Square & Rectangle

https://mathefritz.de/en/calculate-area-of-rectangle/

Square: The most important formulas

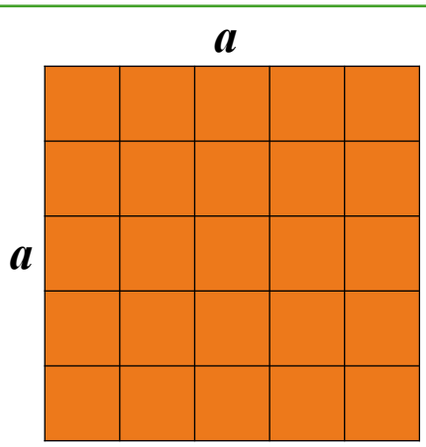
Area (A): $A = a^2$

Perimeter (P): $P = 4 \cdot a$

Length of diagonals (d): $d = a \cdot \sqrt{2} \approx a \cdot 1,4$

1 cm ⟷

1 cm²

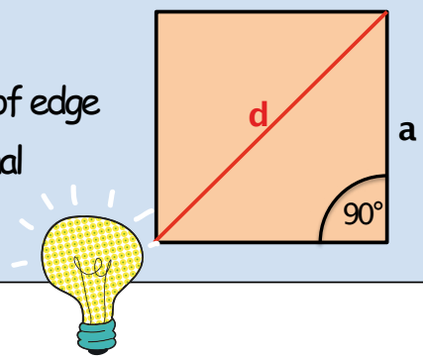


Example

Length of edge: a = 5 cm

$A = 5\ cm \cdot 5\ cm = 25\ cm^2$

$P = 4 \cdot 5\ cm = 20\ cm$



Square

A square is a special quadrilateral in which all sides are of equal length and all interior angle is 90°. You can also say: "A square is a rectangle with 4 equal sides".

Other properties:

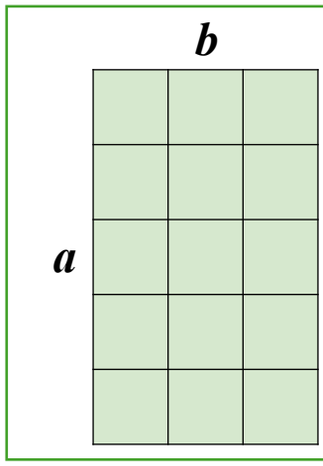
- Opposite sides are parallel.
- The diagonals are the same length.

Rectangle: The most important formulas

Area (A): $A = a \cdot b$

Perimeter (P): $P = 2 \cdot a + 2 \cdot b = 2 \cdot (a + b)$

Length of diagonals (d): $d = \sqrt{a^2 + b^2}$ (Theorem of pythagoras)

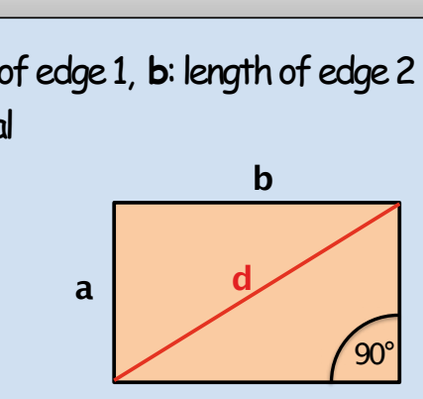


Example

Length of edges: a = 5 cm, b = 3 cm

$A = 5\ cm \cdot 3\ cm = 15\ cm^2$

$P = 2 \cdot 5\ cm + 2 \cdot 3\ cm = 16\ cm$



Rectangle

A rectangle is a special quadrilateral at which the opposite sides are parallel and of equal length and all interior angle is 90°.

Other properties:

- The diagonals are the same length.

Tips on perimeter and area

Perimeter: Imagine you have to walk around the square or rectangle. Then you have to cover exactly the length of the perimeter. This is a good way to remember the formula for the perimeter!

Area: Calculating an area is always a multiplication!
We always calculate one edge length multiplied by the other edge length.

Memorize the formulas!