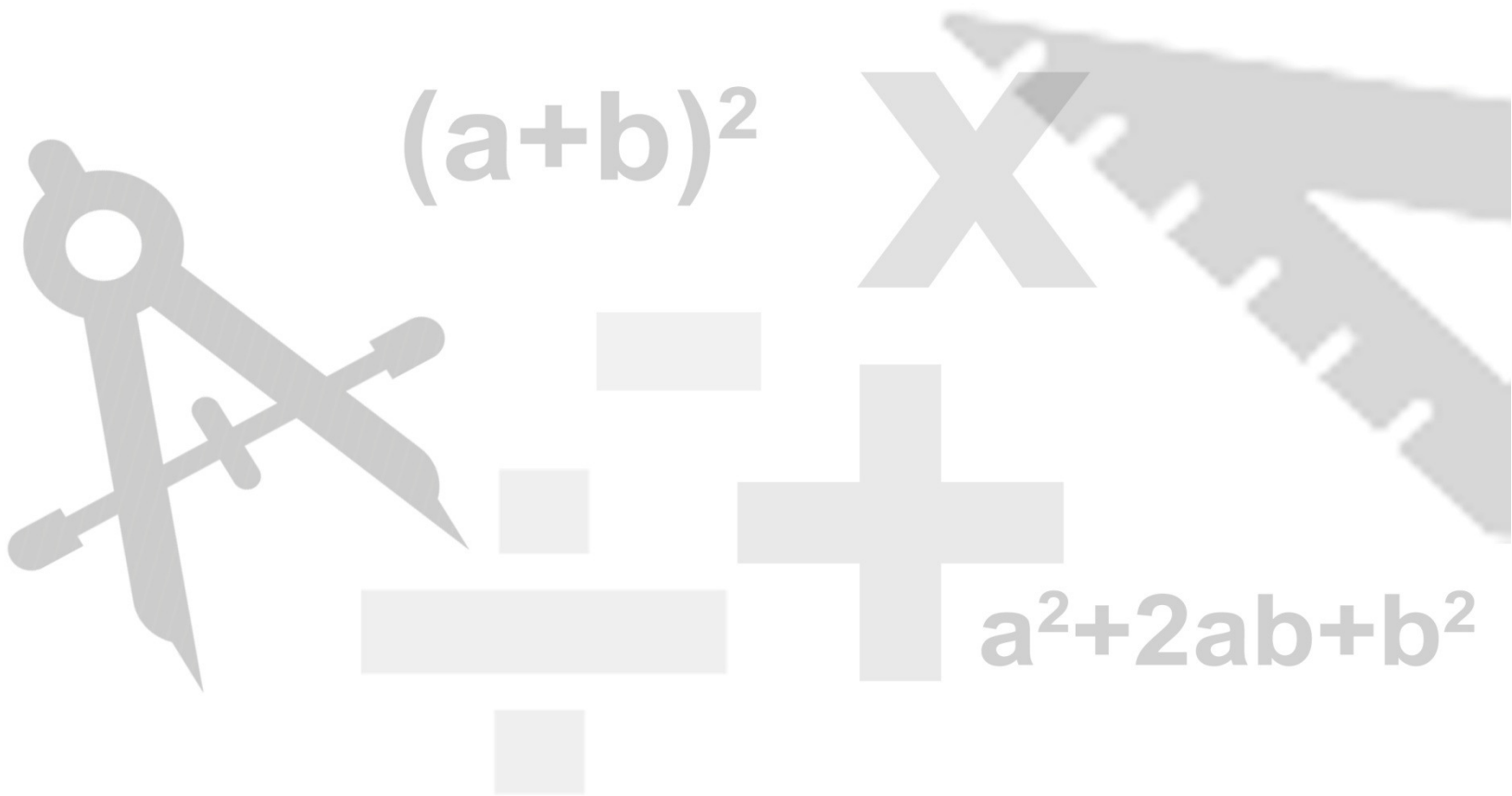
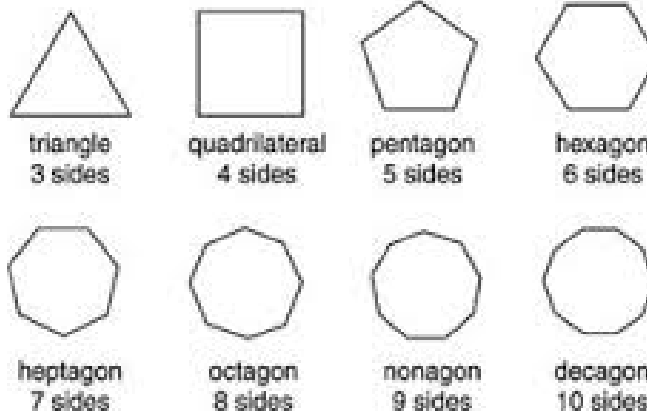


MATHS

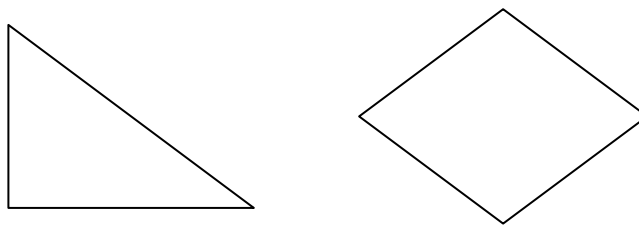


Polygons

1. A closed figure made up of 3 or more sides is called polygon. Some types of polygons are:

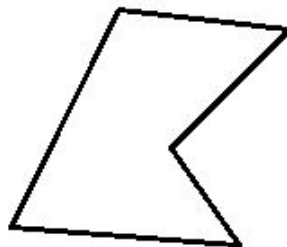


2. If the measure of each interior angle of a polygon is less than 180° , then it is called a convex polygon.



Convex polygons

3. If the measure of at least one interior angle of a polygon is more than 180° , then it is a concave or reentrant polygon.



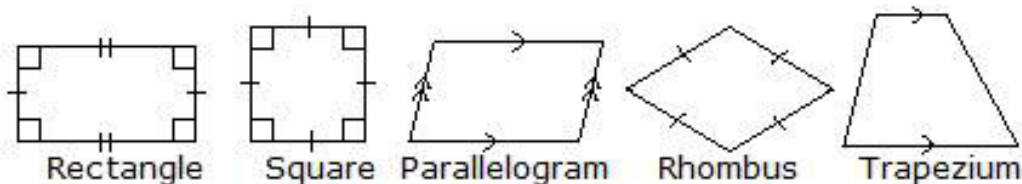
Concave Polygon or Re-entrant

4. A polygon with all sides and all angles equal is called a regular polygon.

5. Sum of interior angles of a polygon with n sides = $(2n - 4) \times 90^\circ$.

6. Each interior angle of a regular polygon with n sides = $\frac{2n - 4}{n} \times 90^\circ$

7. A quadrilateral is a four sided polygon. Types of quadrilateral are:



- i. A quadrilateral which has exactly one pair of parallel sides is called a trapezium.
 - ii. A quadrilateral in which both pairs of opposite sides are parallel is called a parallelogram.
 - iii. A parallelogram in which all the sides are equal is called a rhombus.
 - iv. A parallelogram in which each angle is a right angle is called a rectangle.
 - v. A parallelogram in which all the sides are equal and each angle is equal to a right angle is called a square.
 - vi. A quadrilateral which has two pairs of equal adjacent sides but unequal opposite sides is called a kite.
8. A quadrilateral is a parallelogram if
- i. its opposite sides are equal, or
 - ii. its opposite angles are equal, or
 - iii. its diagonals bisect each other, or
 - iv. it has one pair of opposite sides equal and parallel.
9. The diagonals of a rhombus bisect each other at right angles.
10. The diagonals of a rectangle are equal.
11. The diagonals of a square are equal and they bisect each other at right angles.
12. Rectangles can be constructed when: (a) the adjacent sides are given and (b) a side and length of one diagonal are given.
13. Squares can be constructed when: (a) when length of one side is given (b) length of a diagonal is given using the fact that the diagonals of a square are equal and they bisect each other at right angles.