

ENGINEERING DRAWING

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20/1/2024

ENGINEERING DRAWING

Syllabus

Chapter One : Principles of Engineering Drawing

Chapter Two : Geometrical Operation

Chapter Three : Dimensions

Chapter Four : Projections

Chapter Five : Sectional views

Chapter Six : Pictorial Drawing

Chapter Seven : Missing Lines and Missing View

References

1- FUNDAMENTALS OF ENGINEERING DRAWING by: Warren J. Luzadder

2- TECHNICAL DRAWING by: Goetsch nelson chalk

3- الرسم الهندسي د. فتحي شريف

4- الرسم الهندسي كتاب منهجي

CHAPTER ONE : PRINCIPLES OF ENGINEERING DRAWING

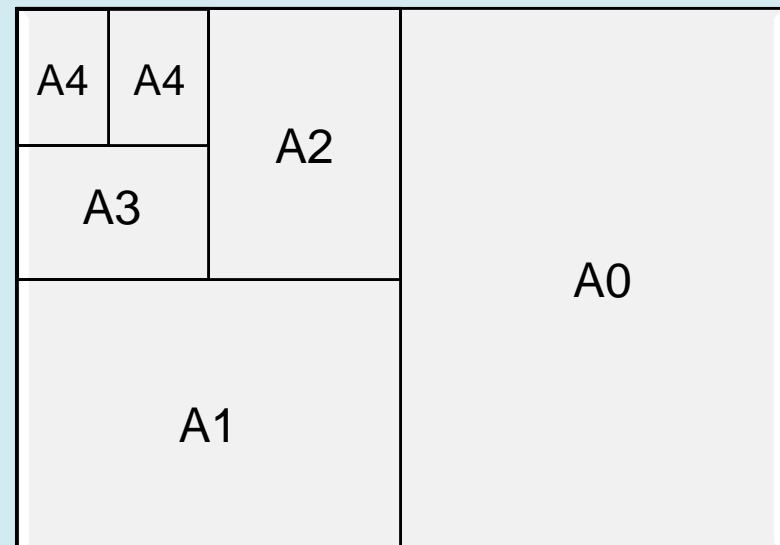
1.1 : INTRODUCTION

Engineering drawing is a formal and precise way of communicating information about the shape, size, features and precision of physical objects. Drawing is the universal language of engineering.

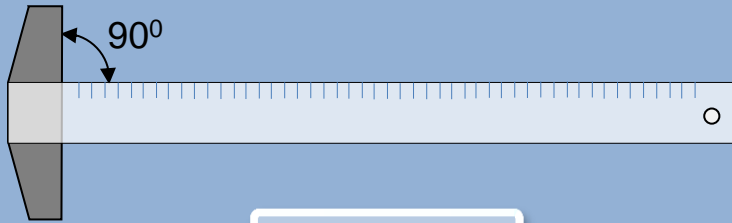
1.2 : BASIC INSTRUMENTS

1.2.1 : Drawing Sheets

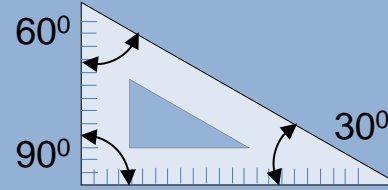
Symbol	Sheet Dimensions
A0	(1089 X 841) mm
A1	(841 X 594) mm
A2	(594 X 420) mm
A3	(420 X 297) mm
A4	(297 X 210) mm
A5	(210 X 148) mm



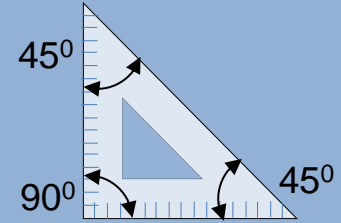
1.2.2 : T-SQUARE & TRINGLES



T - SQUARE

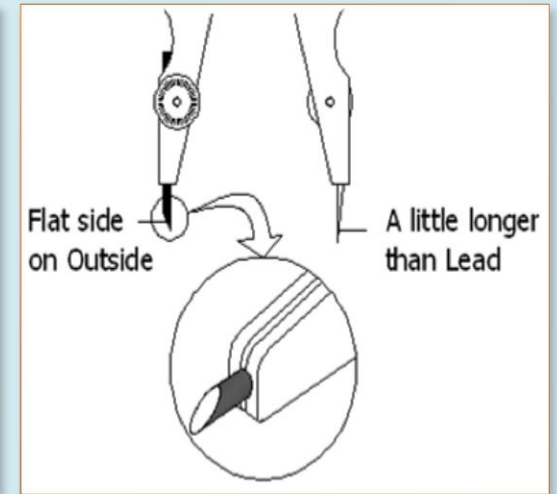
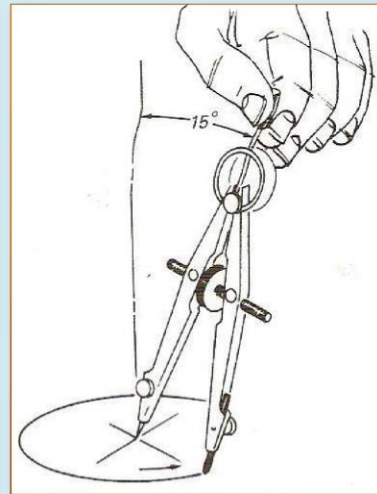
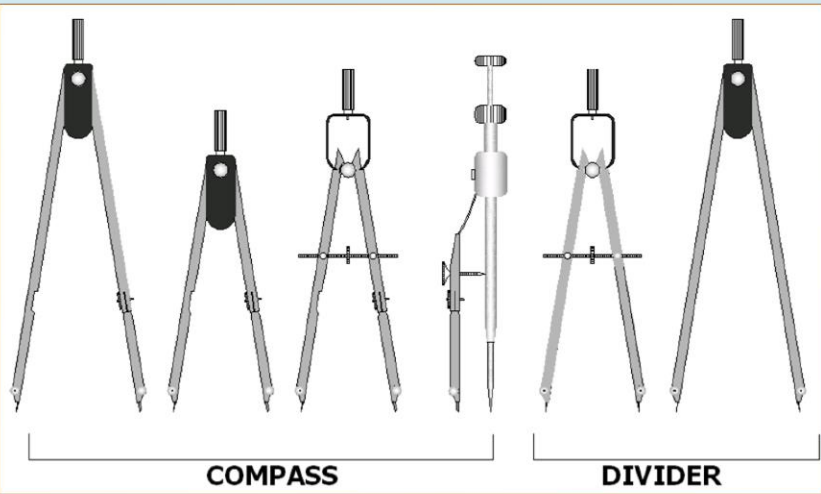


30° and 60° Triangle



45° Triangle

1.2.3 : COMPASS AND DIVIDERS



1.2.4 : PENCILS AND ERASERS



WOODEN PENCILS



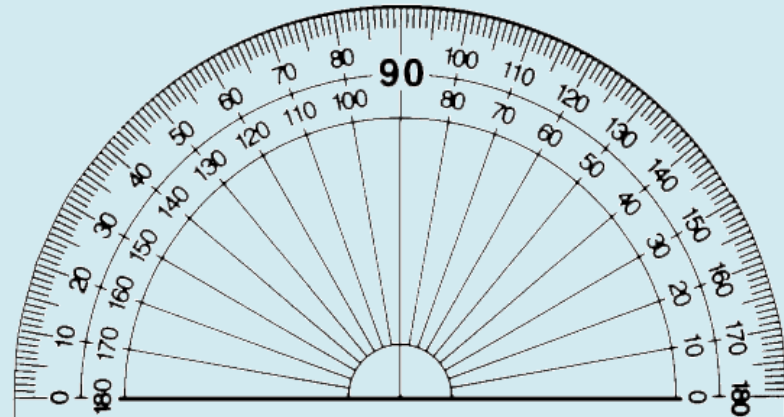
ERASER



MECHANICAL PENCILS (0.5 OR 0.7) mm

1.2.5 : TAPES AND SCALES

1.2.6 : PROTRACTOR

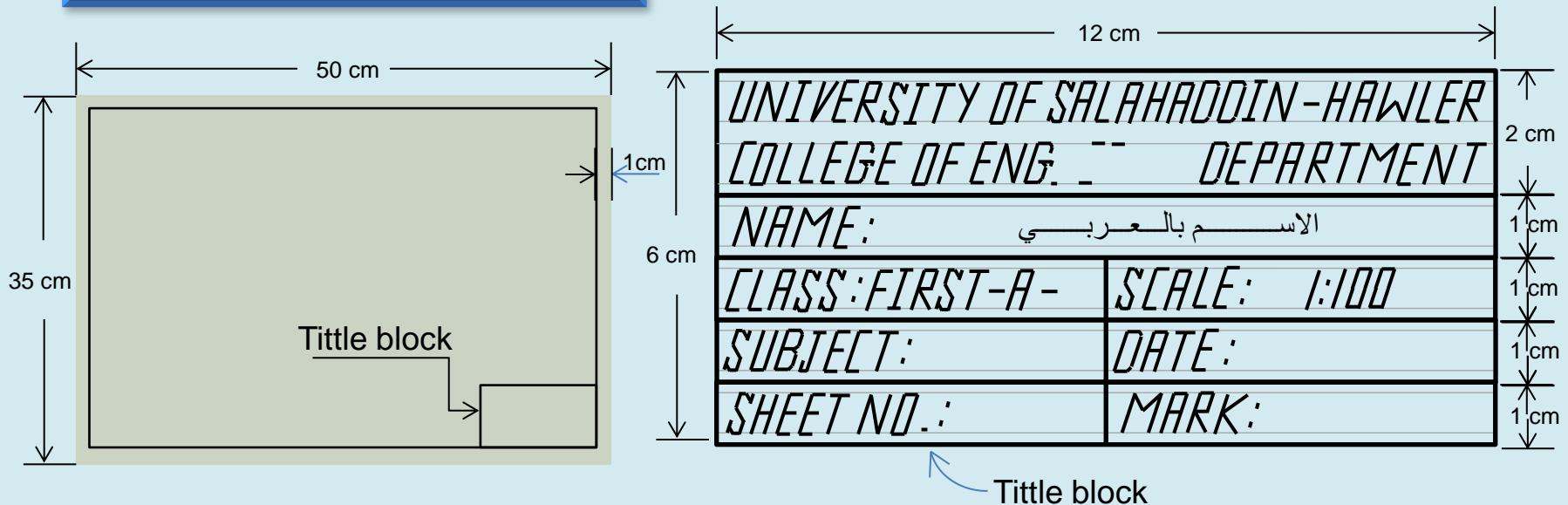


1.3 : LETTERING

In Engineering drawing there are dimensions and notes that are written on the sheet and must be clear, have convenient size and easy to read, letters and Numbers must be written in Engineering way.



1.4 : DRAWING SHEET PAPER

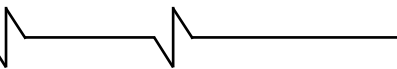


1.5 : TYPES OF LINES

Visible outline (Full Line)

Hidden Line (Dashed Line)

Break Line



↑ Cutting Plane



Center Line



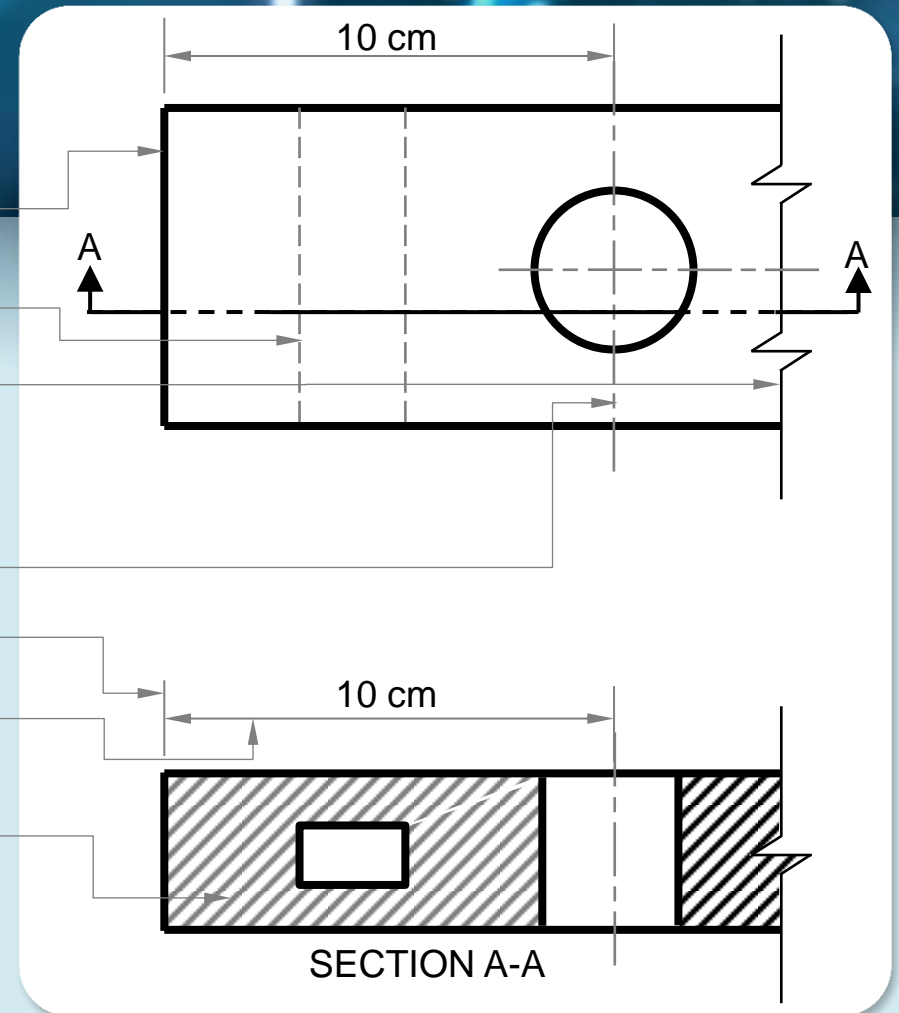
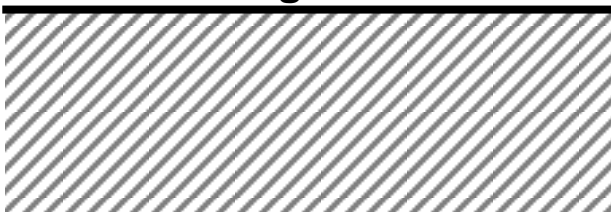
Extension Line



Dimension Line



Section lining



Note:

- 1- For lines have spacing, the space should be approximately (1) mm.
- 2- For Hidden line the dashes must be approximately (2 – 8) mm.
- 3- For Center line the long dashes must be approximately (5 – 20) mm and the dashes must be approximately (2) mm .

1.6 : SCALES

The Scales used in engineering practice are :

Full size scale

1 : 1

Reducing scale

**1 : 5
1 : 10
1 : 20
1 : 25
1 : 50
1 : 100**

Enlarging scale

**10 : 1
5 : 1
2 : 1**

