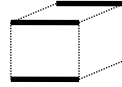


Geometry definitions that you must know

Words You Should Know

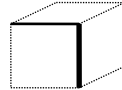
parallel lines

lines that never meet, no matter how long they are



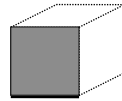
intersecting lines

lines that meet in a single point



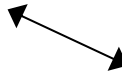
plane

flat surface that extends in all directions



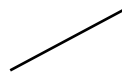
line

a straight line that extends in both directions forever.



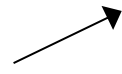
line Segment

A part of a line, with two endpoints.



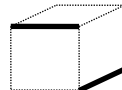
ray

A straight line with one end point, that extends in one direction forever.



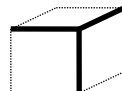
skew lines

lines that aren't in the same plane



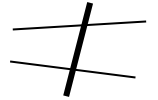
concurrent lines

three or more lines that intersect in a single point



transversal

A line that intersects two other lines.



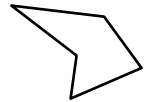
collinear points

three or more points that lie on the same line



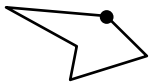
polygon

closed shape made of line segments



vertex

a point in a shape where two sides meet; a 'corner'. In an angle – the intersection of the 2 rays that form the angle.



regular polygon

polygon with equal sides and equal angles. example - a square

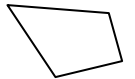


Names of Polygons

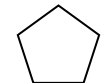
Triangle (3 sides)



Quadrilateral (4 sides)



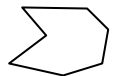
Pentagon (5 sides)



Hexagon (6 sides)



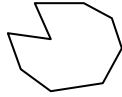
Heptagon (7 sides)



Octagon (8 sides)



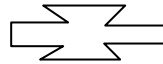
Nonagon (9 sides)



Decagon (10 sides)

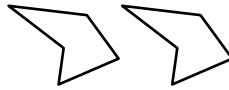


Dodecagon (12 sides)



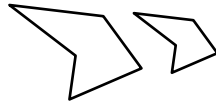
congruent shapes

congruent shapes are identical.
congruent lines are the same length.
congruent angles are the same size.



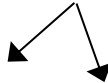
similar shapes

similar shapes are identical in shape,
except one is larger than the other.



angle

an angle is formed by 2 rays that meet at a vertex



Angles

acute angle less than 90°



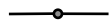
right angle equal to 90°



obtuse angle between 90° and 180°



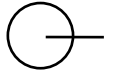
straight angle equal to 180°



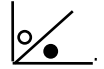
reflex angle between 180° and 360°



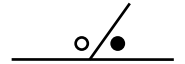
revolution equal to 360°



complementary Angles
add to 90°



supplementary Angles
add to 180°



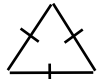
adjacent angles

have a common arm and a common vertex



Triangles (classified by sides)

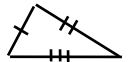
equilateral 3 sides equal



isosceles 2 sides equal

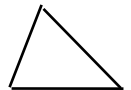


scalene no sides equal

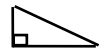


Triangles (classified by angles)

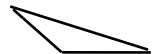
acute-angled all angles $< 90^{\circ}$



right-angled one right angle



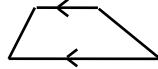
obtuse angled one obtuse angle



Special Quadrilaterals

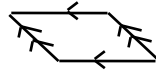
trapezium

one pair of parallel sides



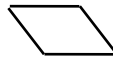
parallelogram

opposite sides are parallel



rhombus

parallelogram with all sides equal



kite

pairs of adjacent sides are the same length



rectangle

right angle at every vertex



square

rectangle with all sides equal



Parts of a Circle

circumference

the outline of the circle, or the distance around a circle



Arc

part of a circle



semicircle

half of a circle



radius

line from the centre to the circumference



chord

Line joining 2 points on the circumference



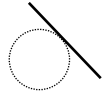
diameter

chord that passes through the centre of a circle



tangent

line that touches a circle at a single point



segment

shape made by an arc and a chord



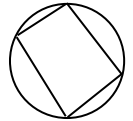
sector

shape made by 2 radii and the arc between them. A 'pie-shaped' piece.



Cyclic quadrilateral

A quadrilateral whose vertices all lie on the circumference of a circle.



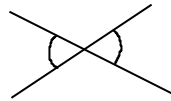
Geometry facts that you should know

Angle Facts

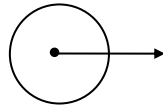
Angles in a straight line add to 180° .



Vertically opposite angles are equal.

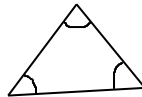


Angles at a point add to 360° .

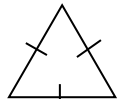


Triangle Facts

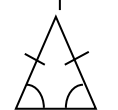
Angles in a triangle add to 180° .



All angles in an equilateral triangle are 60° .



The base angles in an isosceles triangle are equal.

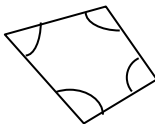


The exterior angle of a triangle is equal to the sum of the two opposite interior angles.



Quadrilateral Facts

Angles in a quadrilateral add to 360° .

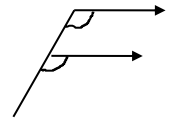


Opposite angles of a parallelogram are equal.



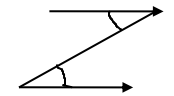
Parallel Line Facts

If two parallel lines are cut by a transversal, the corresponding angles are equal



If two lines are cut by a transversal and the corresponding angles are equal, the lines are parallel.

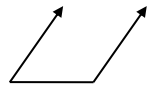
If two parallel lines are cut by a transversal, the alternate angles are equal



If two lines are cut by a transversal and the alternate angles are equal, the lines are parallel.

If two parallel lines are cut by a transversal, the co-interior angles are supplementary.

If two lines are cut by a transversal and the co-interior angles are supplementary, the lines are parallel.

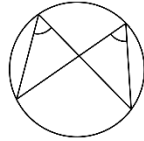


Circle Facts

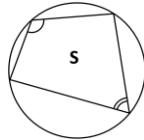
An angle drawn in a semi-circle is a right angle.



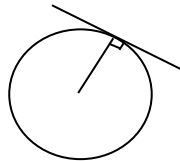
Angles drawn on the same arc are equal.



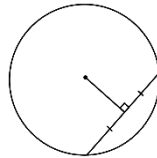
Opposite angles of a cyclic quadrilateral are supplementary.



A tangent and radius that meet at the same point form a right angle.



If a line passing through the centre intersects a chord at 90° , the line bisects the chord.



A chord and a line through the centre that bisects the chord, meet at 90° .

An angle drawn on the centre of a circle measures twice the angle drawn on the circumference.

