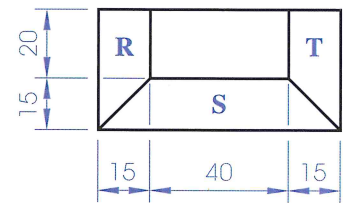
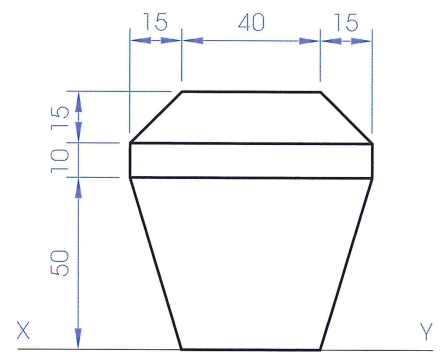
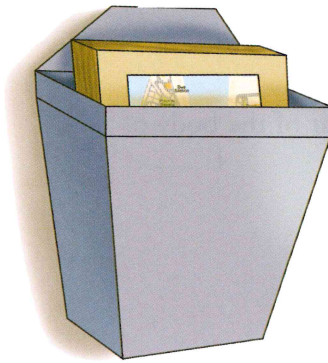


Further Developments

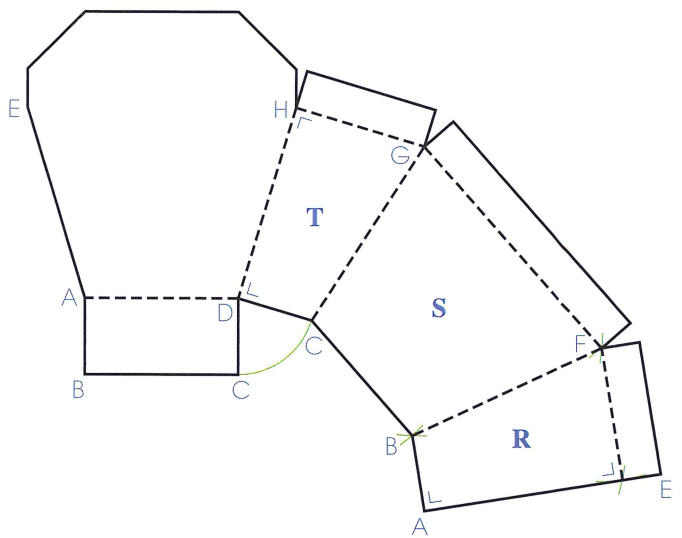
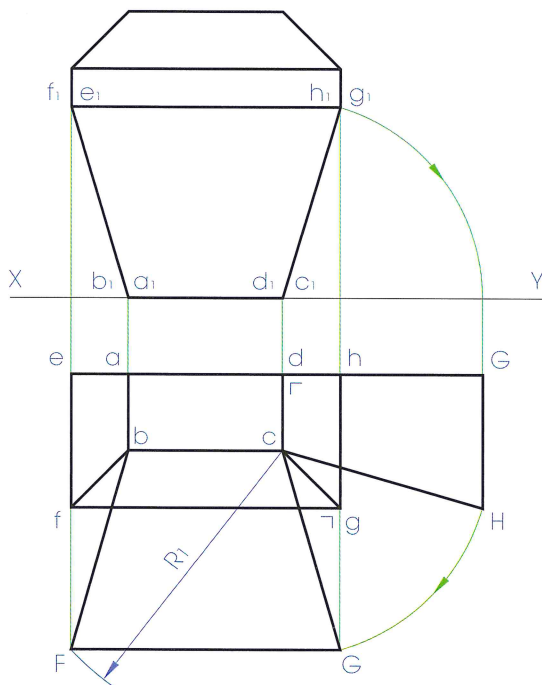
Example

The elevation and plan of a **container** are shown over.

- Draw the given views.
- Determine the **true shape** of surfaces **T** and **S** of the **container**.
- Draw the complete **development** of the container.



- The elevation and plan are drawn in the normal manner.
- The true shape of surface **T** can be determined by rabatting it into the horizontal plane about the hinge line **CD** as shown below.
- The true shape of surface **S** can be determined by rabatting it about the hinge line **BC**. Note that the true length of line **CG** can be transferred from the true shape of surface **T**.

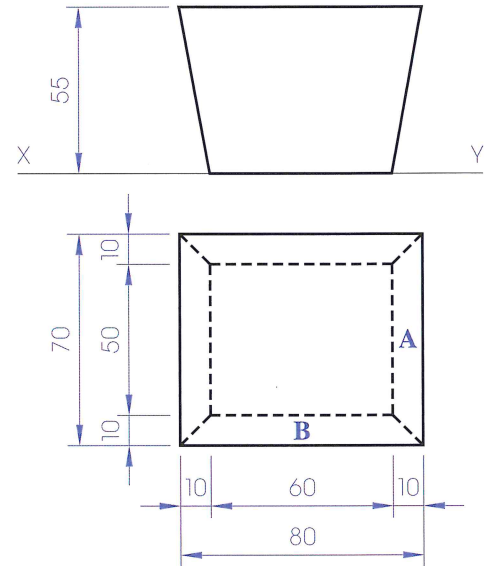


- The back and base of the container appear in true shape in elevation and plan respectively. Accordingly, they can be redrawn in the development.
- The true shape of surfaces **T** and **S** can then be redrawn as shown. Point **F** can be located by drawing an arc of radius 70 mm from **G** and an arc of radius R_1 from **C**. Point **B** can be located in a similar manner.
- Surface **R** can then be added to the development as shown.
- The development is completed by drawing three rectangles having a width of 10 mm as shown.

Exercises

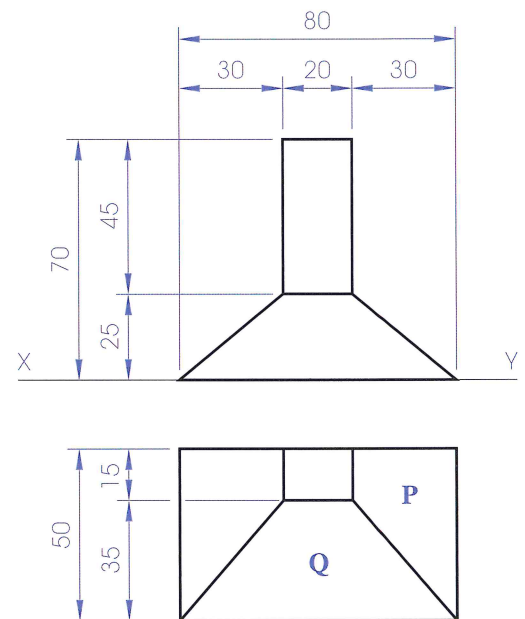
1. The figure over shows the elevation and plan of a **frustum of a rectangular pyramid**, which is based on a **Quality Street** box.

- Draw the given views.
- Determine the **true shape** of the sloping surfaces **A** and **B**.
- Draw the complete **development** of the solid.



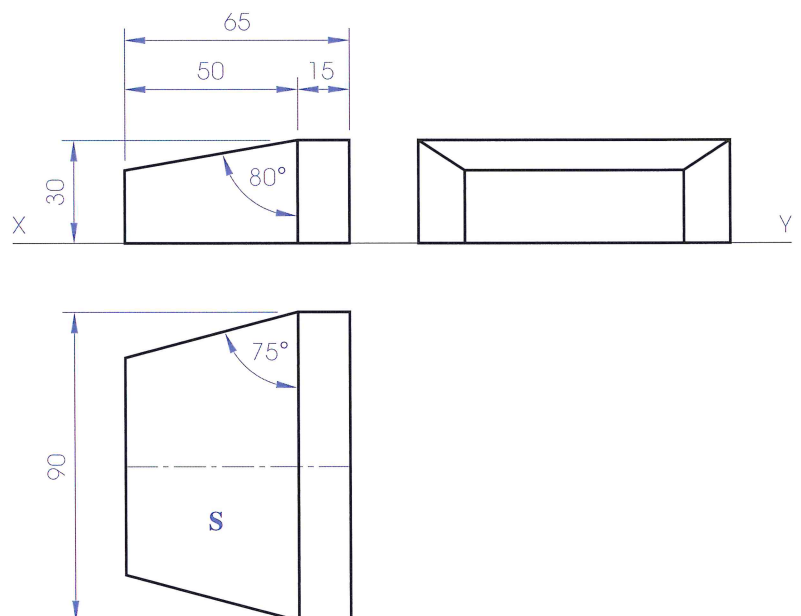
2. The elevation and plan of a solid, which forms the basis for a **cooker hood**, are shown over.

- Draw the given views.
- Determine the **true shape** of the sloping surfaces **P** and **Q** of the solid.
- Draw the complete **development** of the solid.



3. The elevation, plan and end view of a **writing unit** are shown across.

- Draw the **plan** and **elevation** of the unit.
- Determine the **true shape** of the surface **S** of the unit.
- Draw the complete **development** of the unit.



Chapter 30

Computer-aided Drawing

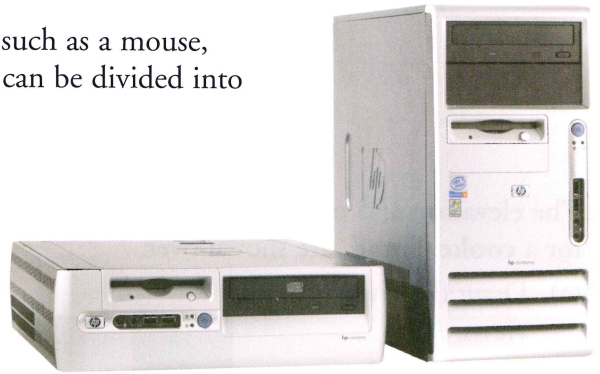
Computer-aided drawing (CAD) is the use of a computer system to produce drawings. It is very productive as computer-aided drawings are easily created, stored, retrieved and modified.

A CAD system is made up of two main components, namely **hardware** and **software**.

Hardware

Hardware refers to the physical parts of a computer system such as a mouse, keyboard or monitor. The hardware used in a CAD system can be divided into four categories:

- The systems box.
- Input devices.
- Output devices.
- Storage devices.



Desktop and Tower cases

The Systems Box

The systems box contains such items as the Central Processing Unit (CPU), Random Access Memory (RAM), sound card, graphics card and disk drives. The central processing unit can be considered to be the 'brain' of the computer and controls its operation.

The systems box can be a **desktop case** or a **tower case** as shown above.

Input Devices

Input devices are a means of giving the computer information by entering information into memory.

Mouse: A mouse is used to control the movement of the pointer (or cursor) on the screen.

Keyboard: A keyboard is used to input typed information.

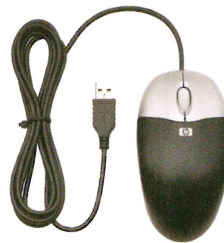
Digitiser: A digitiser is a device used to enter drawings. It consists of a tablet and a puck. A puck is similar to a mouse with cross-hairs for accurate placement.

Scanner: A scanner can be used to scan a picture or image into a computer and produce a copy on-screen. This copy can be edited and stored for later use.

Digital camera: A digital camera can be used to take a digital picture, which is saved onto a memory card. Such pictures can be transferred directly to a computer for a variety of uses.



Keyboard



Mouse



Scanner



Digital camera