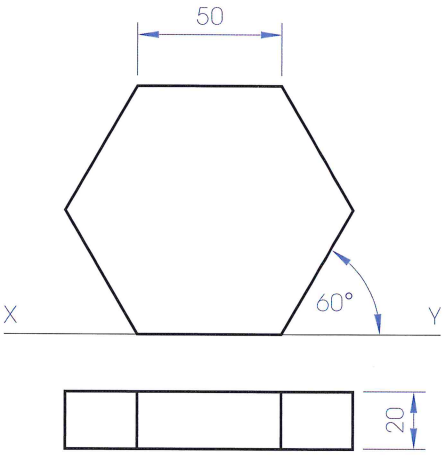
Exercise

The elevation and plan of the box for **Turkish Delight** sweets, which is based on a **regular hexagonal prism**, are shown across.

Construct an **isometric drawing** of the box.



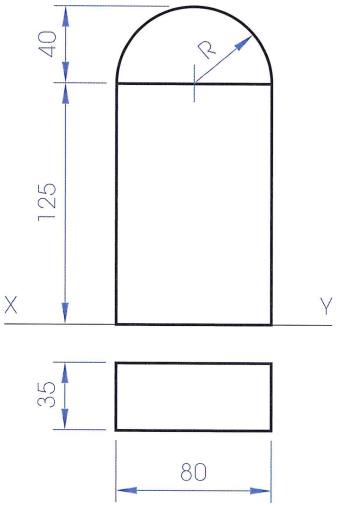
Circles in Isometric Drawing

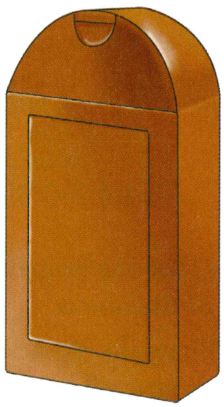
Circles appear elliptical in isometric drawing.

Example

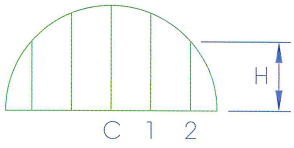
The elevation and plan of a **shampoo bottle** are shown over.

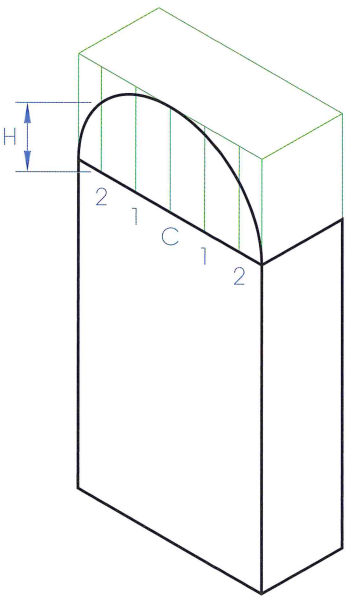
Make an **isometric drawing** of the bottle.



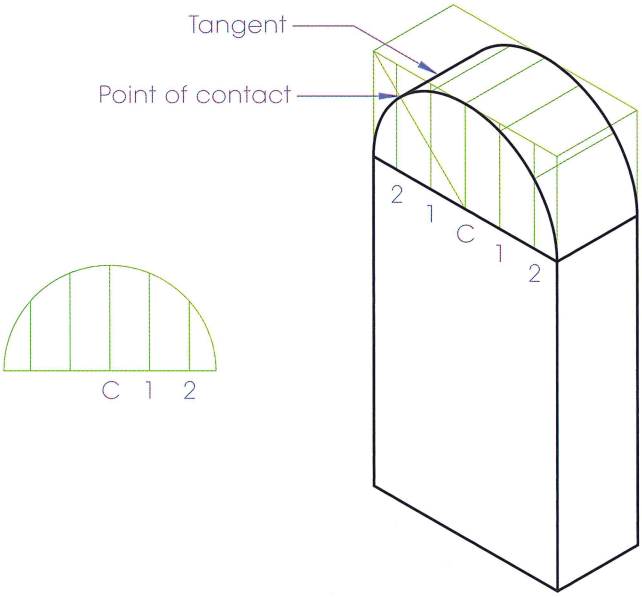


1. Draw the isometric axes and construct the box into which the bottle fits.
2. Draw the elevation of the semicircle and mark off points (C, 1 and 2) along the base line, say 15 mm apart for convenience, as shown over.
3. Locate these points (C, 1 and 2) on the base line in the isometric drawing.
4. Now locate points on the semi-ellipse by transferring the relevant heights above C, 1 and 2 as shown over, and draw a smooth curve to pass through them.





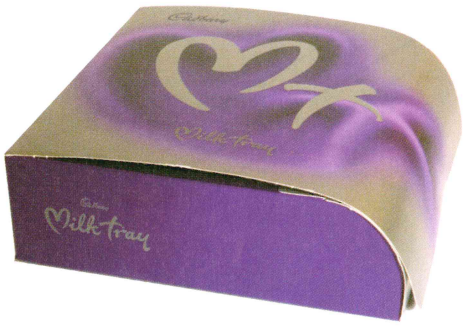
5. The relevant portion of the semi-ellipse on the back surface can be drawn by locating points 35 mm away from the front semi-ellipse, at 30° to the right as shown across.
6. The point of contact for the tangent can be located by drawing the diagonal from the centre as shown.

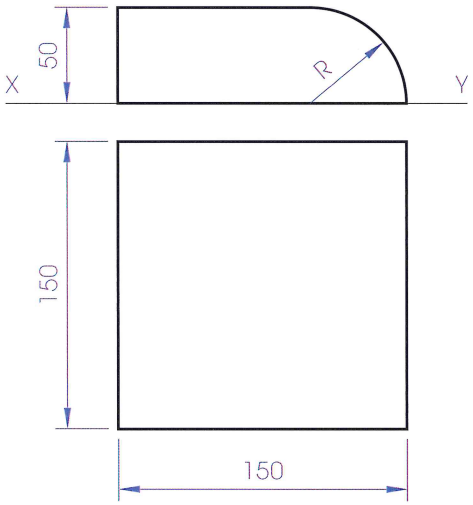


Exercises

1. The figure over shows the elevation and plan of a solid based on the **Milk Tray** box.

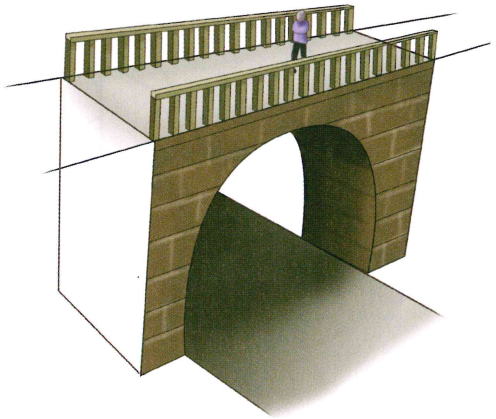
   Construct an **isometric drawing** of the box.

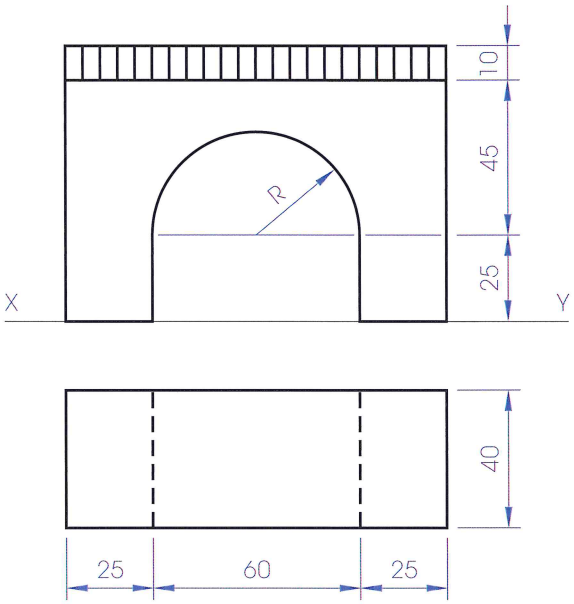




2. The elevation and plan of a **bridge** are shown over. The vertical lines in the railings are 5 mm apart.

   Make an **isometric drawing** of the bridge.



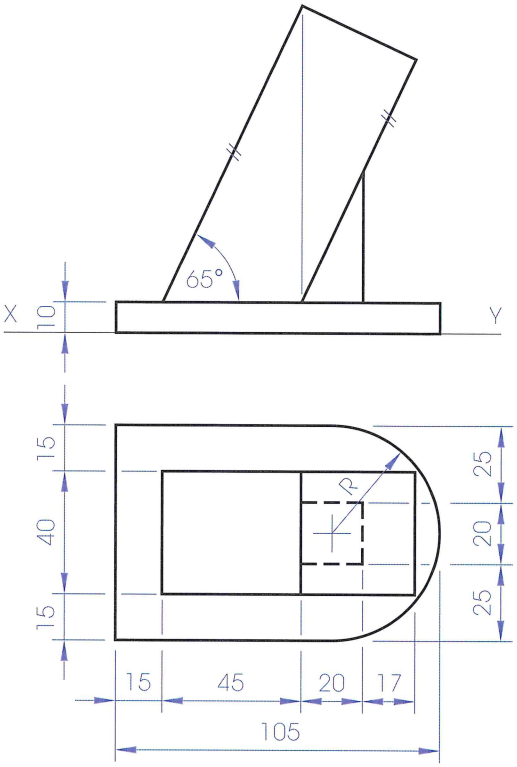


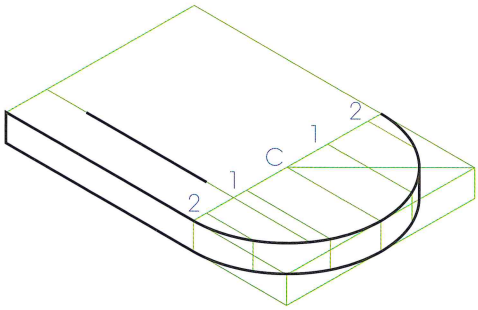
More complicated objects can be drawn in isometric by 'boxing' in their component parts if appropriate.

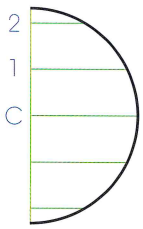
Example

The figure over shows the elevation and plan of a **knife block**.

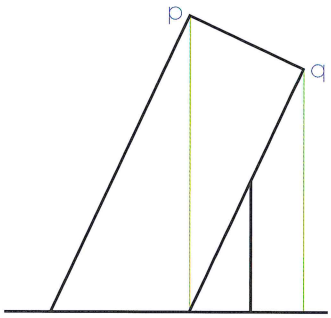
Draw an **isometric** view of the block.

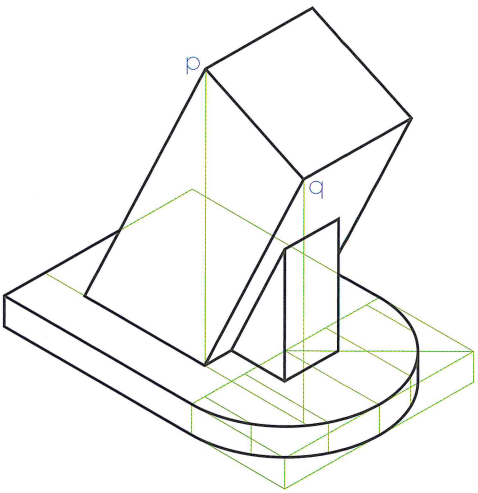


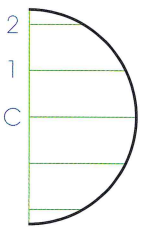




1. Draw the box into which the base fits and construct the base as shown over, top.
2. Draw the partial elevation shown over, bottom, to determine the vertical heights of points **P** and **Q** on the inclined lines.
3. Transfer these heights to the isometric view to determine points **P** and **Q** in the isometric view as shown.
4. Complete the isometric drawing noting that parallel lines on an object will appear parallel in an isometric view.

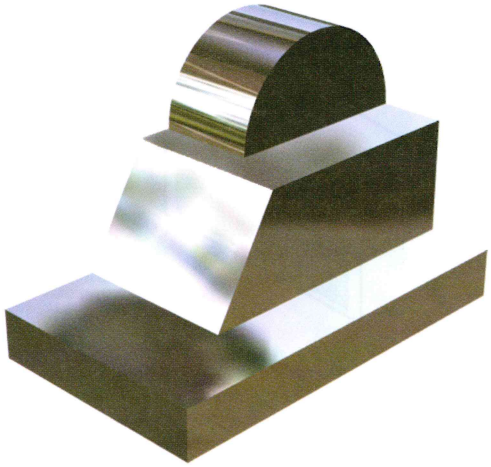


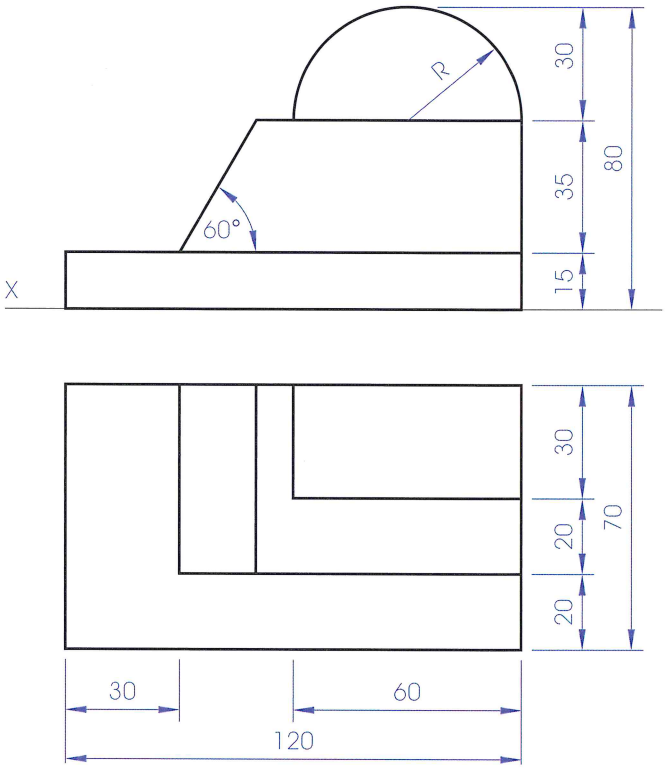




Exercises

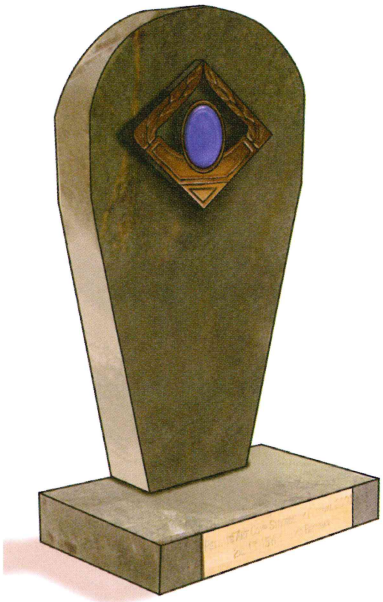
1. The elevation and plan of a **solid** are shown over. Also shown is a photo-realistic image of the solid. Draw an **isometric** view of the solid.

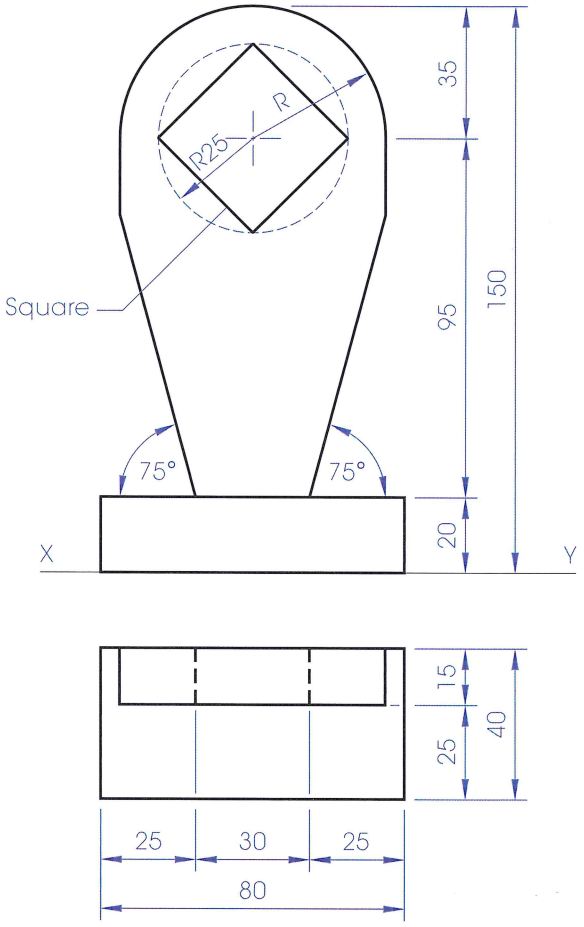




2. The elevation and plan of **plaque** are shown over.

Draw an **isometric** view of the plaque.





Answer Worksheets 14A, 14B and 14C