

Reference Sheet for Polygon Properties

Definitions

Triangles :

A **scalene triangle** is a triangle whose sides are all different lengths.

An **isosceles triangle** is a triangle with two sides the same length and two angles equal.

An **equilateral triangle** is a triangle whose sides are all the same length and all angles are 60° .

A **right triangle** is a triangle with one angle that measures 90° .

Quadrilaterals :

A **parallelogram** is a quadrilateral with both pairs of opposite sides parallel and equal in length and opposite angles are also equal.

A **rectangle** is a quadrilateral with both pairs of opposite sides parallel and equal in length, and all angles 90° .

A **rhombus** is a quadrilateral with both pairs of opposite sides parallel and all sides the same length.

A **square** is a quadrilateral with both pairs of opposite sides parallel, all sides the same length, and all angles 90° .

A **kite** is a quadrilateral with two pairs of adjacent sides equal.

Miscellaneous :

To **bisect** is to separate something into two equal parts.

A **midpoint** is a point that divides a line segment into two equal parts.

Adjacent means to be side by side (adjacent sides - share a vertex).

A **diagonal** is a line segment joining two non-adjacent vertices of a polygon.

Proofs

Bisect - both halves of the line segment are the same length.

Perpendicular - lines meet at a 90° angle, slopes are negative reciprocals.

Parallel - slopes are the same.

Perpendicular Bisectors - both halves of each line segment are the same length and they meet at a 90° angle (slopes are negative reciprocals)

Parallelogram - opposite sides are equal in length and opposite angles equal.

Rectangle - opposite sides are equal in length, and all angles are 90° .

Rhombus - all sides are the same length and opposite angles are equal.

Square - all sides are the same length and all angles are 90° .