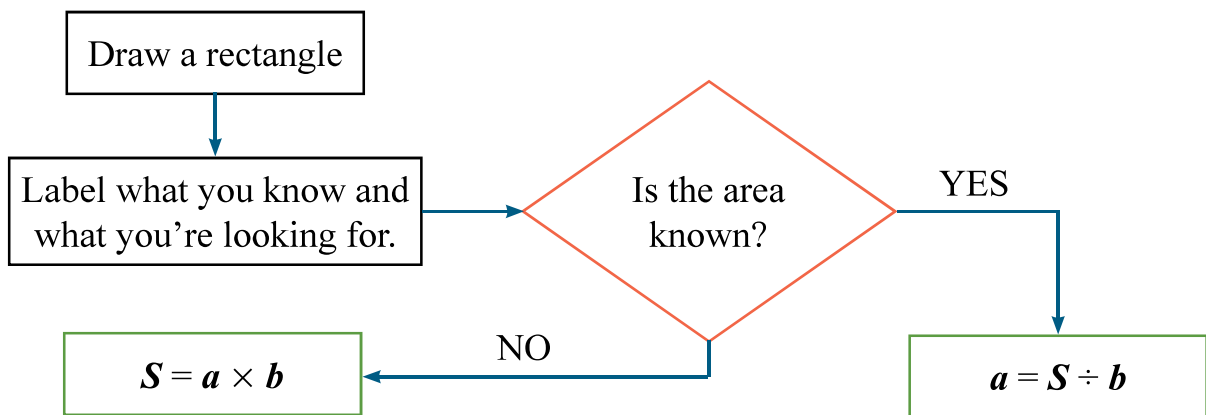
b) A side of a rectangle is 5 dm. What is the other side of the rectangle if its area is 30 dm²?



c) The area of a rectangle is 24 m². What is the width of the rectangle if its length is 8 m?



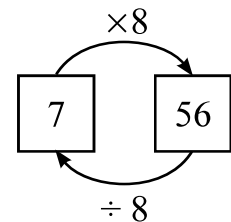
10 Solving word problems about rectangles:



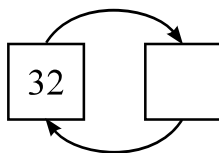
11 Multiplication and division operations:

a) $7 \times 8 =$

b) $7 \times 8 \div 8 =$

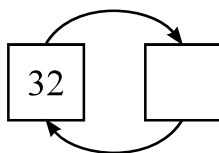


c) $32 \div 4 =$

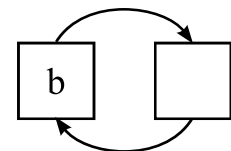


d) $32 \div 4 \times 4 =$

e) $a \times 5 \div 5 =$



f) $b \div 8 \times 8 =$



Square Centimeter and Square Decimeter

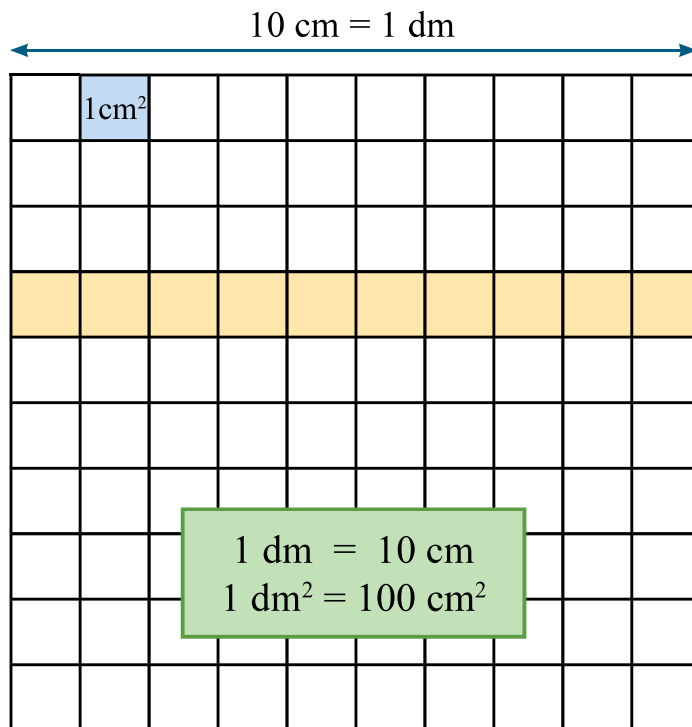
12 Convert:

a) $5 \text{ dm}^2 = \underline{\hspace{2cm}} \text{ cm}^2$

b) $3 \text{ dm}^2 = \underline{\hspace{2cm}} \text{ cm}^2$

c) $300 \text{ cm}^2 = \underline{\hspace{2cm}} \text{ dm}^2$

d) $2 \text{ dm}^2 = \underline{\hspace{2cm}} \text{ cm}^2$



13 Calculate:

a) $2 \text{ cm}^2 + 5 \text{ cm}^2 = \underline{\hspace{2cm}} \text{ cm}^2$

b) $3 \text{ dm}^2 - 2 \text{ dm}^2 = \underline{\hspace{2cm}} \text{ dm}^2$

c) $15 \text{ cm}^2 - 7 \text{ cm}^2 = \underline{\hspace{2cm}} \text{ cm}^2$

d) $11 \text{ dm}^2 + 7 \text{ dm}^2 = \underline{\hspace{2cm}} \text{ dm}^2$

e) $500 \text{ cm}^2 + 1 \text{ dm}^2 = \underline{\hspace{2cm}} \text{ cm}^2$

f) $500 \text{ cm}^2 + 1 \text{ dm}^2 = \underline{\hspace{2cm}} \text{ dm}^2$

14 Use substitution of variables to simplify the following equations:

