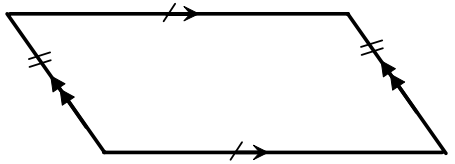
2D Shapes

Quadrilaterals

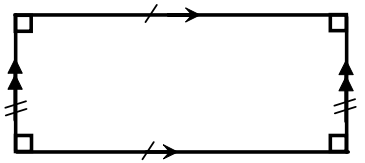
Quadrilaterals are shapes with exactly *four* straight sides. They also have exactly *four* corners. *The interior angles of any quadrilateral add up to 360°.*

Parallelograms



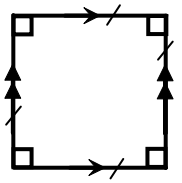
A *parallelogram* is a quadrilateral – it has four sides and four corners. Each side is parallel with the side *opposite* it. Also, the lengths of opposite sides in a parallelogram are the same.

The rectangle



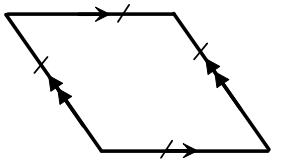
A *rectangle* is a type of parallelogram, with *all* the interior angles exactly 90°.

The square



A *square* is an even more specialised type of parallelogram than the rectangle. A square has all the properties of a rectangle, but on top of these, *all* the sides of a square are the same length:

The rhombus



A *rhombus* is like a square except that the interior angles can be any value at all, not just 90°. The square is a special type of rhombus.

Polygons

There is a general name for any *plane* shape which has *straight* sides and is a *closed* shape – a 'polygon'.

Polygon Names	
Number of Sides	**Name**
3	Triangle
4	Quadrilateral
5	Pentagon
6	Hexagon
7	Heptagon
8	Octagon
9	Nonagon
10	Decagon
12	Dodecagon

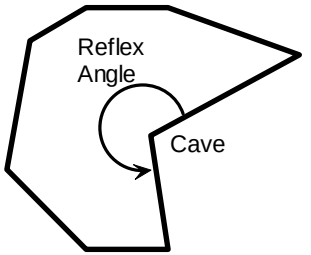
Regular polygons

- All their sides are the same length
- All their interior angles are the same

Irregular polygons

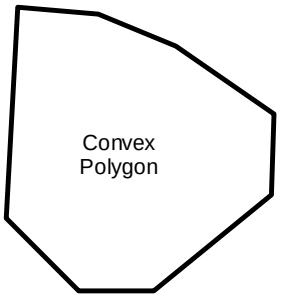
- Has at least two sides of different length
- Has at least two different sized interior angles

Concave polygons



Concave polygons have at least one interior angle that is *larger than 180°.*

Convex polygons



None of the interior angles in a convex polygon are larger than 180°.

Sum of the angles inside a polygon

$$\text{Sum of interior angles} = (n-2)\times 180°$$

where n is the number of sides.