Triangle construction (3 types)

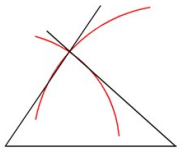
Side, side, side

1. Draw the base of the triangle using a ruler.

2. Open a pair of compasses to the width of one side of the triangle.

3. Place the point on one end of the line and draw an arc.

4. Repeat for the other side of the triangle at the other end of the line.



5. Using a ruler, draw lines connecting the ends of the base of the

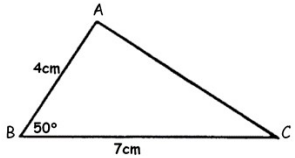
Side, angle, side

1. Draw the base of the triangle using a ruler.

2. Measure the angle required using a protractor and mark this angle.

3. Remove the protractor and draw a line of the exact length required in line with the angle mark drawn.

4. Connect the end of this line to



Year 8 Higher topic 7

Constructions and Loci

What careers would use these skills?

Architect, graphic designer, town planning, electrical engineers.

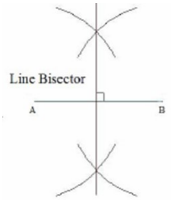
Line bisector (cut line in half)

1. Put the sharp point of a pair of compasses on A.

2. Open the compass over half way on the line.

3. Draw an arc above and below the line.

4. Without changing the compass, repeat

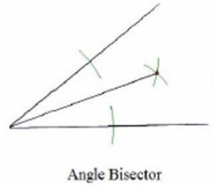


Angle bisector (cut angle in half)

1. Place the sharp end of a pair of compasses on the vertex.

2. Draw an arc, marking a point on each line.

3. Without changing the compass put the compass on each point and mark a centre point where two arcs cross

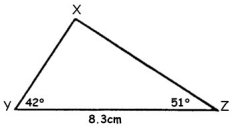


Angle, side, angle

1. Draw the base of the triangle using a ruler.

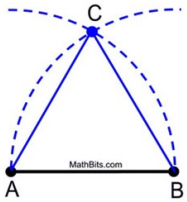
2. Measure one of the angles required using a protractor and mark this angle.

3. Draw a straight line through this point from the same point on the base of



Equilateral triangle construction

1. Draw the base of the triangle using a ruler.
2. Open the pair of compasses to the exact length of the side of the triangle.
3. Place the sharp point on one end of the line and draw an arc.
4. Repeat this from the other end of the line.



Plans and elevations

A plan is what a shape looks like from above, also called a birds eye view.

An elevation is what the shape looks like from the side.

These are both 2D representations of a 3D shape.

Loci

- A locus is a path of points that follow a rule.

- For the locus of points closer to B than A, create a perpendicular bisector between A and B and shade the side closer to B.

- For the locus of points equidistant from A, use a compass to draw a circle, centre A.

- For the locus of points equidistant to line X and line Y, create an angle bisector.

- For the locus of points a set distance from a line, create two semi-circles at either end joined by two parallel lines.