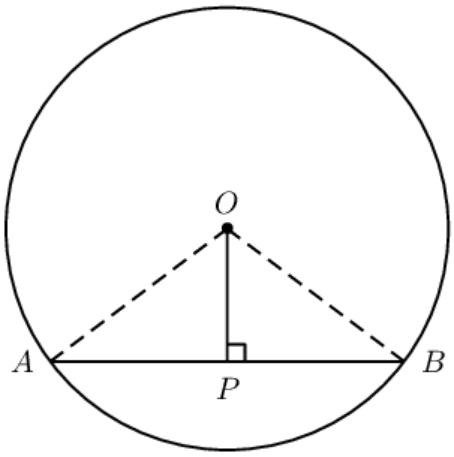
C - Coordinate Geometry

How can we prove that a perpendicular line from the centre to a chord bisects the chord?	 Draw OA and OB. In $\triangle OPA$ and in $\triangle OPB$, $OA^2 = OP^2 + AP^2$ (Pythagoras) $OB^2 = OP^2 + BP^2$ (Pythagoras) and $OA = OB$ (equal radii) $\therefore AP^2 = BP^2$ $\therefore AP = BP$ Therefore OP bisects AB.