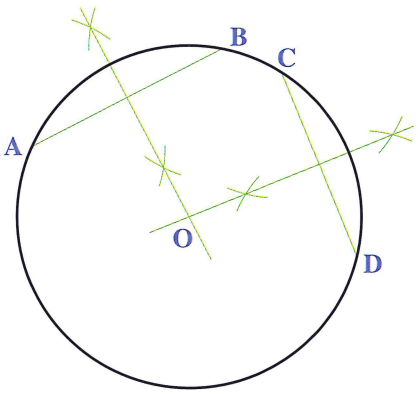
Finding the Centre of a Given Circle or Arc

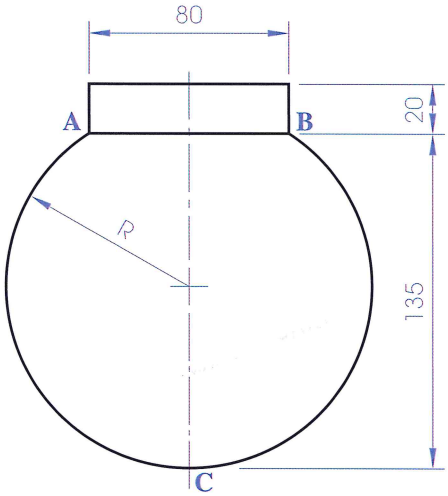


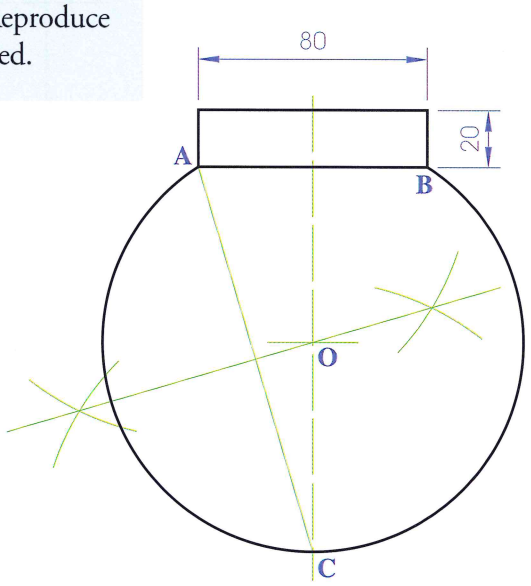
The figure across shows a circle, centre O. Two chords AB and CD are also shown. The chords are bisected to show that the perpendicular bisectors cross at the centre O.

The perpendicular bisector of a chord passes through the centre of the circle.

Example

The figure below shows an elevation of a **globe light fitting**. Reproduce the drawing showing clearly how the centre of the arc is obtained.



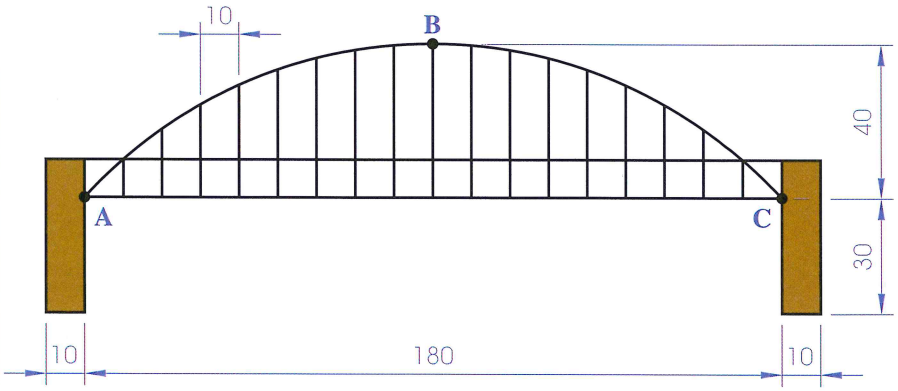


1. Draw the rectangle measuring 80 mm × 20 mm. AB is a chord of the circle. Draw the perpendicular bisector of this chord.
2. Locate the point C. Draw the chord AC and construct its perpendicular bisector. The perpendicular bisectors cross at the centre O. Draw the arc centre O and radius OA.

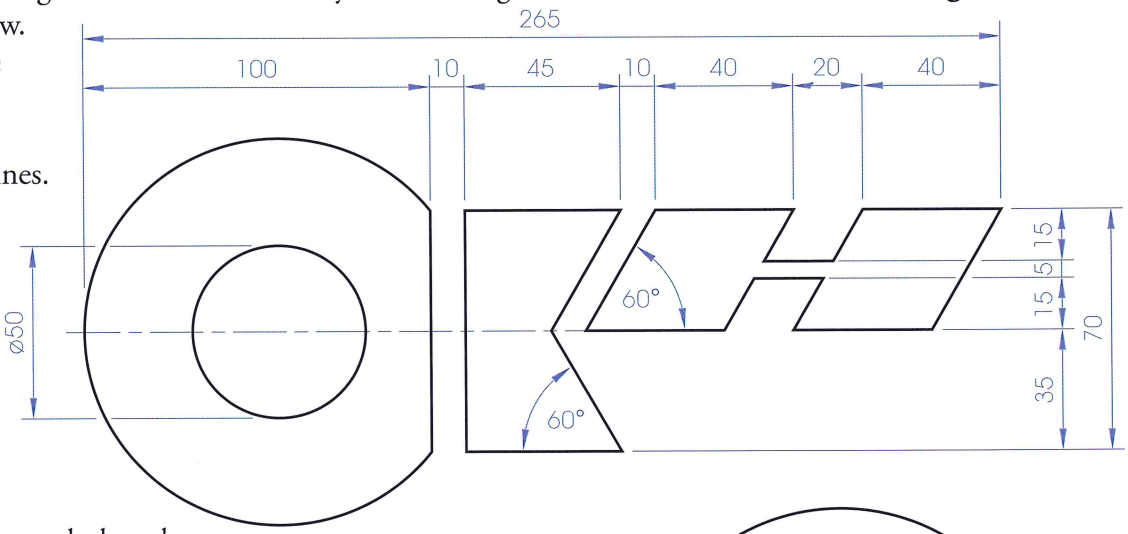
The centre of the arc ABC lies at the intersection of the perpendicular bisectors of chords AB and AC.

Exercises

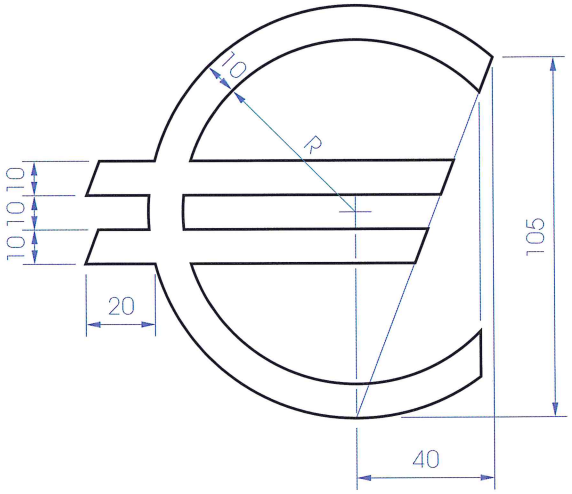
1. The figure below represents a drawing of the **James Joyce Bridge** in Dublin. The curve ABC is an arc of a circle. Reproduce the drawing of the bridge full-size showing clearly how the centre for the arc ABC is determined.



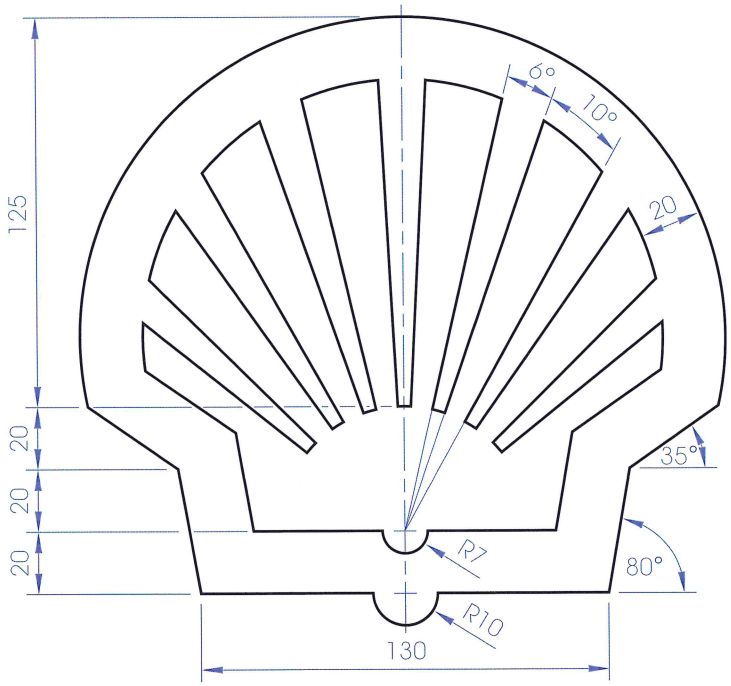
2. A drawing of a logo that was once used by the estate agents **Hamilton, Osborne and King** is shown in the figure below. Reproduce the given drawing showing all construction lines.

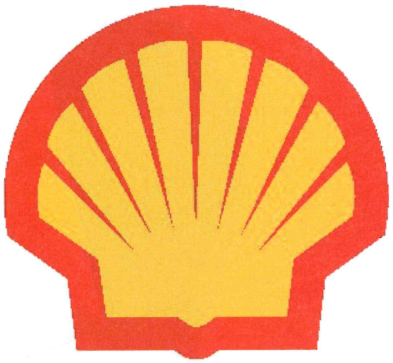


3. Draw the **euro** symbol to the dimensions given.



4. The **Shell** logo is a complex one but it can be reproduced accurately by means of a technical drawing. Reproduce the drawing of the **Shell** logo shown below showing all constructions.





Answer Worksheet 11B