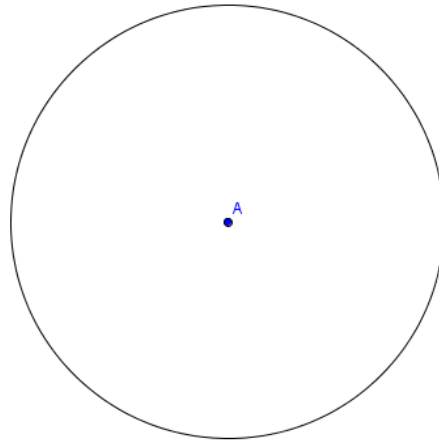# Introducing loci

A *locus* is a place. The locus of points that fulfil particular conditions can be drawn using construction techniques you have learnt.

The locus of points a fixed distance from a point

If we are allowed only a particular distance from a point, the only place we can be is on the circle of that radius around the point:
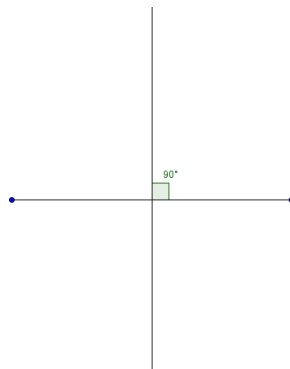
The locus of points a fixed distance from a line

If we are allowed only a particular distance from a line, the only place we can be is on a line parallel to that line, that distance away:

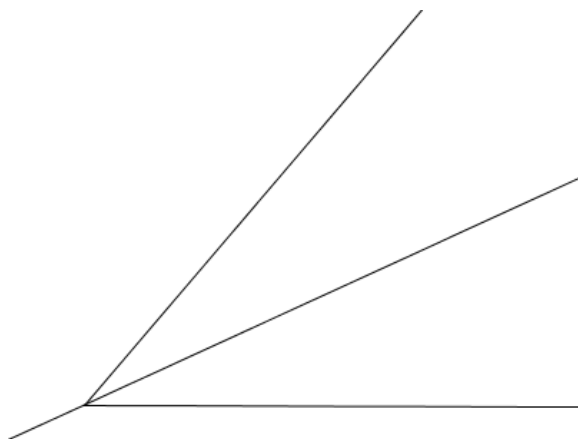**The locus of points the same distance from two points**

If we must remain the same distance from two points, the path we must stay on is the perpendicular bisector of the line joining the two points:

Introducing loci

The locus of points the same distance from two lines

If we must remain the same distance from two lines, the path we must stay on is the angle bisector of the two lines:

The locus of points the same distance from a rectangle

If we must remain the same distance from the outside edge of a rectangle, the path we must stay on is parallel to the walls and curves in a partial circle around the corners: