



AutoCAD Level 1

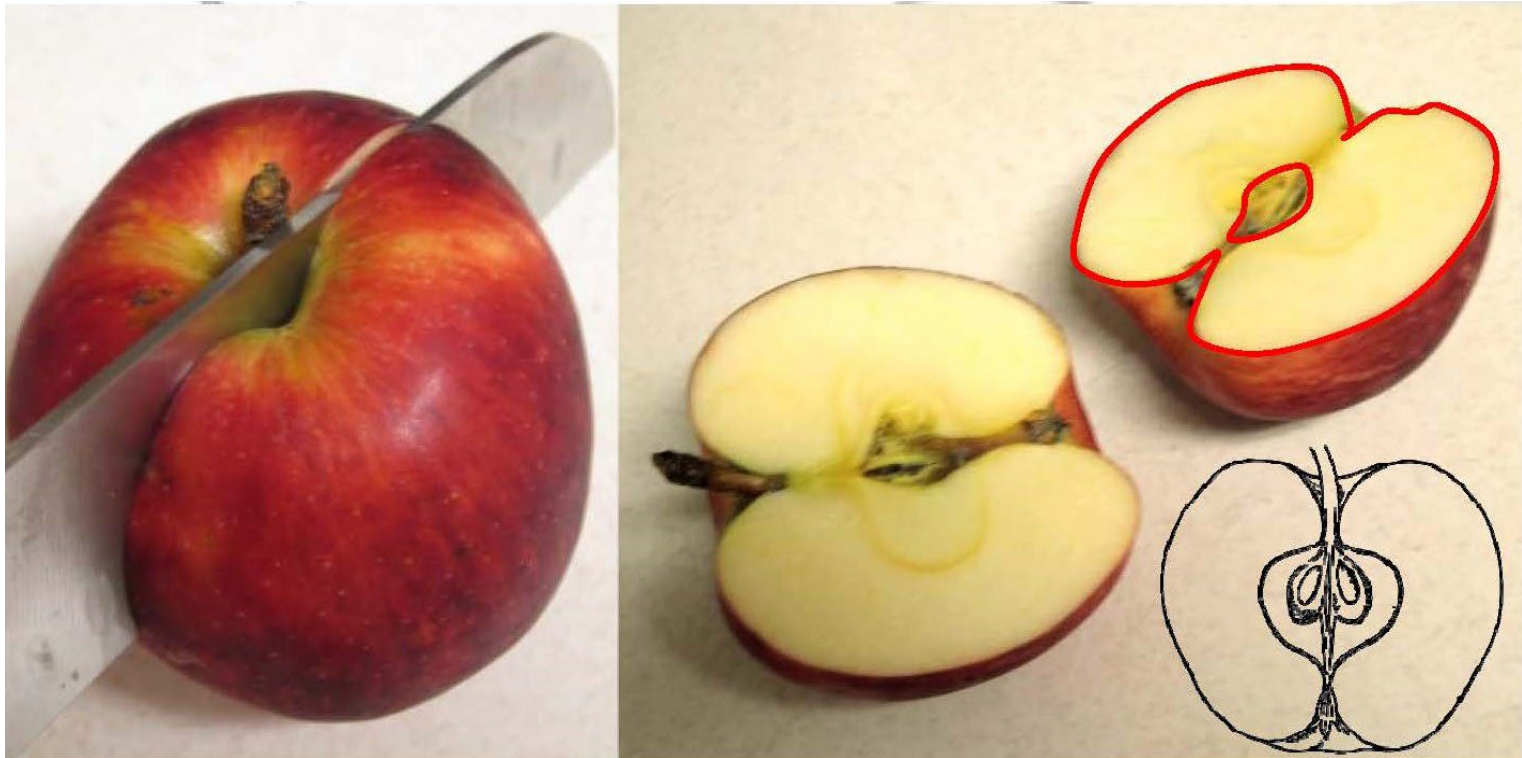
Session 9

AGENDA

- Section Drawings
- Isometric Drawings

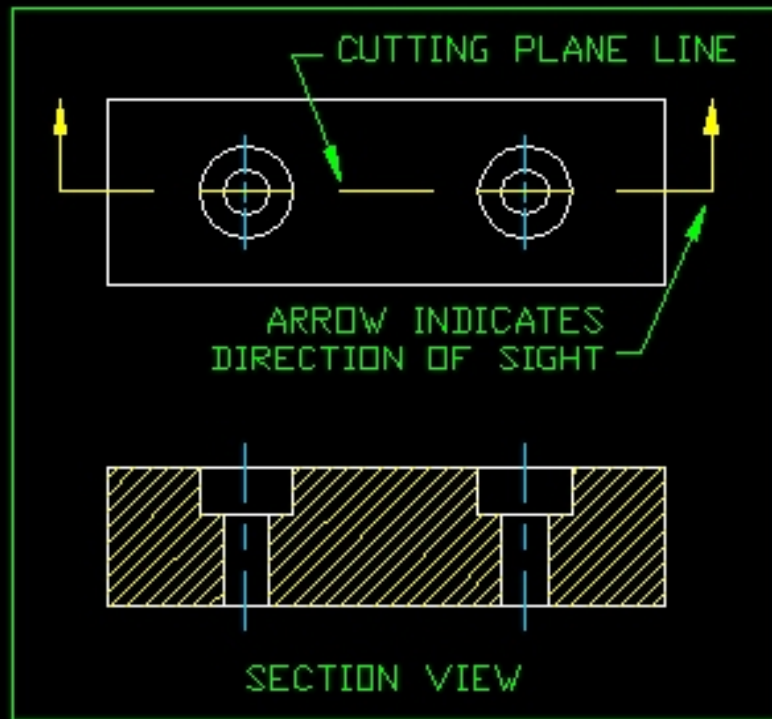
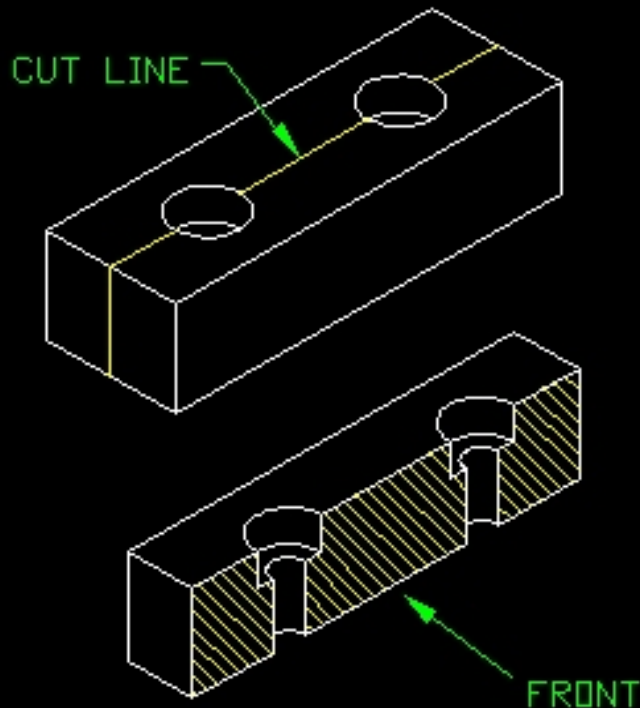
Introduction to Sectional Views

- An example of a section is shown by taking a whole apple and slicing it in half. The view of the inside surface is called a section view or cross section

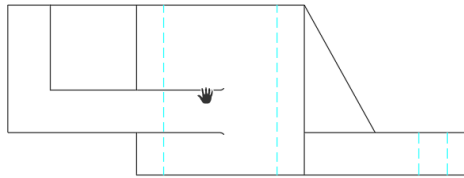
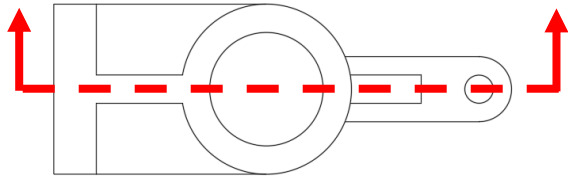


Introduction to Sectional Views

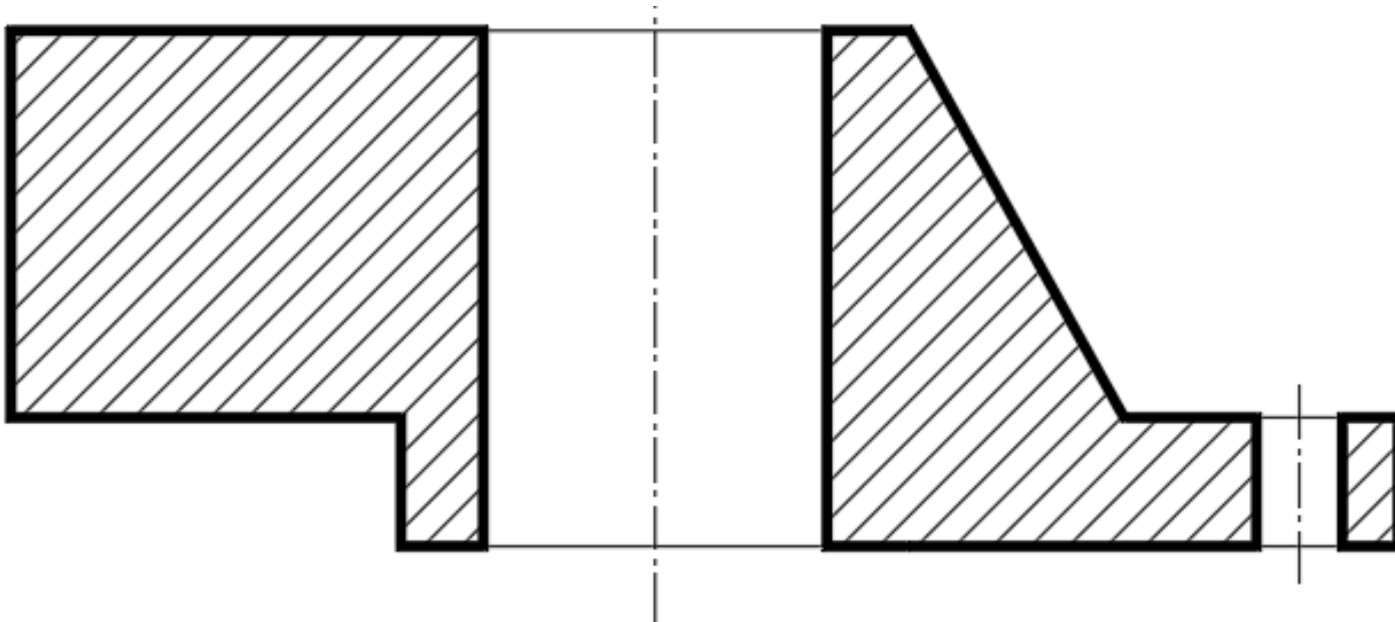
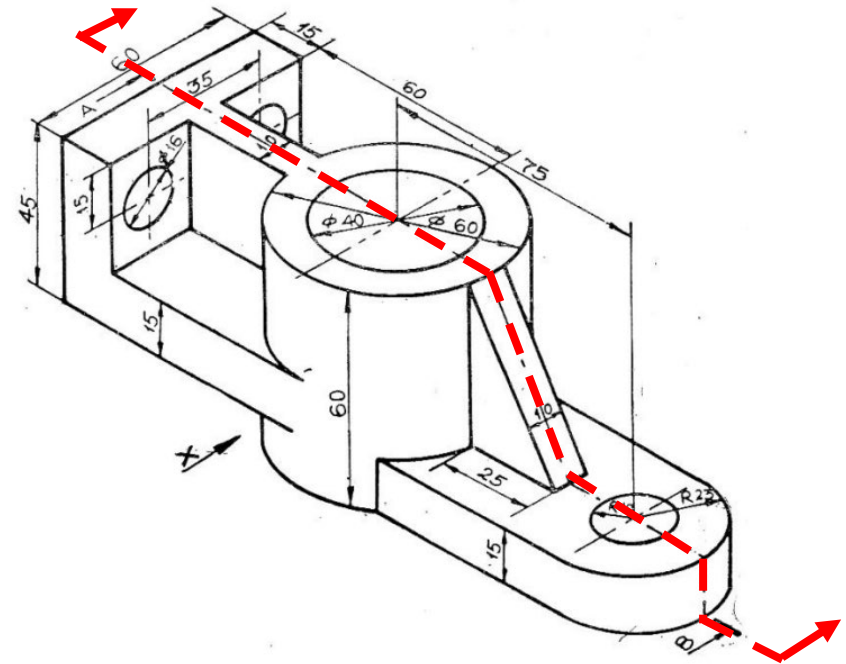
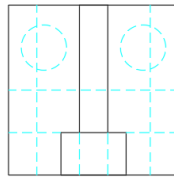
- An orthographic projection or isometric drawing of a product will show the exterior surfaces.
- Interior details are hidden and are represented with the hidden-line symbol.
- If the hidden features are complex, these hidden lines do not show them clearly. In such cases, a sectional view is drawn.
- A sectional view is made by passing an imaginary cutting plane through the product. One part is removed, exposing the interior details to view. The location of the imaginary cut is shown on a drawing with a cutting-plane line.



Exercise 21.dwg

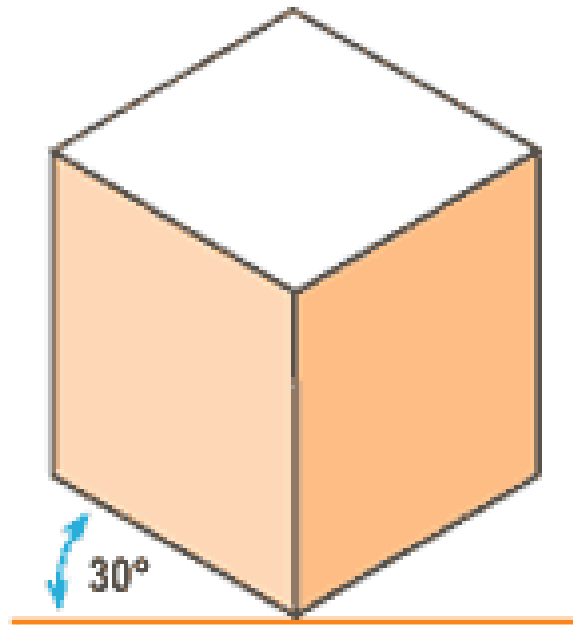


Exercise 18.dwg



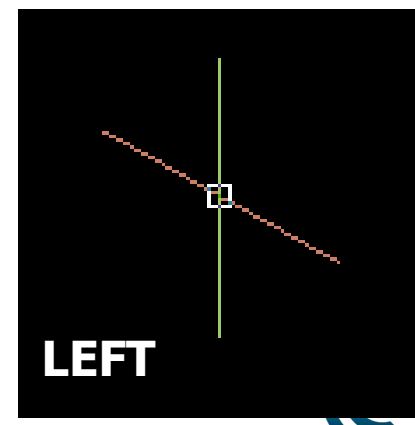
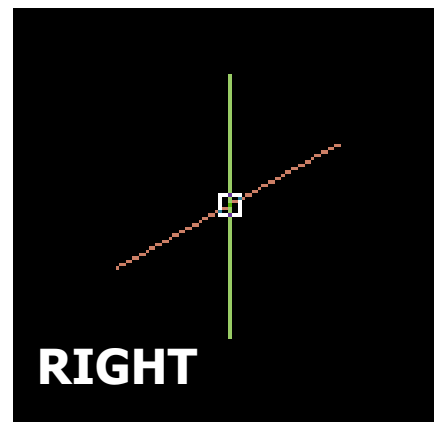
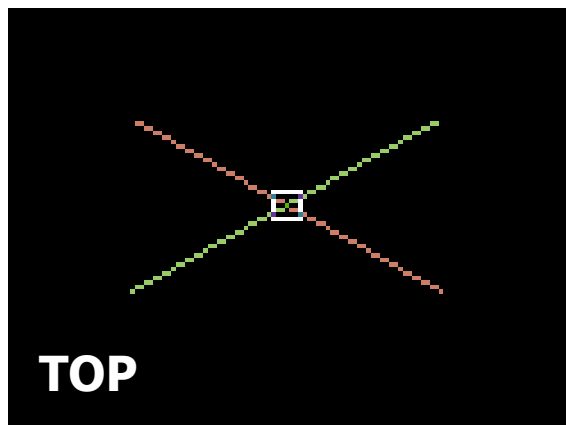
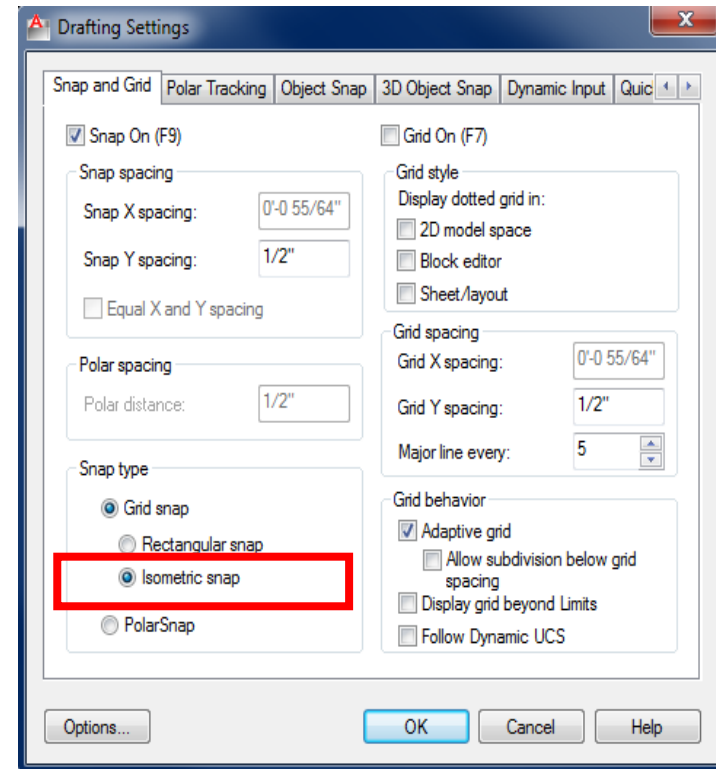
Isometric sketching

- **Isometric projection** is a method for visually representing three-dimensional objects in two dimensions in technical and engineering drawings.
- They show three sides, all in dimensional proportion, but none are shown as a true shape with 90 degree corners. All the vertical lines are drawn vertically but all horizontal lines are drawn at 30 degrees to the base line.



Isometric Snap

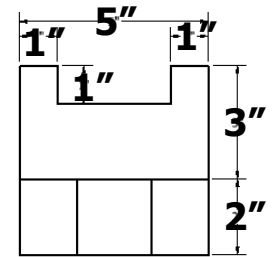
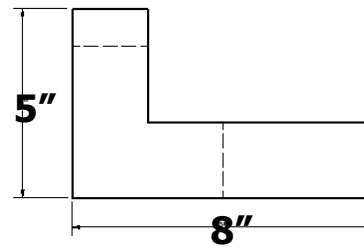
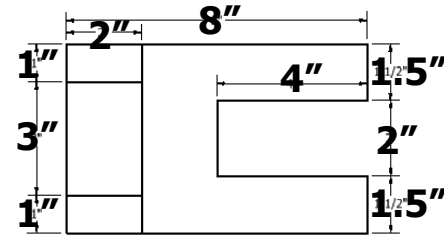
- Choosing one of the three isometric planes causes Ortho and the crosshairs to be aligned along the corresponding isometric axes. For example, when Ortho is on, the points you specify align along the simulated plane you are drawing on. Therefore, you can draw the top plane, switch to the left plane to draw another side, and switch to the right plane to complete the drawing.
- You can cycle through the three isometric planes by pressing F5.
- IT WAS ALSO USEFULL TO SET POLAR TRACKING TO 30 DEGREES



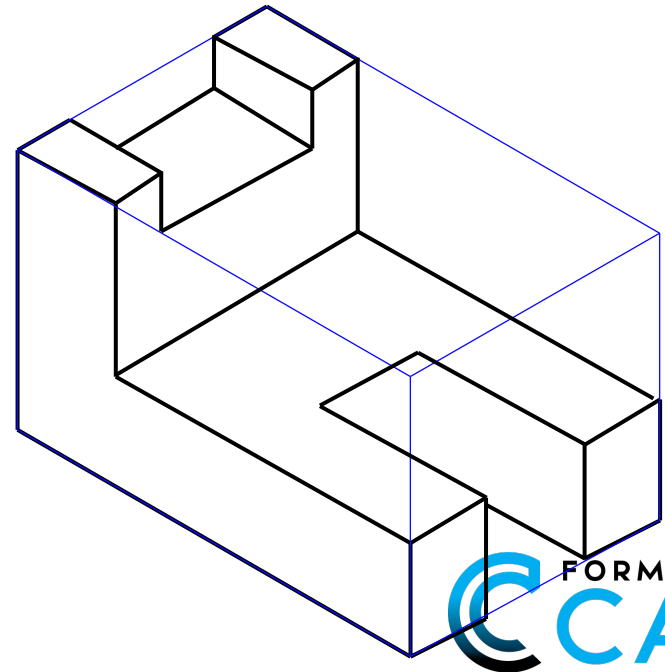
How to draw Isometric drawings- step by step

Exercise 22.dwg

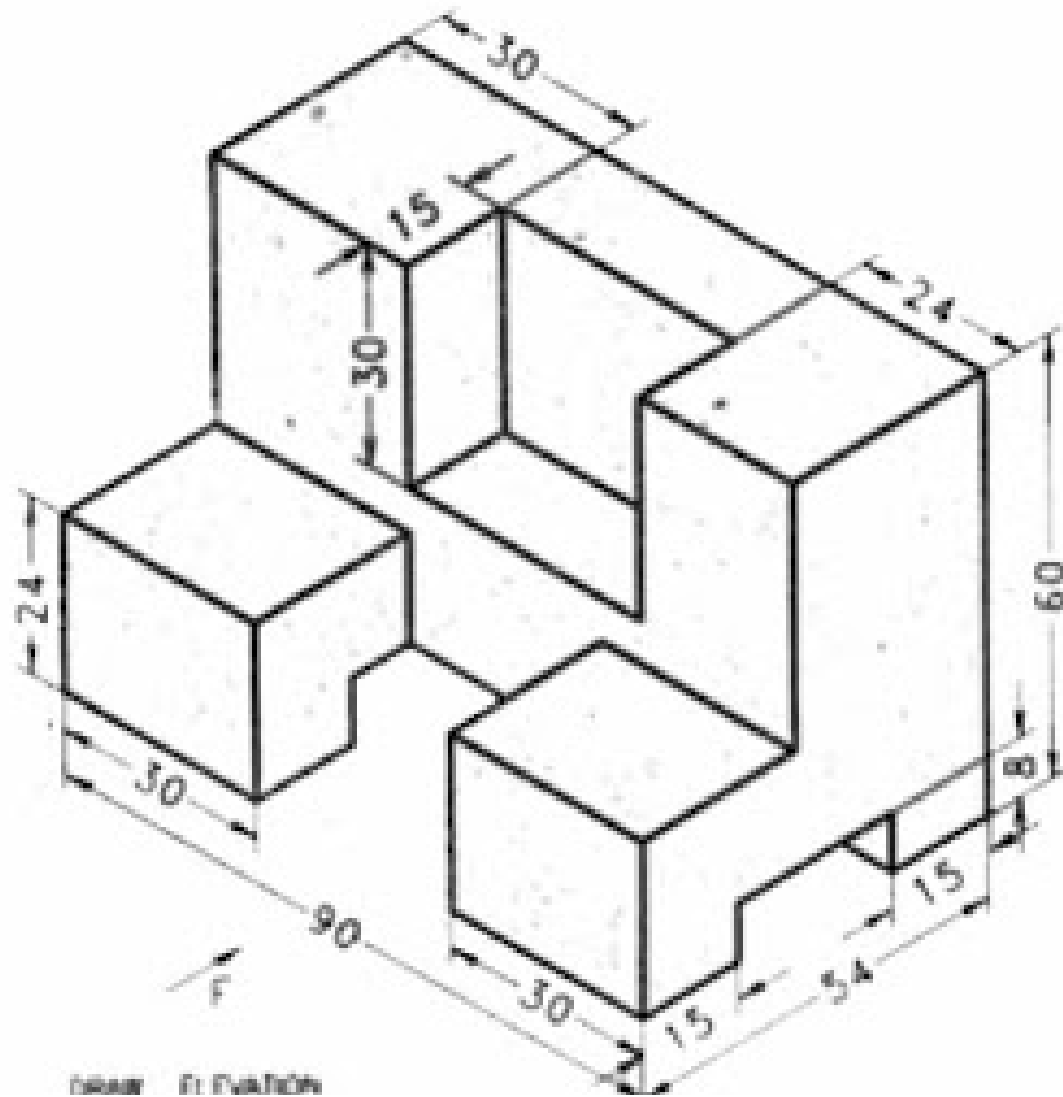
- Build the frame, lightly.
- Draw surfaces that lie on the projected planes, Top, Front, Right.
- Extrude edges in the perpendicular directions.
- Complete the remaining edges,
- Add any other details / revisions.



Basic Technical Drawing, 8th by Spencer, Fig. 7-27 #1, p. 138

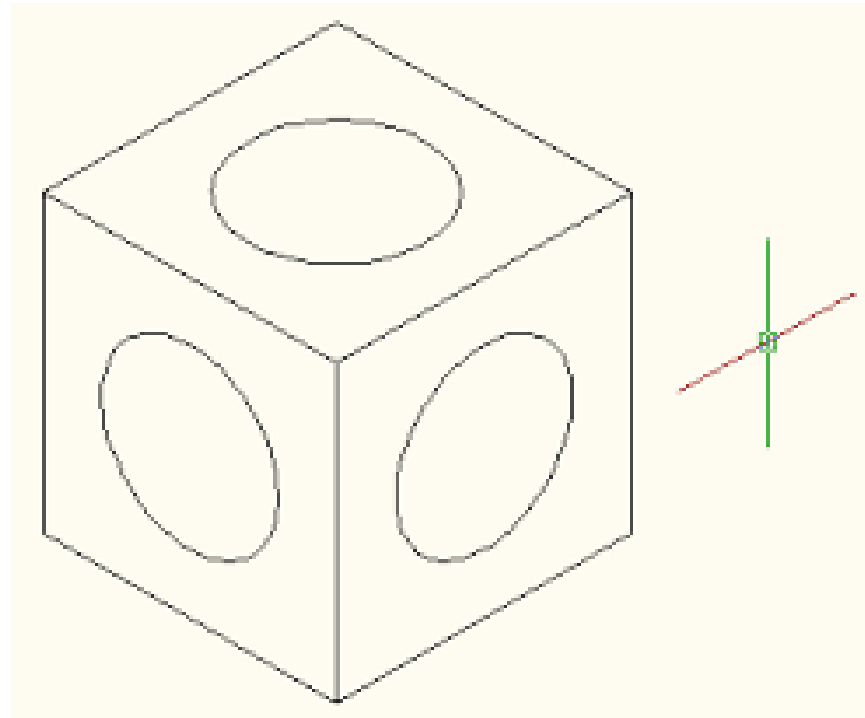


Exercise 23.dwg



How to Create an Isometric Circle (Ellipse) in AutoCAD?

1. Press the drop-down arrow beside the ellipse button on the Draw ribbon panel.
2. Choose the Axis, End option.
3. Next, type the letter I, which represents the word isocircle, and hit enter.
4. Using your mouse, specify the center of the isocircle by pressing the left button.



Exercise 24.dwg

