YEAR 9 - CONSTRUCTING IN 2D/3D...

@whisto_maths

Constructions & congruency

What do I need to be able

By the end of this unit you should be able to:

- Draw and measure angles
- Construct scale drawings
- Find locus of distance from points, lines, two
- Construct perpendiculars from points, lines,
- Identify congruence
- Identify congruent triangles

Keywords

Protractor: piece of equipment used to measure and draw angles

Locus: set of points with a common property

Equidistant: the same distance

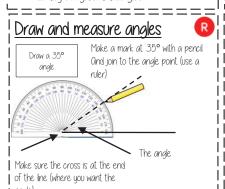
Discorectangle: (a stadium) — a rectangle with semi circles at either end

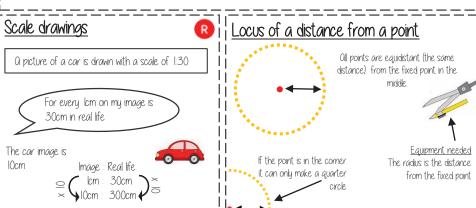
Perpendicular: lines that meet at 90°

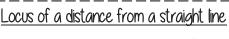
arc: part of a curve

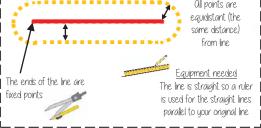
Bisector: a line that divides something into two equal parts

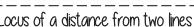
Congruent: the same shape and size

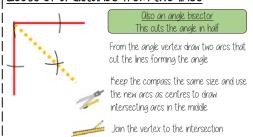


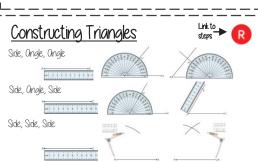




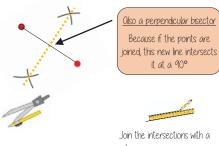








Locus equidistant from two points



Keep the compass the same $\begin{tabular}{ll} \begin{tabular}{ll} \begin{tabular}{ll$

size and draw two arcs from equidistant from both points

Construct a perpendicular from

a point

Use a compass and draw an arc that cuts the line. Use the point to place the compass

Keep the compass the same distance and now use your new points to make new interconnecting arcs

Connectina the arcs makes the bisector

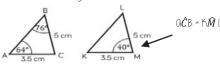
If P is a point on the line the steps are the same

Conaruent fiaures



Congruent figures are identical in size and shape — they can be reflections or rotations of each other

Congruent shapes are identical — all correspondina sides and angles are the same size



Because all the angles are the same and OC=KM BC=LM triangles OBC and KLM are congruent

Conaruent trianales

Side-side-side

Oll three sides on the triangle are the same size

Ongle-side-angle

Two angles and the side connecting them are equal in two triangles

Side-angle-side

Two sides and the angle in-between them are equal in two triangles (it will also mean the third side is the same size on both shapes)

Right angle-hypotenuse-side

11 The triangles both have a right angle, the II hypotenuse and one side are the same