



Geometry- **MATHS KNOWLEDGE ORGANISER**

properties of shape

ESSENTIAL VOCABULARY

Angle	the space (usually measured in degrees) between two <u>intersecting</u> lines or surfaces at or close to the point where they meet.
Acute	Any angle measuring more than 0 degrees and less than 90 degrees is acute.
Obtuse	Any angle measuring more than 90 degrees, but less than 180 degrees is obtuse
Parallel	side by side and having the same distance continuously between them.
Perpendicular	at an angle of 90° to a given line, plane, or surface or to the ground.
Two-dimensional	a flat figure or a shape that has two dimensions — length and width.
Quadrilateral	A quadrilateral is a polygon with four sides
Vertices	Corners on a shape
Edges	Sides of a shape
Symmetry	Lines of symmetry may be horizontal, vertical or diagonal.
Right angle	The intersection of perpendicular lines creates a right angle.

Key themes

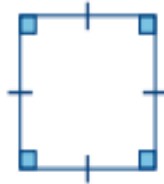
- What's a quadrilateral?
- What's the difference between parallel and perpendicular lines?
- Different types of angles

LINKS TO PREVIOUS LEARNING

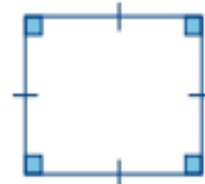
- identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
- identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid]
- compare and sort common 2-D and 3-D shapes and everyday objects.

Quadrilaterals

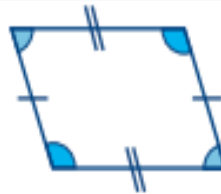
A quadrilateral is a polygon with four sides.



A square has four sides of equal length and four right angles (90°). A square is also a rectangle, a rhombus and a parallelogram.



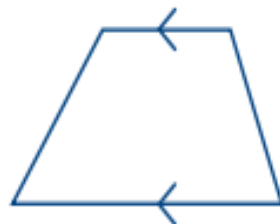
A rectangle has two pairs of parallel, equal sides and four right angles. A rectangle is also a parallelogram.



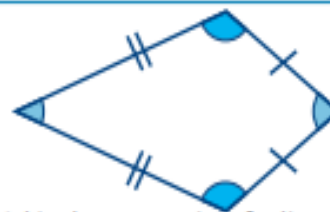
A parallelogram has two pairs of parallel, equal sides and opposite equal angles.



A rhombus has four sides of equal length and opposite equal angles. A rhombus is also a parallelogram.



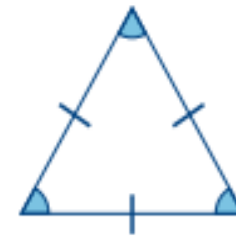
A trapezium only has one pair of opposite parallel sides.



A kite has two pairs of adjacent equal sides and one pair of opposite equal angles.

Triangles

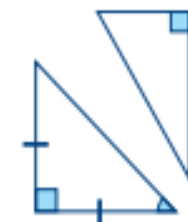
Triangles have 3 sides and 3 vertices. The total of the angles in a triangle is 180°.



An equilateral triangle is a regular polygon. It has sides of equal length and each angle is 60°.

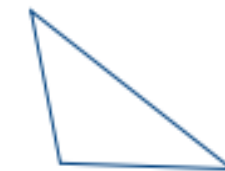


An isosceles triangle has two sides of equal length and two angles of equal size.



A right-angled triangle always has one 90° angle.

It can be isosceles or scalene.

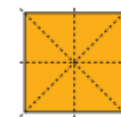


A scalene triangle has no equal sides or angles.

Lines of Symmetry

Lines of symmetry may be horizontal, vertical or diagonal. Some 2D shapes will have no lines of symmetry and some 2D shapes will have multiple lines of symmetry.

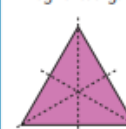
A square has four lines of symmetry.



A rectangle has two lines of symmetry.



An equilateral triangle has three lines of symmetry.



An isosceles triangle has one line of symmetry.



A parallelogram has no lines of symmetry.

