

As outcomes, Year 8 pupils should, for example:

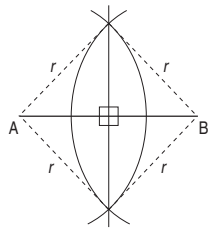
Use vocabulary from previous year and extend to: bisect, bisector, mid-point... equidistant... straight edge, compasses... locus, loci...

In work on construction and loci, know that the shortest distance from point P to a given line is taken as the distance from P to the nearest point N on the line, so that PN is perpendicular to the given line.

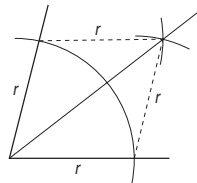
Use straight edge and compasses for constructions.

Recall that the diagonals of a rhombus bisect each other at right angles and also bisect the angles of the rhombus. Recognise how these properties, and the properties of isosceles triangles, are used in standard constructions.

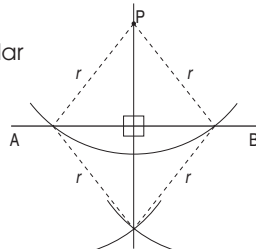
- Construct the mid-point and perpendicular bisector of a line segment AB.



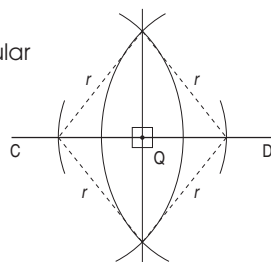
- Construct the bisector of an angle.



- Construct the perpendicular from a point P to a line segment AB.



- Construct the perpendicular from a point Q on a line segment CD.



Know that:

- The **perpendicular bisector** of a line segment is the locus of points that are equidistant from the two end points of the line segment.
- The **bisector of an angle** is the locus of points that are equidistant from the two lines.

[Link to loci \(pages 224–7\) and properties of a rhombus \(pages 186–7\), and to work in design and technology.](#)

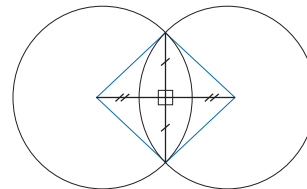
As outcomes, Year 9 pupils should, for example:

Use vocabulary from previous years and extend to: circumcircle, circumcentre, inscribed circle...

Use straight edge and compasses for constructions.

Understand how standard constructions using straight edge and compasses relate to the properties of two intersecting circles with equal radii:

- The common chord and the line joining the two centres bisect each other at right angles.
- The radii joining the centres to the points of intersection form two isosceles triangles or a rhombus.

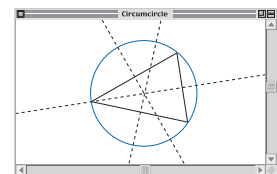


Use congruence to prove that the standard constructions are exact.

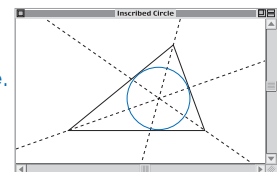
Use construction methods to investigate what happens to the angle bisectors of any triangle, or the perpendicular bisectors of the sides. For example:

- Observe the position of the centres of these circles as the vertices of the triangles are moved.

Construct a triangle and the perpendicular bisectors of the sides. Draw the circumcircle.



Construct a triangle and the angle bisectors. Draw the inscribed circle.



[Link to properties of a circle \(pages 194–7\), and to work in design and technology.](#)