
***School of Mechanical & Manufacturing Engineering (SMME),***

***National University of Science and Technology (NUST),***

***Sector H-12, Islamabad***

Program:BE Aerospace Engineering Section:AE-01

Session:Spring 2024 Semester:2nd

Course Title:Engineering Drawing

# Lab Report

"ORTHOGRAPHIC PROJECTIONS"

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**Objective:**

–To acquire understanding of Orthographic projections using AutoCAD.

**Introduction:**

**Orthographic projections:**

Orthographic projections are a way of representing three dimensional objects in two dimensions. In this method all the lines of sight from the object to the viewer are parallel to each other. This results in a series of two dimensional views from various perspectives. This includes the front, top and side view of an object in 2D. Orthographic projections are widely used in engineering , architecture and many other forms of drawing. They are very helpful in accurate representation of objects to communicate in a professional way.

**AutoCAD:**

AutoCAD is a software which is a computer aided design(CAD). It is widely used among engineers, architects, designers and many others to create precise drawing in two dimensions and also three dimensions using it's different functions and features. AutoCAD provides drawing tools to create different geometrical shapes. It also has editing tools such as trim, fillet, array, mirror, etc which help the user to easily modify their drawings. AutoCAD also allows users to add text, dimensions, and other important information to their drawings.

**Methodology:**

Step 1: The drawings were assessed to determine whether they represent the right or left side view. After identifying the correct procedure of orthographic projection was drawn.

Step 2: Each drawing was organized to facilitate drafting and editing.

Step 3: Orthographic projections were made for each drawing using standard techniques. This includes creating a front , top and side view of the object.

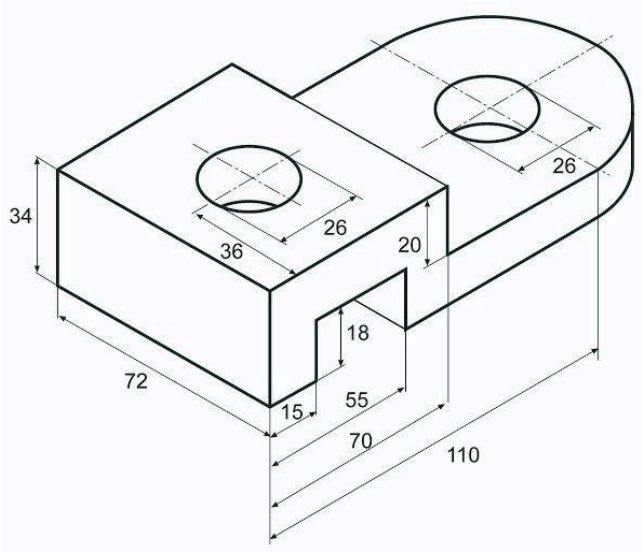
Step 4: Dimensions and annotations were added to orthographic projections to provide required details and clarity.

Step 5: Title boxes were added to finalize the drawings and also a final review was made to ensure there are no errors left.

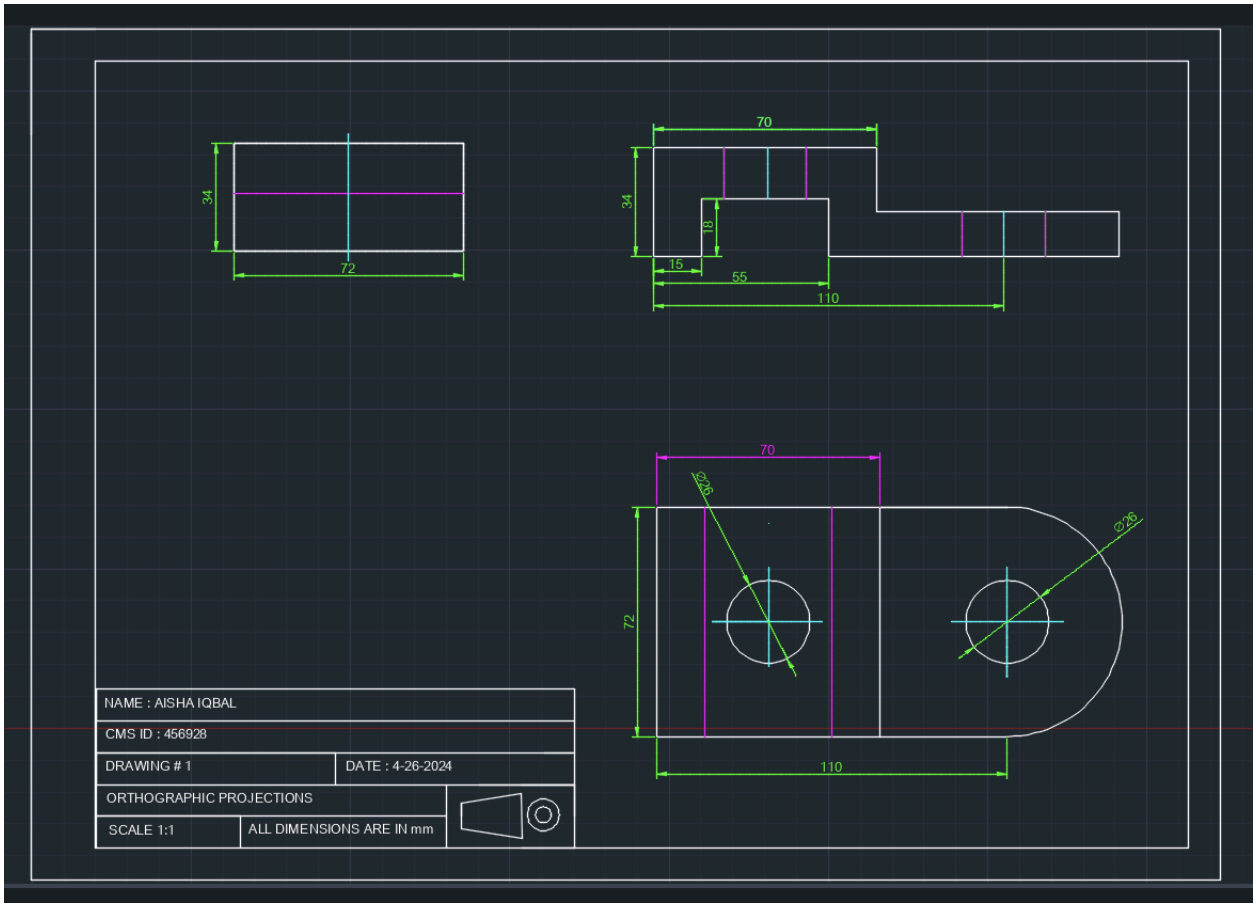
**Conclusion:**

This report concludes the process of creating orthographic projections using autoCAD and provides an overview of the methodology and the necessary information for future practice and learning.

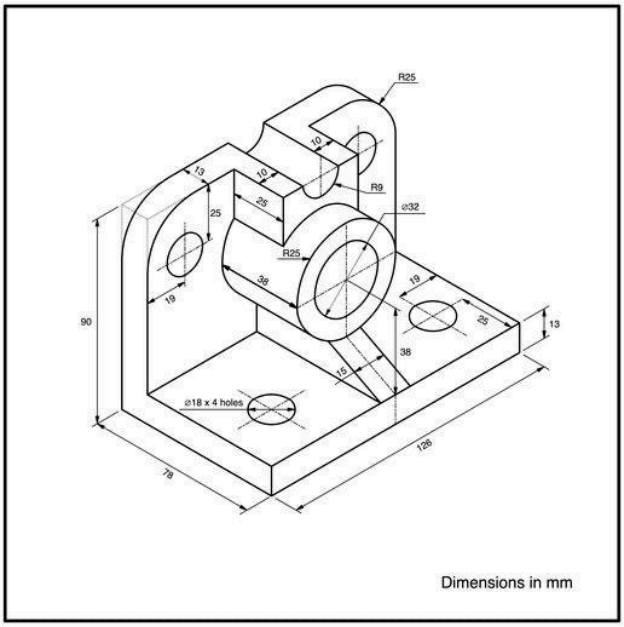
## Drawing 1:



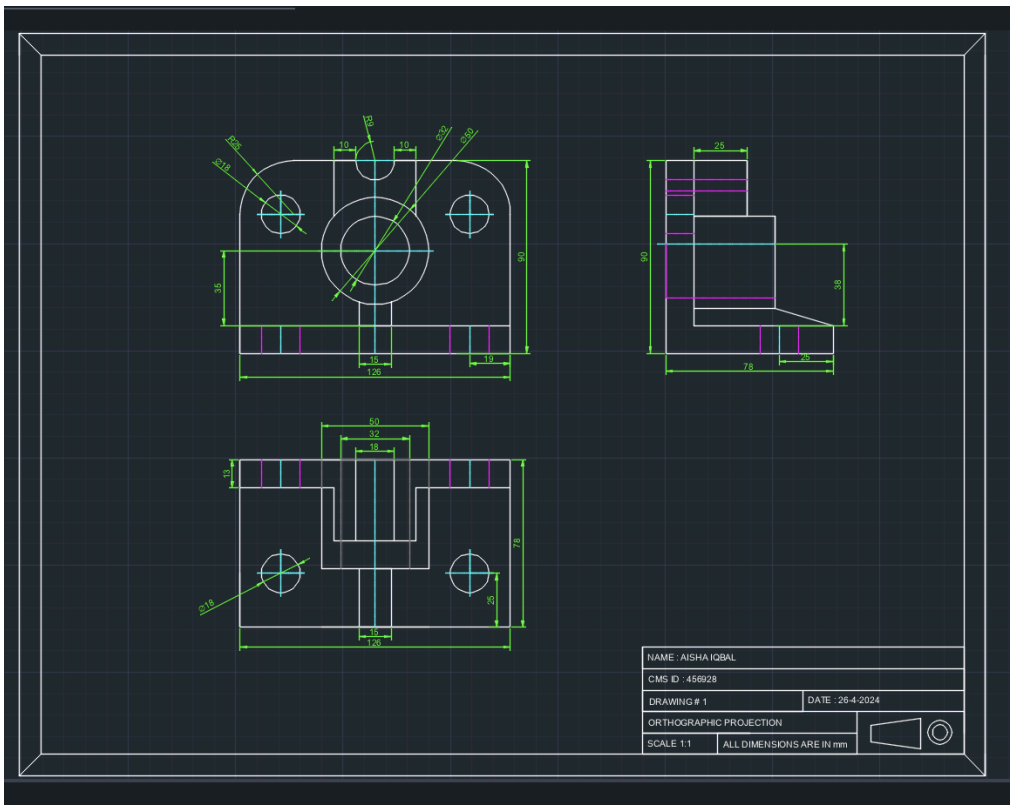

## Orthographic projections:



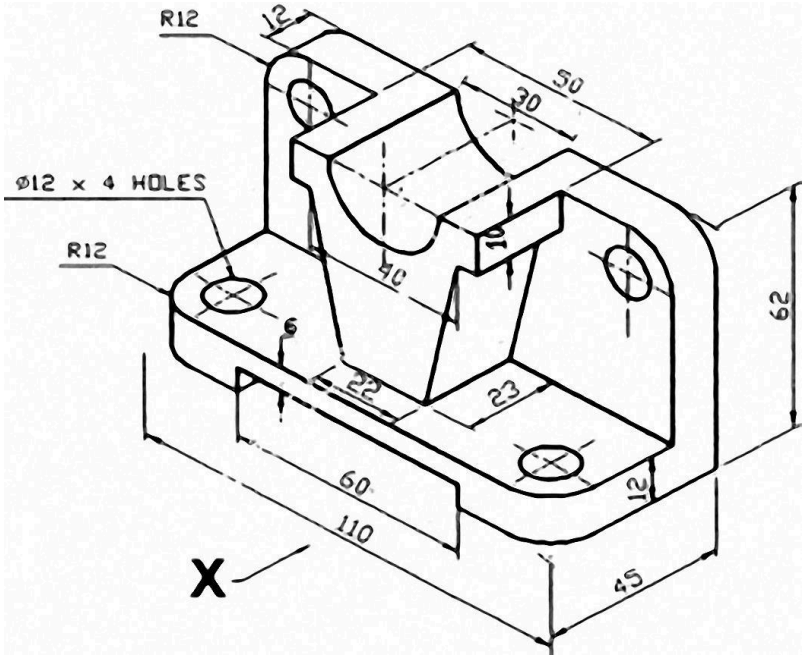
## Drawing 2:




## Orthographic Projections:



## Drawing 3:




## Orthographic projections: