Area of a Square

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Area is the amount of space occupied by a square on a flat surface.

A square is a four-sided shape where all sides are equal in length.

The formula for calculating the area of a square is:

Formula

Area = Side × Side

The unit of area is always in square units (e.g., cm^2, m^2, km^2).

Example Calculations

Example 1:

Find the area of a square with side = 9 cm.

Solution:

Area = Side × Side

= 9 × 9

= 81 cm^2

Example 2:

A square field has an area of 144 m^2. Find the length of one side.

Solution:

Area = $Side^2$

144 = $Side^2$

Side = $\sqrt{144}$ = 12 m

Example 3:

Convert the area of a square plot of 5 m × 5 m into cm^2.

Solution:

Area = 5 × 5 = 25 m^2

Since 1 m^2 = 10,000 cm^2,

25 m^2 = 25 × 10,000 = 250,000 cm^2

Properties of the Area of a Square

i. The area of a square is always positive as it represents a physical space.
ii. If the side length is doubled, the area becomes four times larger.
iii. If the side length is halved, the area becomes one-fourth of the original area.
iv. The area of a square is always greater than or equal to zero.
v. Two different squares can have the same area if their sides are equal.
vi. The area of a square is always measured in square units (e.g., cm^2, m^2, km^2).