Exploring Diagonals of Rectangles and Squares

Diagonal

A diagonal is a line that connects opposite corners (vertices) of a shape.

In a rectangle or square, there are two diagonals.

Examples:

- In a square, if one side is 4 cm, use a ruler to draw diagonals connecting opposite corners.
- In a rectangle of size 6 cm × 4 cm, draw lines from one corner to the opposite.

Diagonals in a Square:

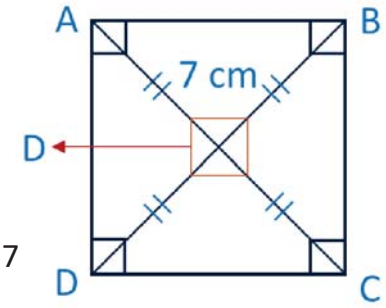
Equal in length

Bisect each other (cut each other in half)

Intersect at 90° (form right angles)

Divide the square into two equal triangles

Example: If diagonal = 7 cm, both diagonals measure 7 cm.



Diagonals in a Rectangle:

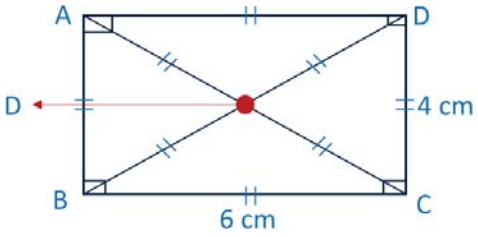
Equal in length

Bisect each other

Do not intersect at 90°

Divide the rectangle into two equal triangles

Example: In a 6 cm × 4 cm rectangle, diagonals are equal but not perpendicular.



Properties Comparison:

Feature	Square	Rectangle
Diagonals Equal	Yes	Yes
Diagonals Bisect Each Other	Yes	Yes
Diagonals Meet at 90°	Yes	No
Number of Diagonals	2	2

Summary:

- A diagonal connects opposite corners
- Both squares and rectangles have 2 equal diagonals
- In squares, diagonals cross at 90°
- In rectangles, diagonals bisect but do not form right angles
- Helps in dividing shapes into equal parts