The perpendicular bisector of a line(also line equidistant from two points)


- set the radius of your compass to more than than half the length of XY (but less than XY )
- with centre $X$, draw an arc above and below the line $X Y$
- with centre $Y$, draw an arc above and below the line XY intersecting the arcs from X
- the arcs intersect at points $W$ and $Z$ respectively above and below the line XY
- join the points $W$ and $Z$
- the line WZ is the perpendicular bisector of $X Y$


## Perpendicular from a point to a line



- set the radius of your compass so that an arc with centre $P$ cuts the line at two points
- name these points of intersection $X$ and $Y$
- with the radius greater than half $X Y$ and centre $X$ draw an arc below the line $X Y$
- repeat with centre $Y$
- where the arcs intersect call point $Z$
- the line joining $Z$ to $P$ is the perpendicular bisector of the line $X Y$
- where this line meets XY call point W
- $\quad \mathrm{PW}$ is the perpendicular from the point $P$ to the line $X Y$

Bisection of an angle


- with centre $O$ draw arcs to cut the arms of the angle at $X$ and $Y$
- using the same radius, from point $X$ draw an arc between the arms of the angle
- repeat at point $Y$
- the two arcs intersect at point $P$
- draw a line between $P$ and $O$
- PO is the bisector of the angle XOY


## Construction of a 60 deg. angle (also of an equilateral triangle)



- draw a line XY
- with centre $X$ and radius the length of the line, draw an arc above the line
- repeat from centre $Y$
- the point $Z$ is where the arcs intersect
- join $X Z$
- join $Y Z$
- angle $Z X Y$ is a 60 deg. angle


## Construction of a triangle(sides different)



- draw a line XY of given length, as the base to the triangle
- with centre $X$ and radius the length of the second side of the triangle, draw an arc above the line
- with centre Y and radius the length of the third side of the triangle, draw an arc above the line
- the point $Z$ is where the arcs intersect
- join XZ
- join $Y Z$

