

AREA UNITS

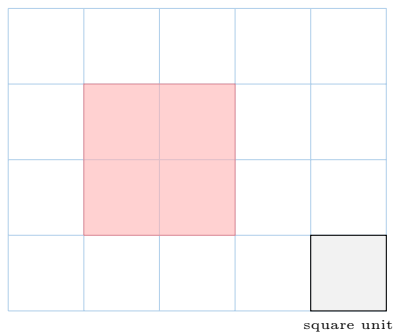
A AREA

Definition Area

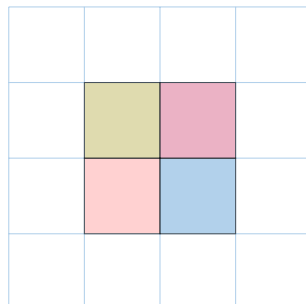
The **area** of a shape is the amount of space it covers on a flat surface. We measure it in square units, like square centimeters or square meters.

To find the area, imagine covering the shape with small squares, like tiles on a floor. Count how many squares fit inside the shape.

Ex: Find the area of the red shape:



Answer: To find the area, we count the number of unit squares inside the shape.

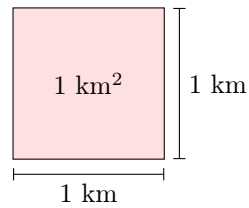


The area is 4 square units.

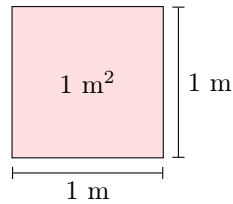
B UNITS OF AREA

Definition Units of Area

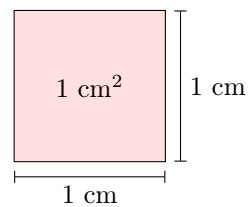
- Square Kilometer (km^2): A very large unit of area, about the size of a small town.



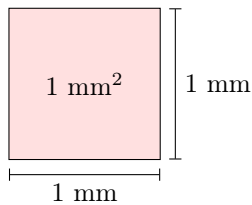
- Square Meter (m^2): A larger unit of area, about the space it takes for you to lie down with your arms by your sides.



- Square Centimeter (cm^2): A small unit of area, about the size of a big toe nail for a 6-year-old boy.



- Square Millimeter (mm^2): A very small unit of area, about the size of a tiny dot made by a pencil.



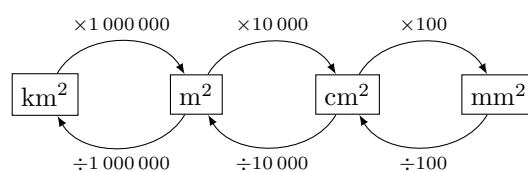
C CONVERSION OF AREA UNITS

Proposition Conversion of Area Units

- $1 \text{ km}^2 = 1\,000\,000 \text{ m}^2$
- $1 \text{ m}^2 = 10\,000 \text{ cm}^2$
- $1 \text{ cm}^2 = 100 \text{ mm}^2$

Method Converting Using Multiplication or Division

- Use **multiplication** to go from a larger unit to a smaller one (like square meters to square centimeters).
- Use **division** to go from a smaller unit to a larger one (like square centimeters to square meters).



Method Converting Using a Table

To convert between units of area, we can use a conversion table. For example, to convert 10.5 square meters to square centimeters:

1. Write the units in the table: km^2 , m^2 , cm^2 , mm^2 .

km^2		ha			m^2				cm^2		mm^2

2. Place the number in the column of the unit you start with.

km^2		ha			m^2				cm^2		mm^2
					1	0.	5				

3. Fill in zeros in the columns to the right until you reach the unit you want to convert to.

km^2		ha			m^2				cm^2		mm^2
					1	0.	5	0	0	0	

4. Read the number in the column of the target unit.

$$\text{So, } 10.5 \text{ m}^2 = 10\,500 \text{ cm}^2.$$