

Construction and Loci Challenge Sheet

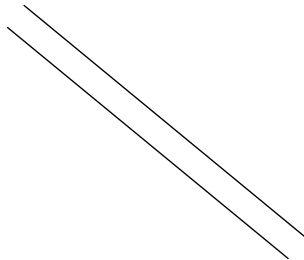
Complete as many of the following challenges as you can, as a group, making a note of the shapes you produce for each one. You will also be expected to demonstrate one of these shapes to the rest of the class.

1. In your group, stand **exactly 2m** from one member of your group.
Draw and describe the shape you have created:



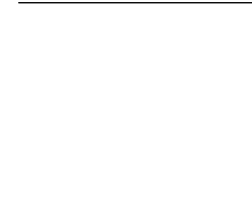
This is the locus of points a fixed distance from a point.

2. In your group, stand **exactly 1m** away from a straight wall.
Draw and describe the shape you have created:



This is the locus of points a fixed distance from a line.

3. In your group, stand **exactly 2m** a wall around a corner.
Draw and describe the shape you have created:



This can give the locus of points a fixed distance from a rectangle.

4. In your group, stand **exactly the same distance** away from two members of your group.
Draw and describe the shape you have created:



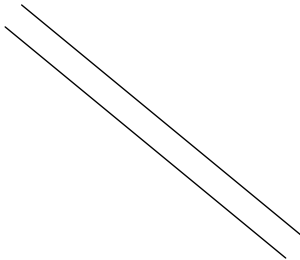
This is the locus of points equidistant from two fixed points.

5. In your group, stand **within 2m** of one member of your group.
Draw and describe the area you have created:



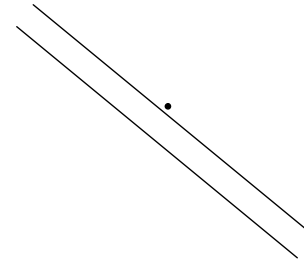
This is the locus of points within a given distance of a point.

6. In your group, stand **no further than 1m** away from a straight wall.
Draw and describe the area you have created:



This is the locus of points within a given distance of a line.

7. In your group, stand **at least 1m** away from a straight wall, and **within 2m** of a person standing beside the wall.
Draw and describe the area you have created:



This is the locus of points which satisfy both conditions.

8. Design your own conditions, either by combining those used in these challenges or creating new ones altogether.
Draw and describe the area you have created: