School of Mechanical & Manufacturing Engineering (SMME),

National University of Science and Technology (NUST),
Sector H-12, Islamabad

Program: BE-Aerospace Section: AE-01
Session: Spring 2024 Semester: 2nd
Course Title: Engineering Drawing

Assignment#1
Orthographic Projection in AutoCAD

Submitted by:

Muhammad Hayat	453834

Submitted to:

Lab Engineer Laiba Waheed

Introduction: AutoCAD is computer-aided design (CAD) software widely used in engineering and design fields. This report analyzes three orthographic projection drawings created using AutoCAD, emphasizing their technical significance and practical applications.

Procedure: This drawing presents an orthographic view of a mechanical component, providing a three-dimensional representation with equal contracting along all three axes. Utilizing AutoCAD's modeling tools, the component was accurately modeled in 3D and rendered in isometric projection. This drawing serves to visually convey the three-dimensional relationships and design details of the component, assisting in design confirmation and collaboration among project stakeholders seeking to build parts with.

In this drawing, front, top, and right-side orthographic views of a structural assembly are depicted. These views, derived from a 3D model, offer thorough representations of the assembly from different perspectives. AutoCAD's projection capabilities were utilized to generate these views, with additional annotations and labels enhancing clarity and comprehension. This drawing plays a crucial role in facilitating manufacturing processes, providing precise specifications for component fabrication and assembly.

To be more specific I used the following features and command throughout the process making these drawings:

Line	Circle	Dimension	DIMStyle	Trim	Move
Fillet	Mirror	Centre Line	Text	Layers	Rectangle

Conclusion: AutoCAD's orthographic projection capabilities are instrumental in creating precise technical drawings essential for engineering, manufacturing, and documentation purposes. These drawings play a pivotal role in visualizing complex designs, communicating design intent, and facilitating efficient manufacturing and assembly processes.

Appendix:

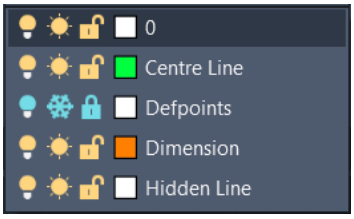

Figure 1 Layers

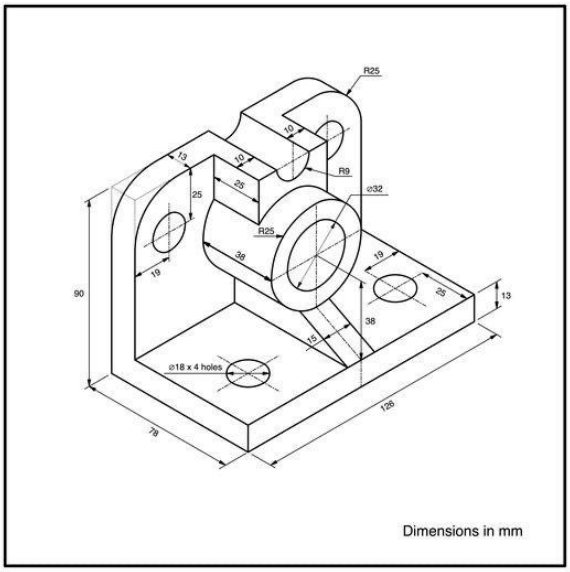

Figure 2 Object 1

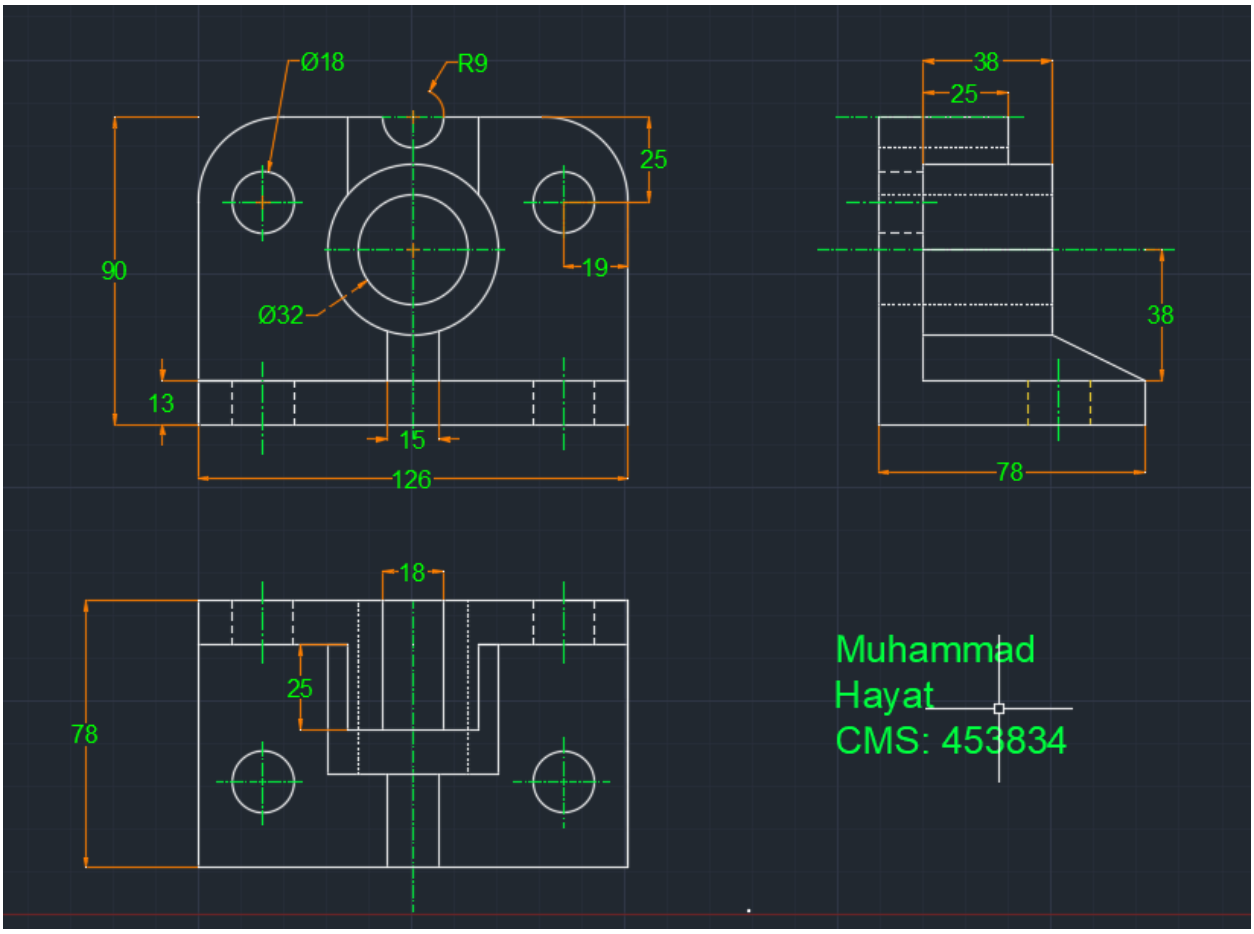

Figure 3 Drawing 1

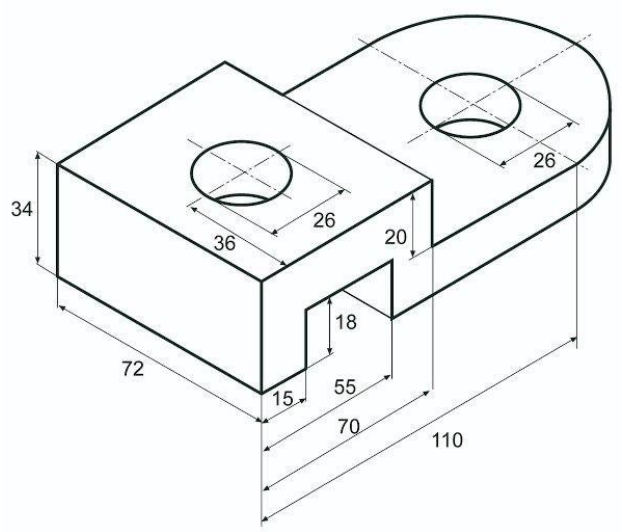

Figure 4 Object 2

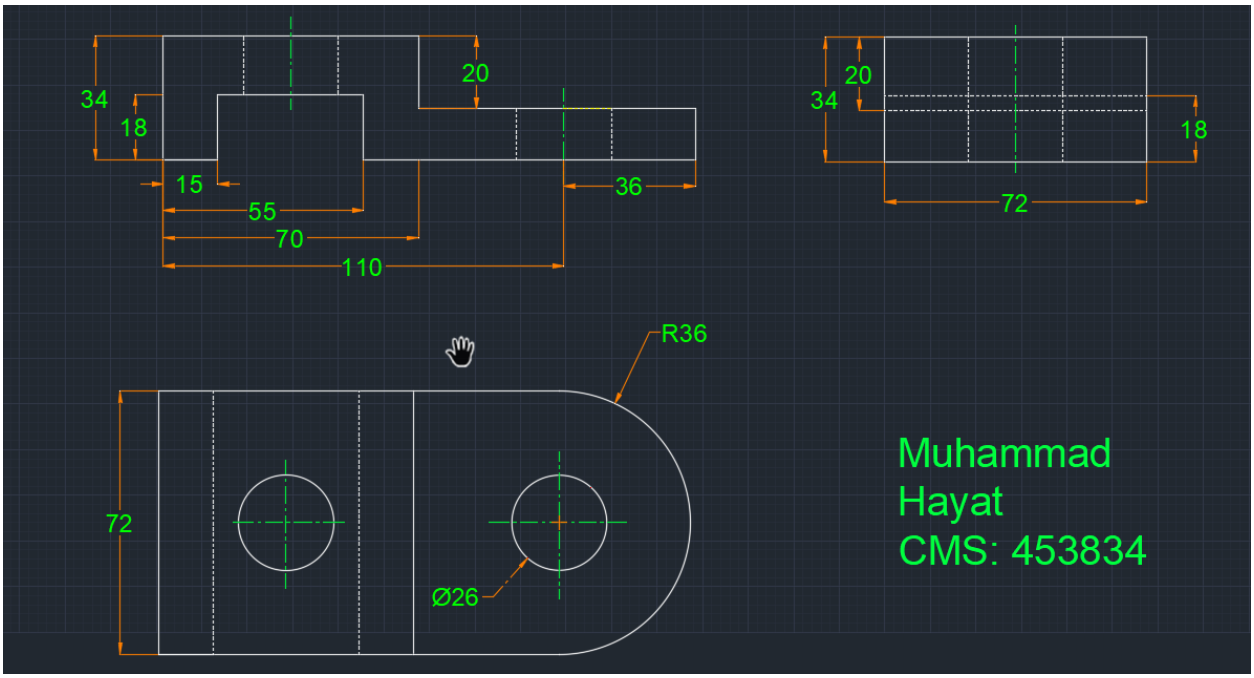

Figure 5 Drawing 2

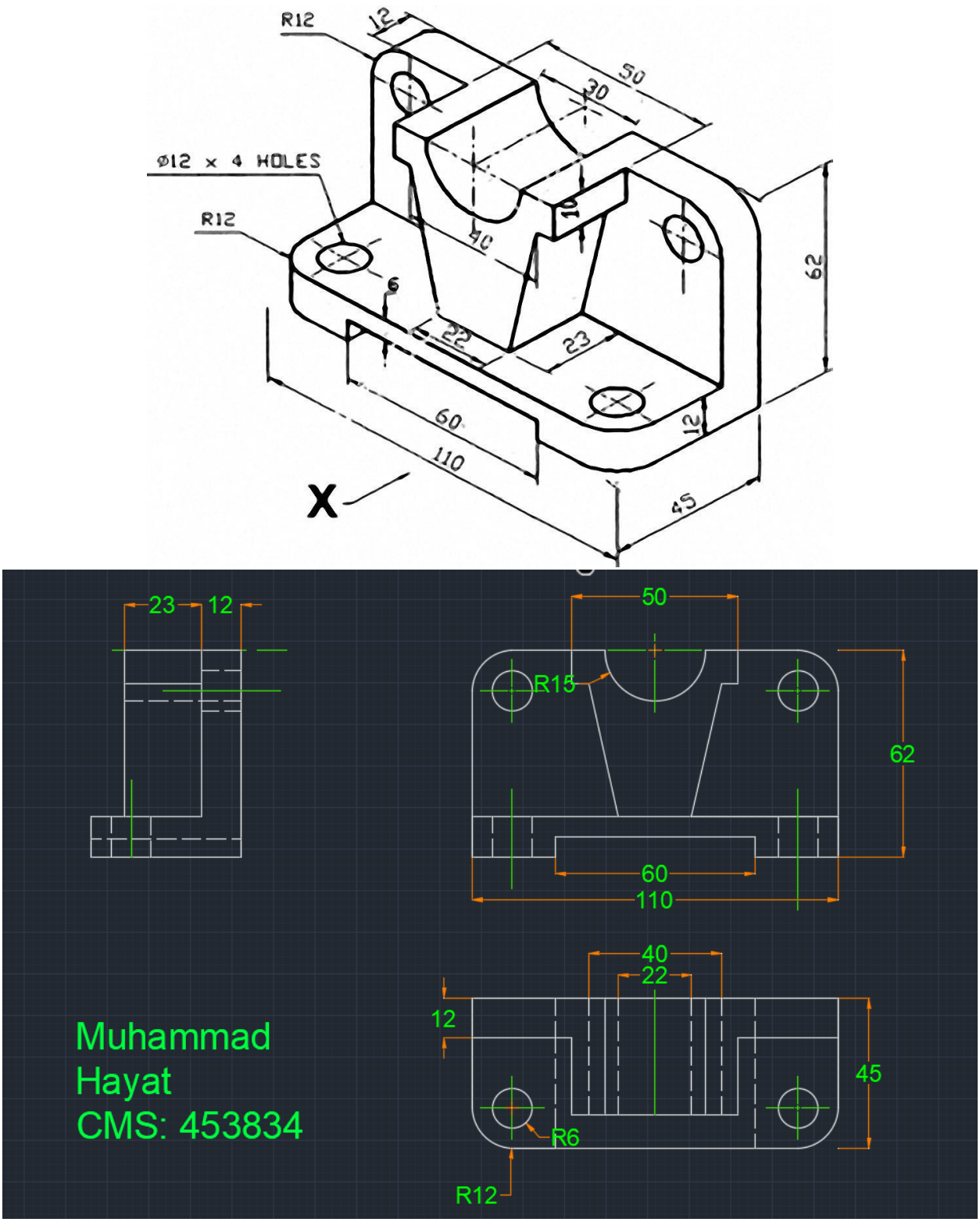

Figure 6 Drawing 3