

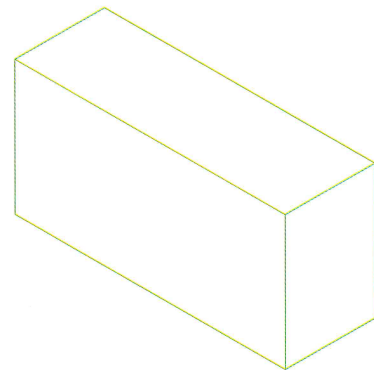
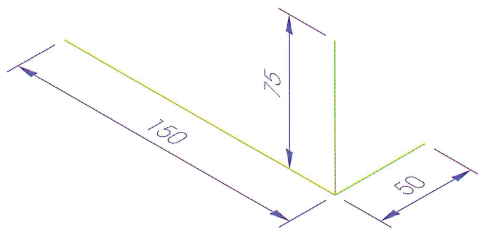
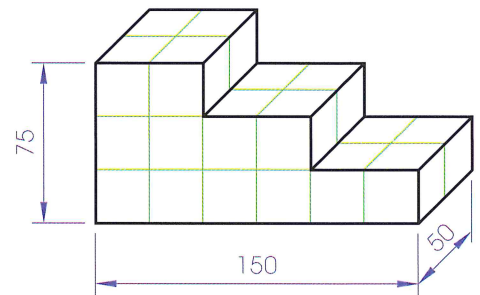
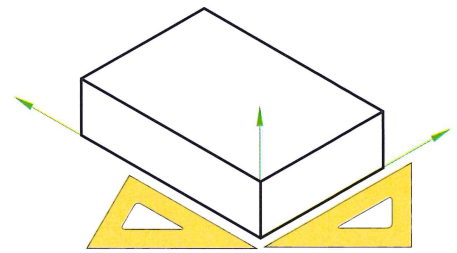
Isometric Drawing

Isometric drawing is a form of pictorial drawing in which vertical lines remain vertical and horizontal lines that are parallel to the principal axes are inclined at 30° as illustrated across. Note that the **principal axes** have been highlighted.

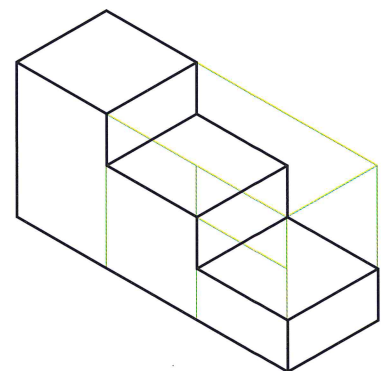
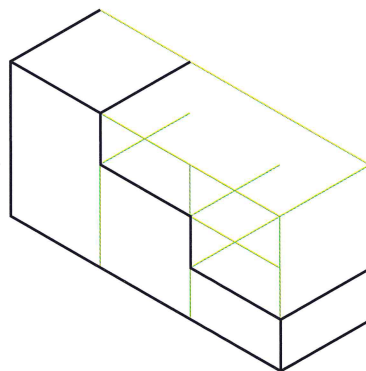
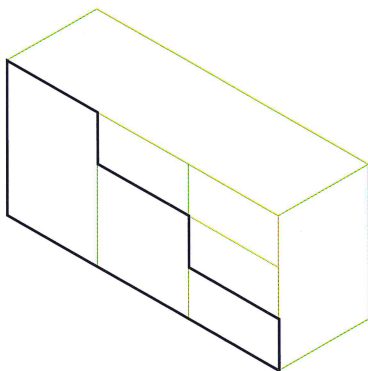
Example

Make an **isometric drawing** of the poly-cubical solid shown over. The solid is composed of 25 mm cubes.

1. Draw the principal axes at 30° to the left, 30° to the right and vertically as shown below, left.
2. Mark off the overall length, width and height of the solid along the axes as shown.
3. Complete the box into which the solid fits by drawing lines vertically and at 30° in either direction as shown below, right.



4. Mark off the intermediate lengths of 50 mm and heights of 25 mm and line in the side face as shown below, left.
5. Draw lines at 30° to the right from the corners of the front face as shown below, middle.
6. Complete the isometric view by drawing vertical lines and lines at 30° in either direction as shown below, right.

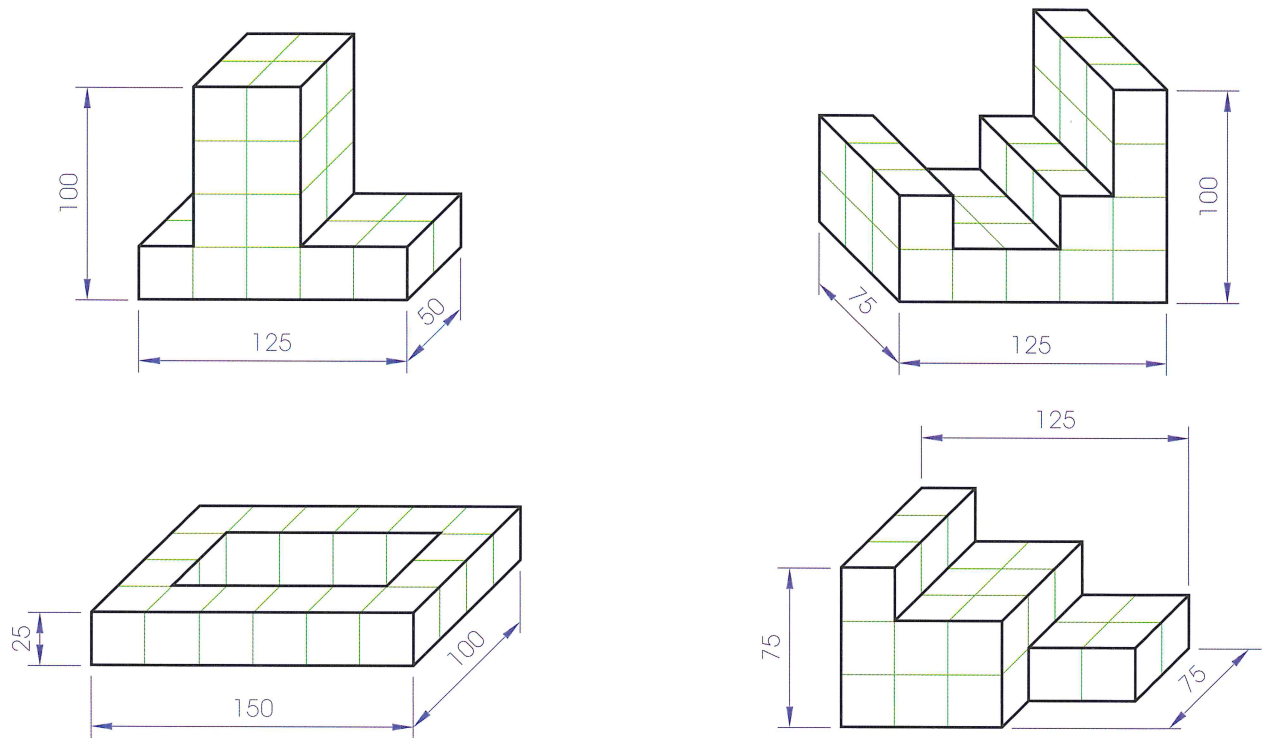


In isometric drawing distances can only be measured on, or parallel to, the principal axes.

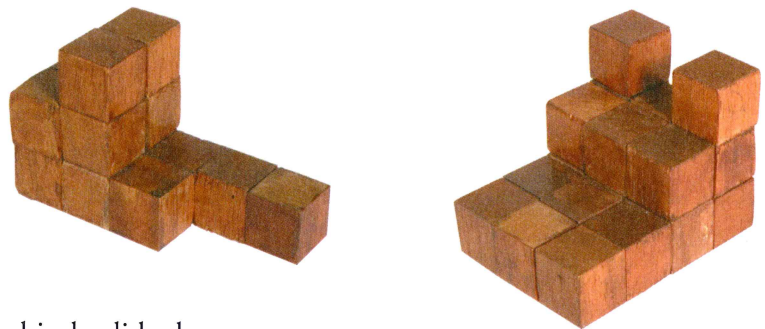
Activities

1. The figure below shows pictorial views of some poly-cubical solids composed of 25 mm cubes. In each case:

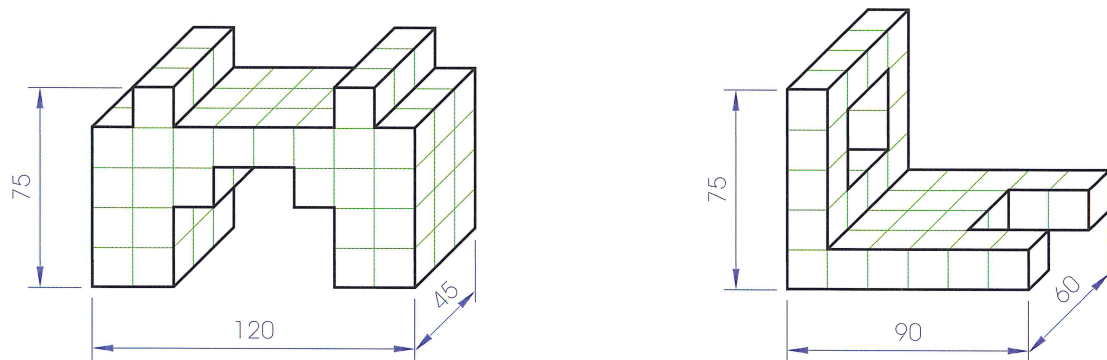
- Build** the solid from cubes.
- Draw an **isometric view** of the solid.



2. **Build** a solid of your own from cubes and make an **isometric drawing** of it.



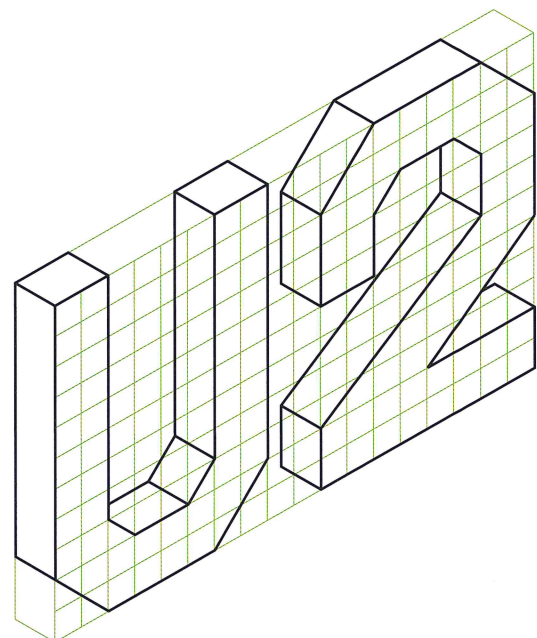
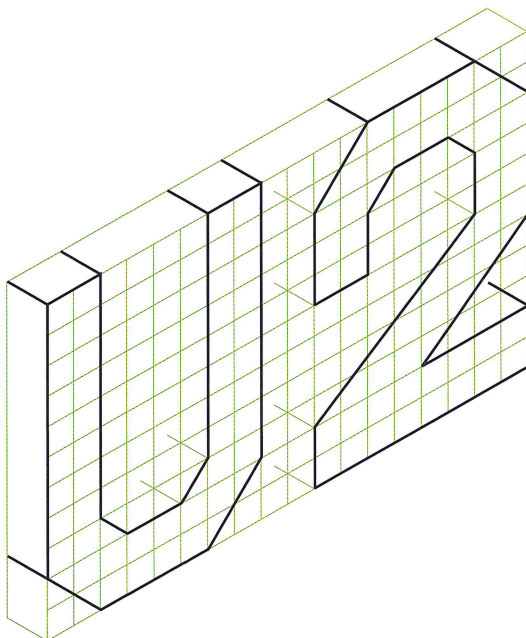
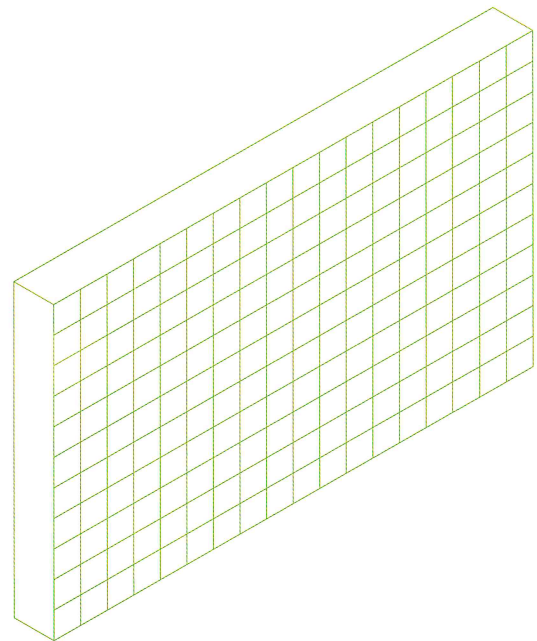
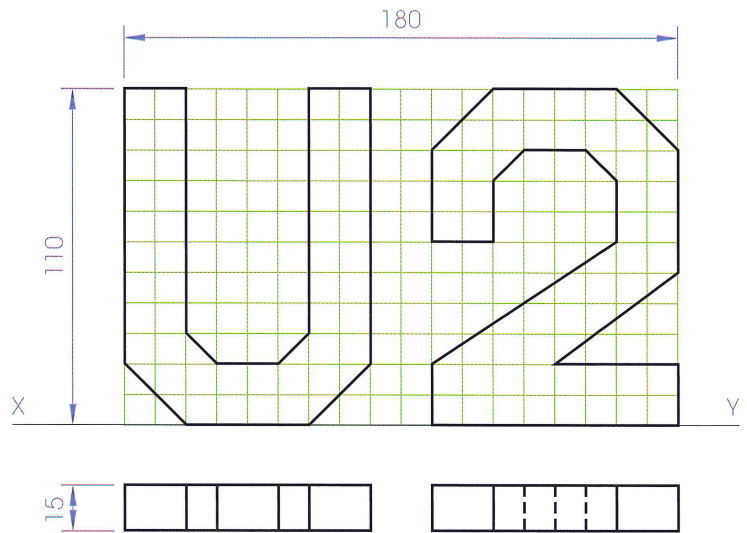
3. Make an **isometric drawing** of the poly-cubical solids shown below. Note that they are composed of 15 mm cubes.



Example

The elevation and plan of a logo for the U2 rock group are shown over. The grid is made up of 10 mm squares. Draw an **isometric view** of the logo.

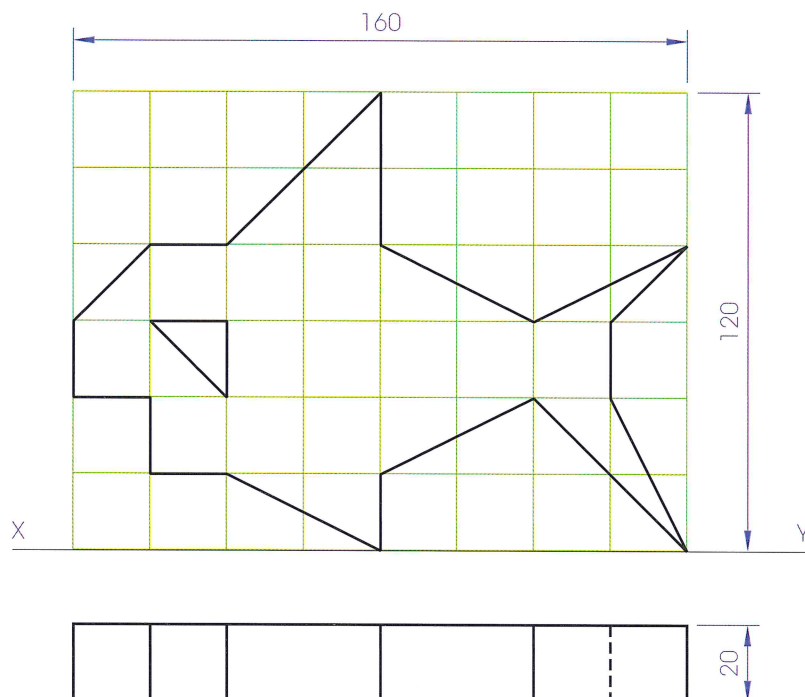
1. Draw the principal axes.
2. Mark off the overall length, width and height of the logo along the appropriate axes.
3. Complete the box into which the logo fits by drawing lines vertically and at 30° in either direction.
4. Mark off 10 mm intervals along the axes and complete the grid as shown across.
5. Line in the letter **U** and the number **2** on the grid.
6. Draw the depth lines as shown below, left.
7. Complete the drawing as shown below, right.



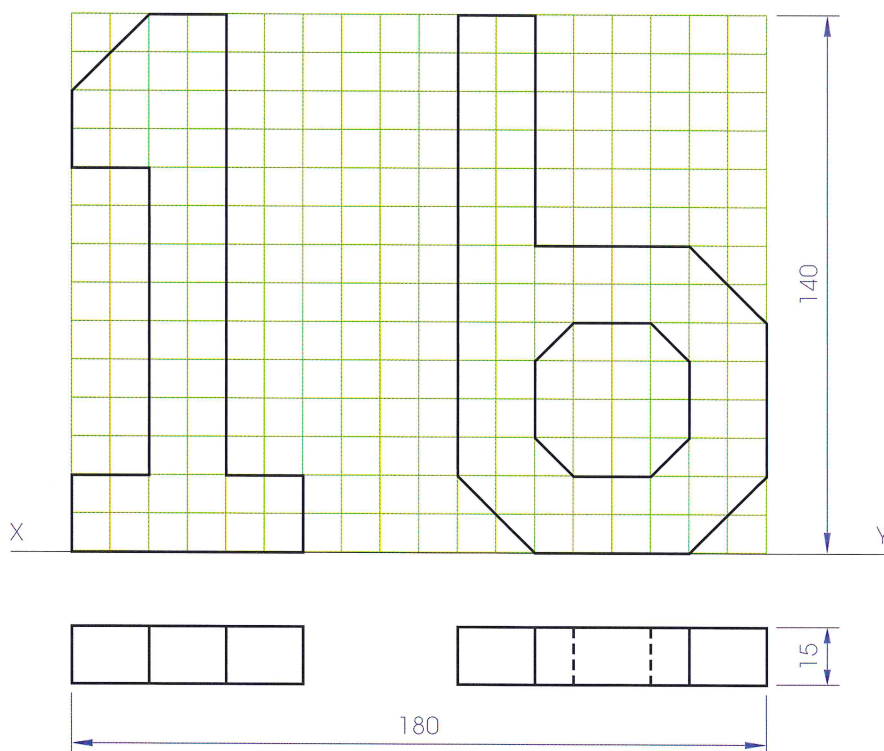
Parallel lines on an object appear parallel in an isometric view.

Exercises

1. The elevation and plan of a **toy fish** are shown below. The fish is based on a grid which is made up of 20 mm squares. Draw an **isometric view** of the fish.

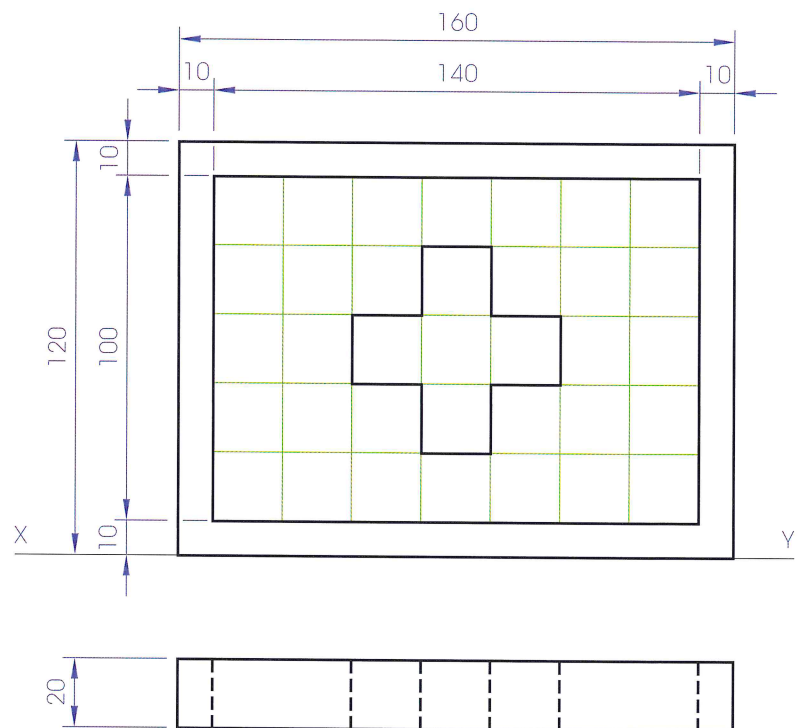


2. The figure over shows the elevation and plan of a **number** for a jersey. The grid is made up of 10 mm squares. Draw an **isometric view** of the number.



3. The elevation and plan of a sign for a **Pharmacy** are shown below. The grid is made up of 20 mm squares.

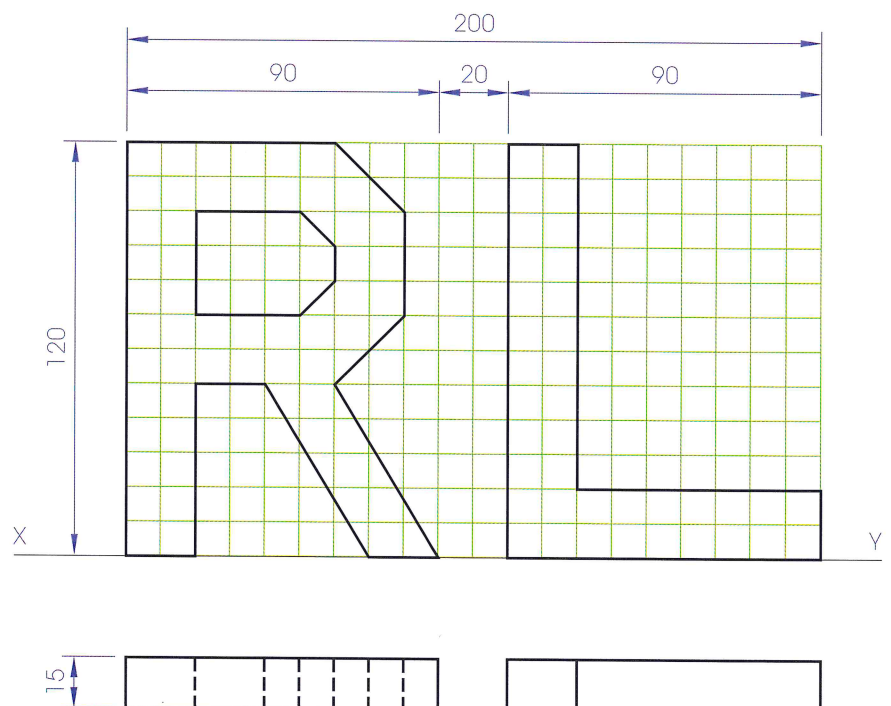
Draw an **isometric view** of the sign.



4. The letters **RL** are to be used to identify the **Ralph Lauren** section of a clothes shop. The elevation and plan of the letters, based on a 10 mm grid, are shown below.

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

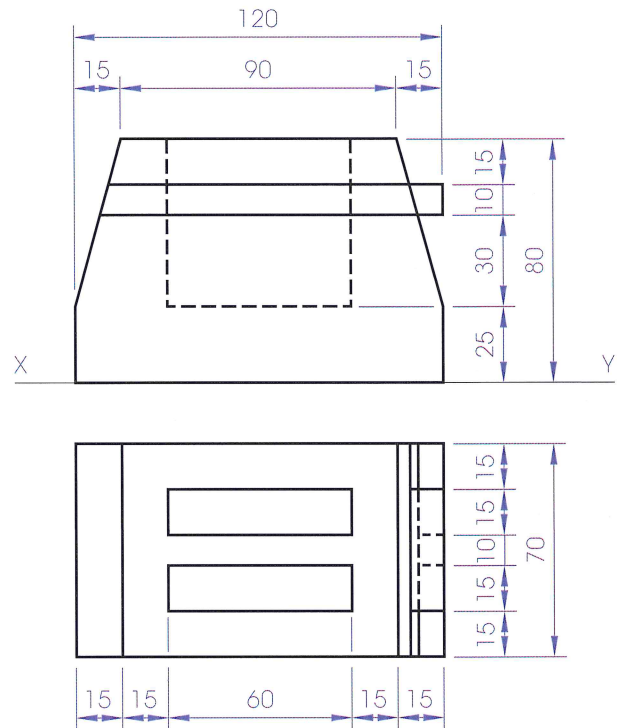
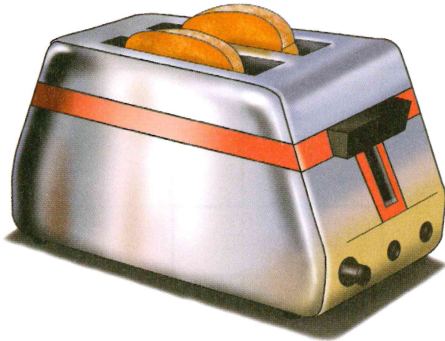
THE FITNESS FRAGRANCE BY RALPH LAUREN



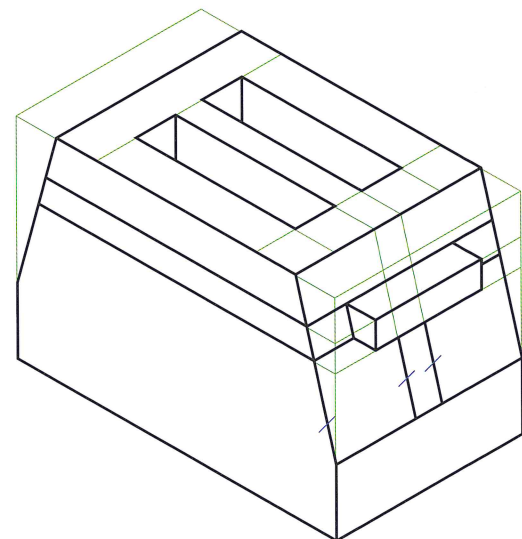
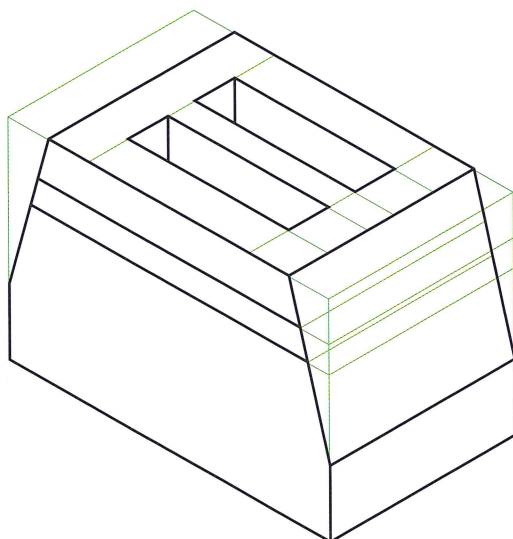
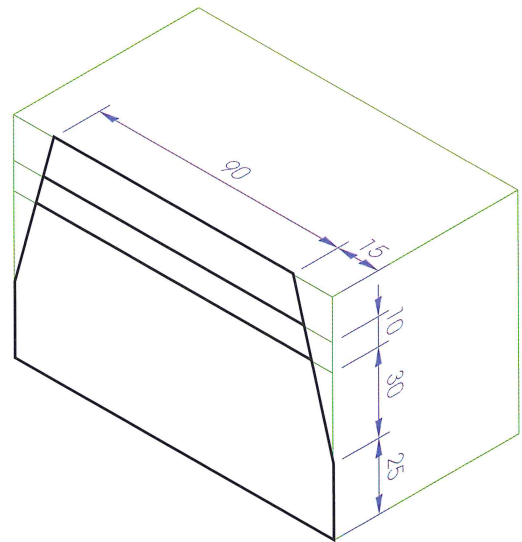
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Example

The elevation and plan of a **toaster** are shown over. Draw an **isometric view** of the toaster.



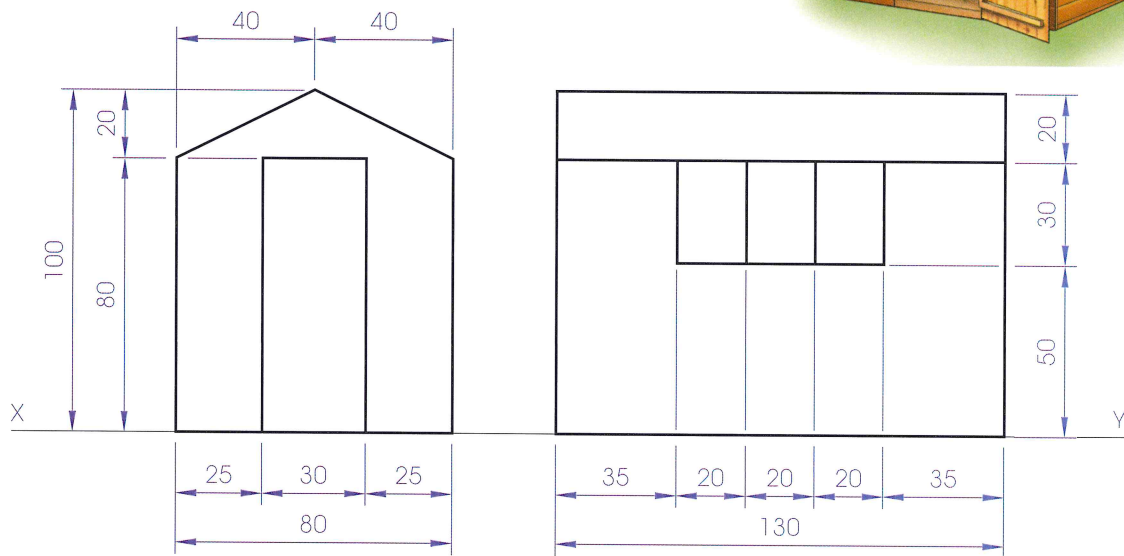
1. Draw the principal axes and mark off the overall length, width and height of the toaster.
2. Complete the box into which the toaster fits.
3. Mark off the intermediate heights and lengths and line in the front face of the toaster as shown over.
4. Draw the lines at 30° to the right as shown below, left. Complete the outline of the toaster.
5. Mark off the lengths (15, 60) and widths (15, 15, 10, 15) for the holes and complete the top of the toaster.
6. Mark off the widths of 15 mm and 40 mm for the handle and complete the isometric view as shown below, right.



Exercises

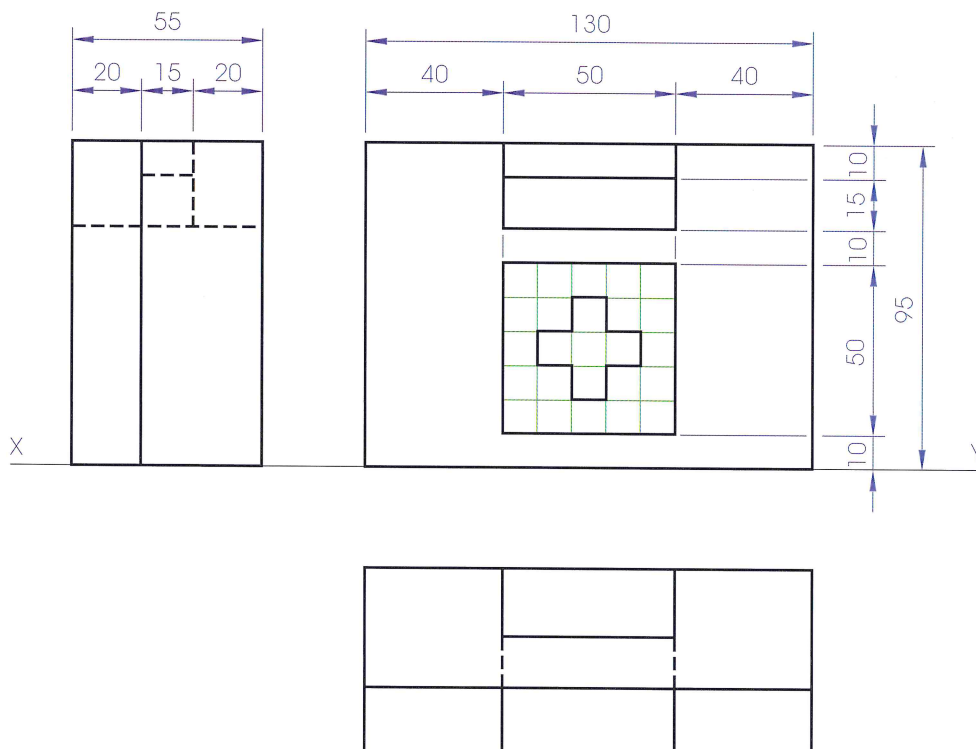
1. The elevation and end view of a **garden shed** are shown below.

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



2. The elevation, plan and end view of a **first aid box** are shown below. The grid for the cross is made up of 10 mm squares.

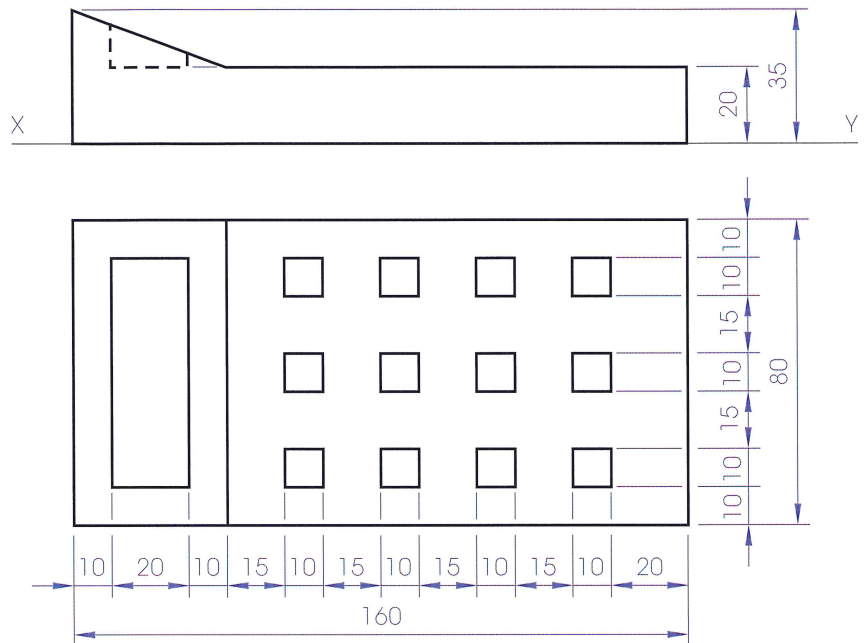
Draw an **isometric view** of the box.



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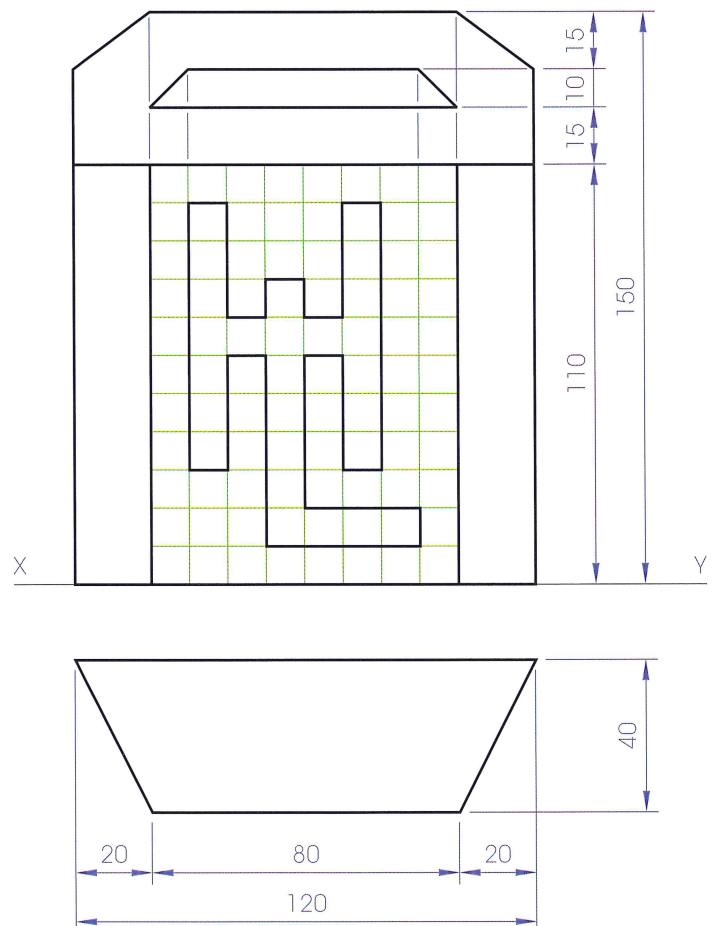
3. The figure over shows the elevation and plan of a **calculator**.

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



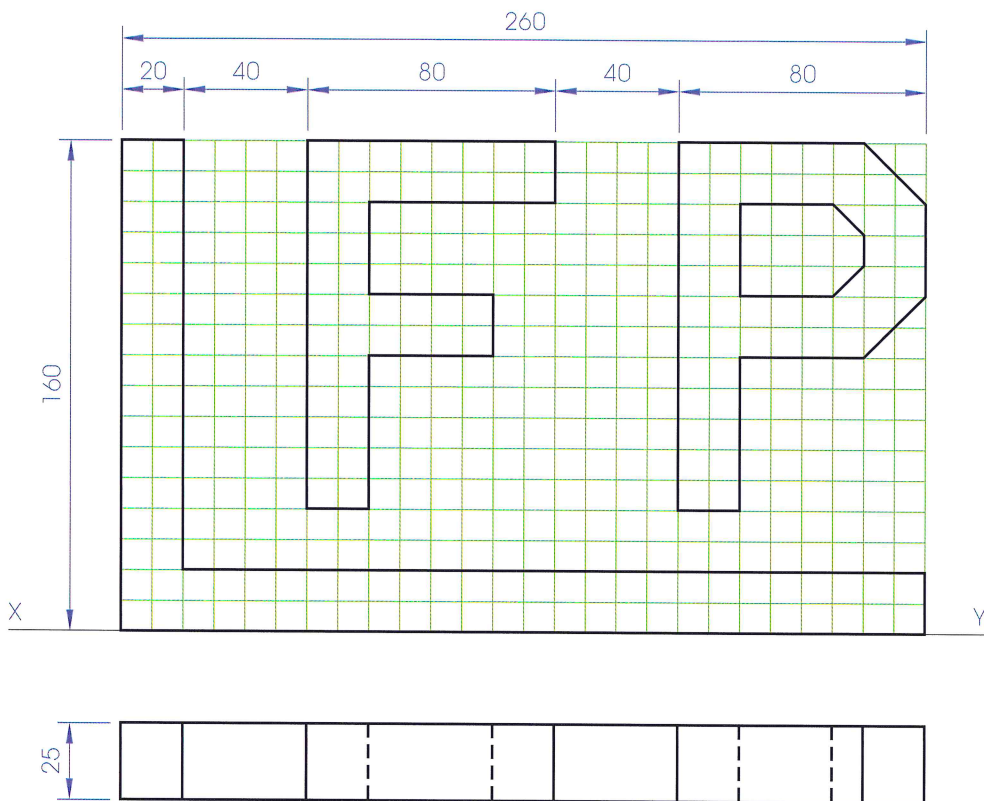
4. The elevation and plan of a box for an **ink cartridge** manufactured by **Holden Limited** are shown across. The front face of the box contains the company monogram, which is based on a 10 mm square grid.

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



5. The elevation and plan of a logo for **Logan Film Production** is shown below. The grid is made up of 10 mm squares.

Draw an **isometric view** of the logo. Use an A2 sheet.



6. The figure below shows the elevation and plan of a sign for the **DIY** department in a store. The grid for the letters is made up of 10 mm squares.

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

