



Prifysgol Cymru
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University of Wales
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Technical Drawing - Dimensioning

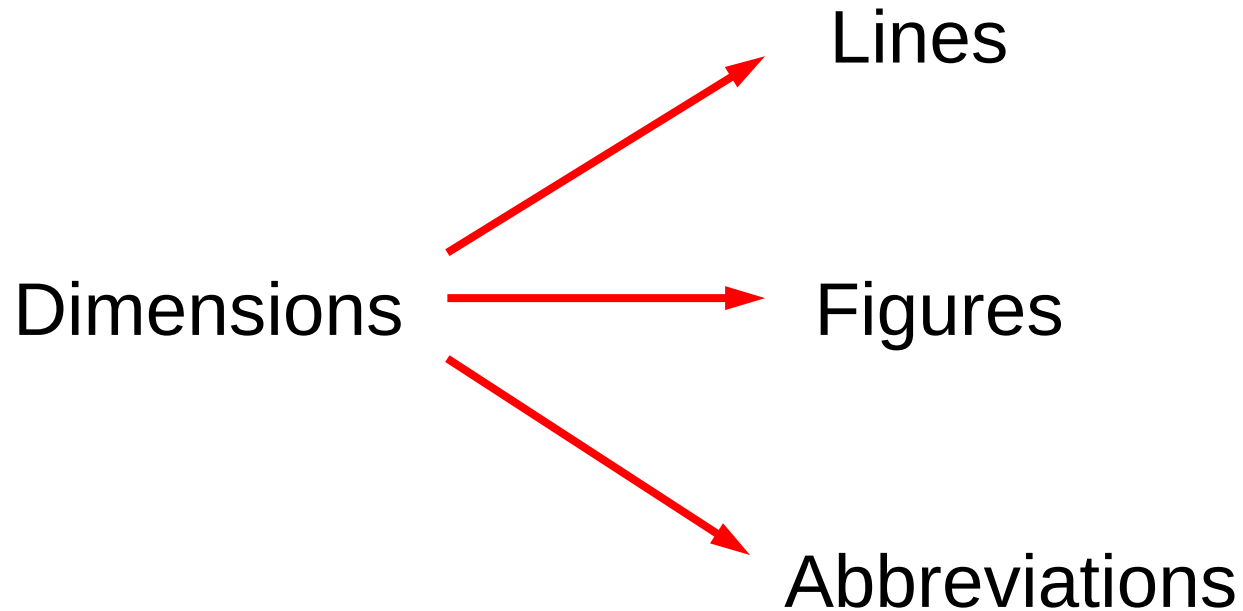
A Guide to the Production & Interpretation of Drawings to
BS8888



Slides Created By:
Richard Morgan



Dimensioning Guidelines



Dimensioning Guidelines

Figures for dimensions

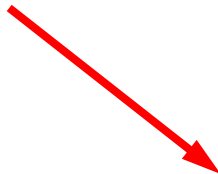


Figures showing dimensions should be carefully drawn or printed

Position of decimal point

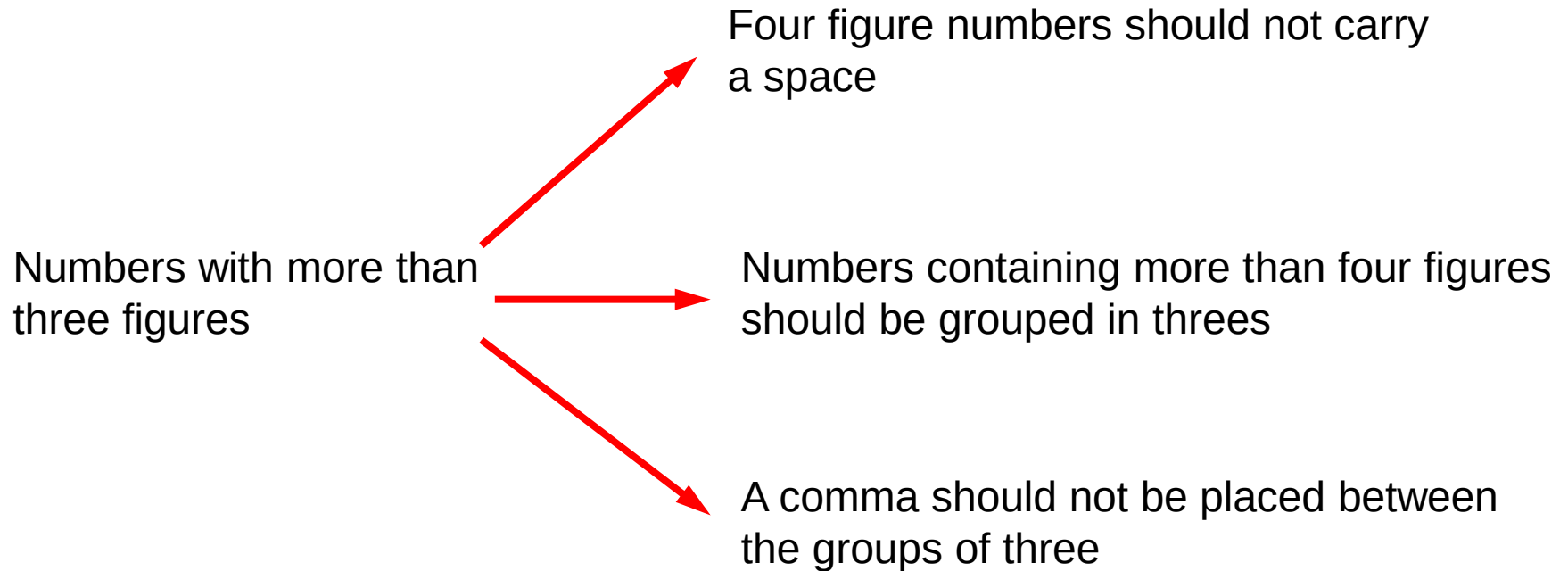


Decimal points should be placed in the same position as a full stop.



In decimal places numbers of less than 1, a zero (0) should be placed before the decimal point

Dimensioning Guidelines



1234567890

1.5

6.75

0.25

465

8345

35 250

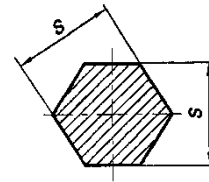
12 500

235 750

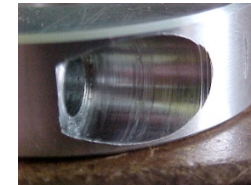
Abbreviations used with Dimensions

The following abbreviations are always placed in front of the dimension to which they refer

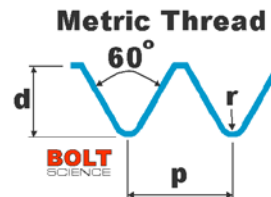
A/F – Across flats



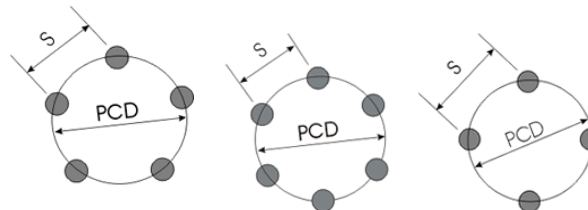
C'BORE – Counter bore



M – ISO metric thread

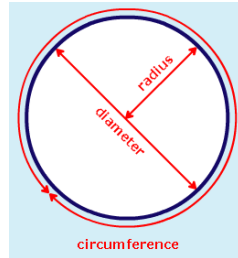


PCD – Pitch Circle Diameter



Abbreviations used with Dimensions cont.

R – Radius



S'FACE – Spot face



SPHERE R – Spherical Radius

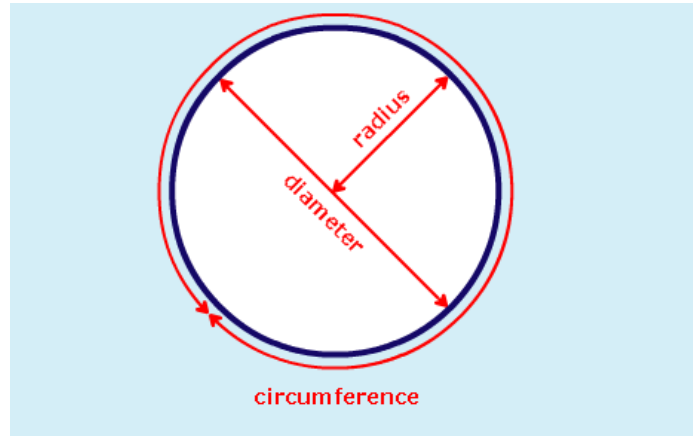


SPHERE Ø – Spherical Diameter

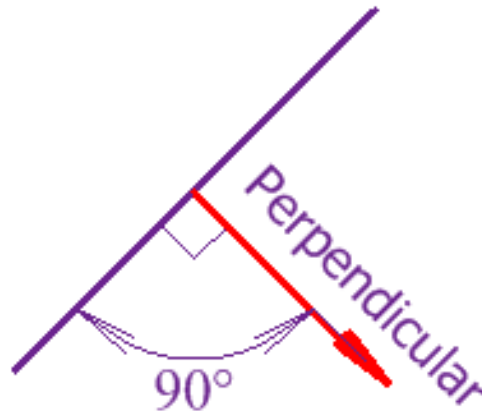


Abbreviations used with Dimensions cont.

Ø – Diameter



⊥ - Square

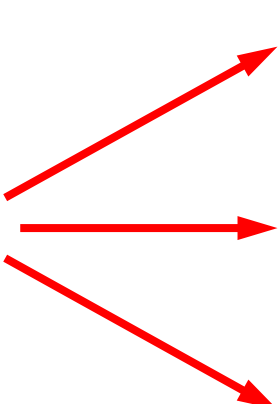


Dimension Units

Frequently stated on the drawing

If stated on the dimension its placed after the figures of the dimension

BS/ISO dimensions include:

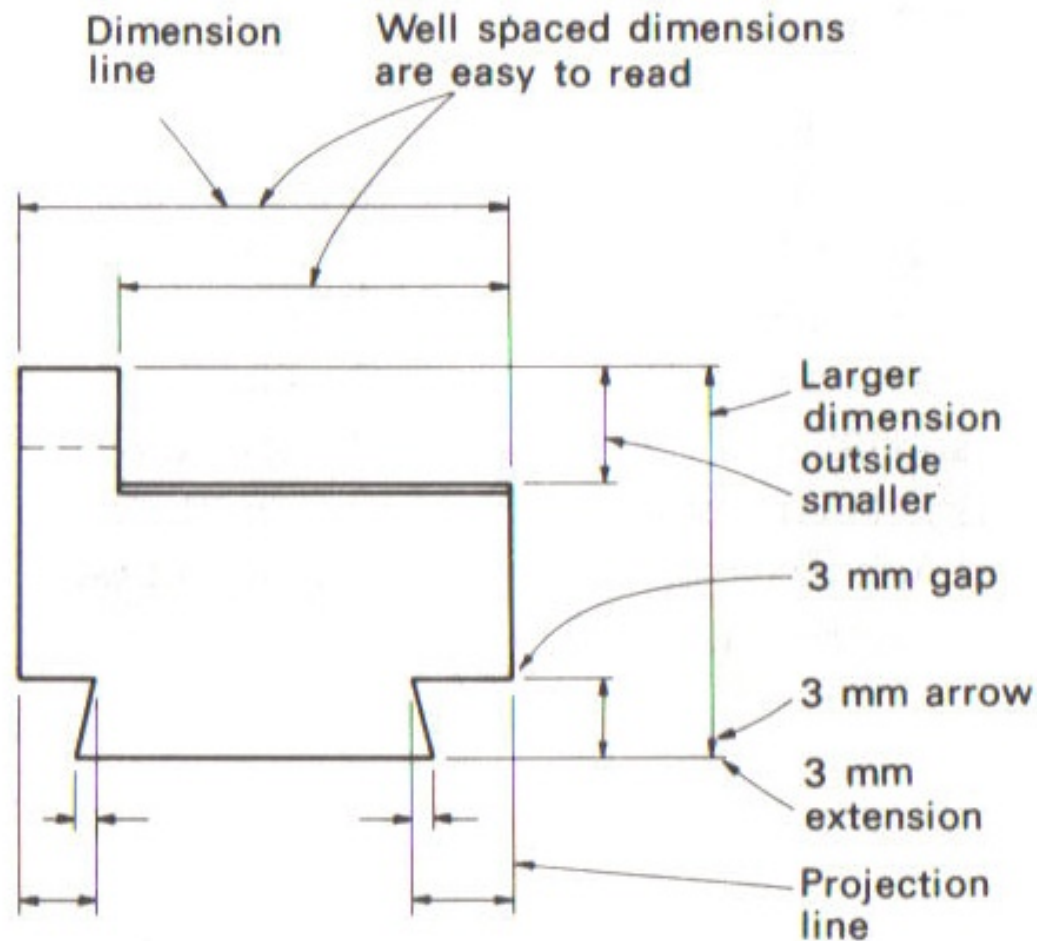


mm – millimetre

cm – centimetre

m – metre

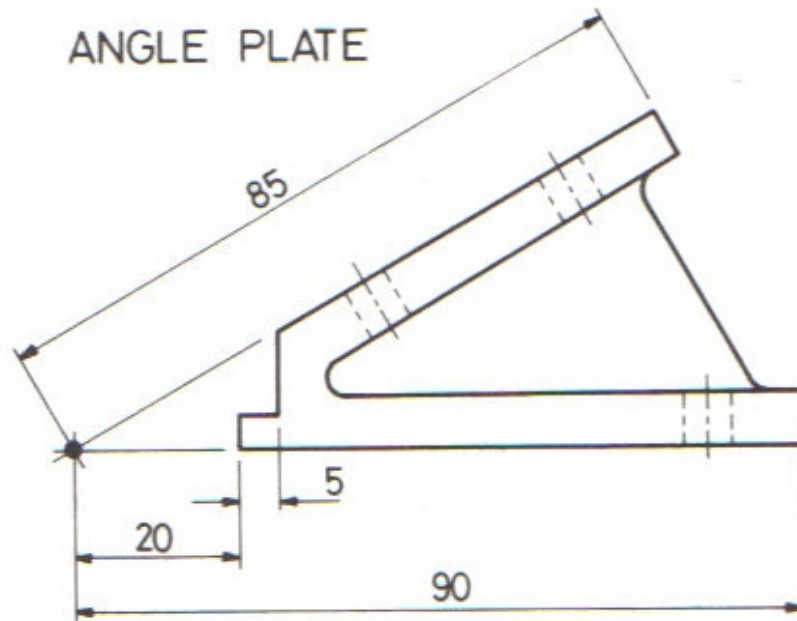
Positioning of Dimensions



Rules for Dimensioning

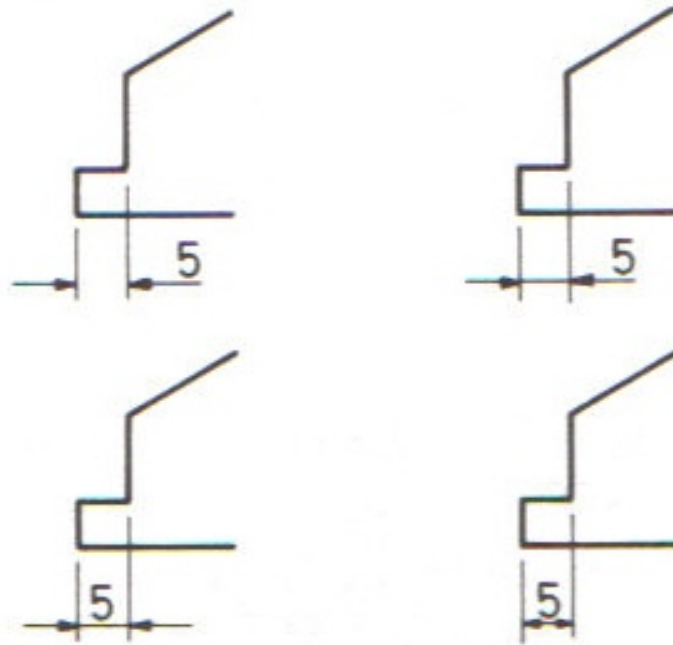
Dimensioning from a Point of Intersection

If projection lines extended from a drawing outline meet at a point, the intersection of the projection lines should be clearly marked with a round dot through which the projection lines extend



Rules for Dimensioning Small Dimensions

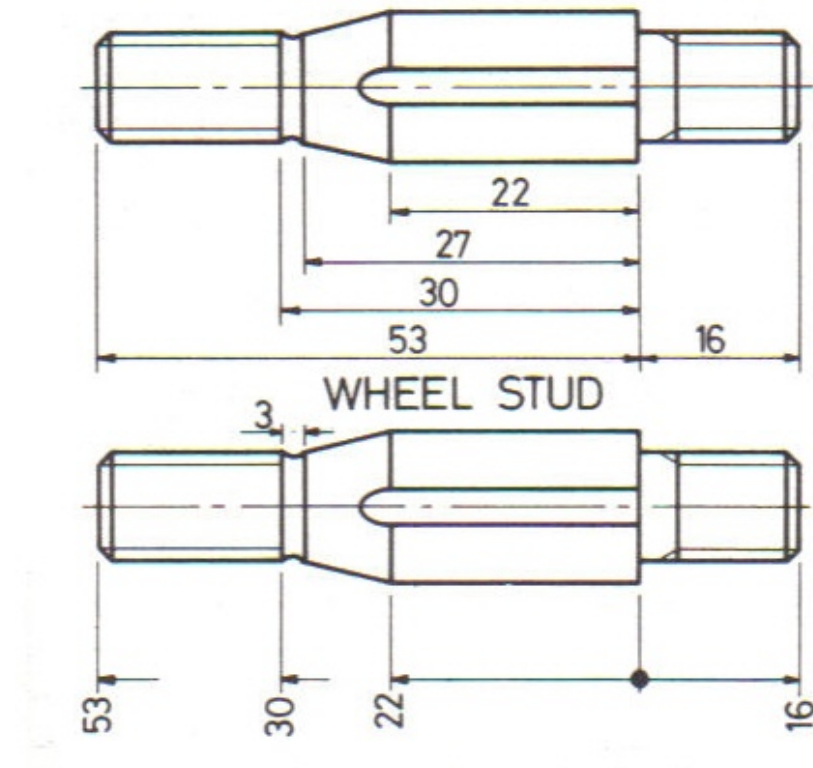
Methods of Inserting small dimensions on a drawing are shown in the diagram



Rules for Dimensioning

Dimensions taken from a common datum

Alternative methods of placing the length dimensions from a common datum are shown on a front view of a wheel stud from a motor vehicle



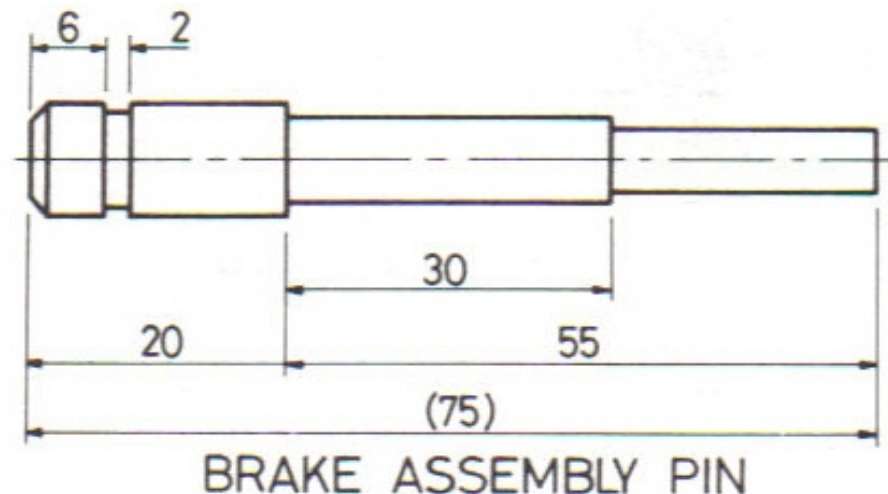
Rules for Dimensioning Redundant Dimensions

The dimension (75) in the front view of a brake pin is an overall length dimension based on additions of the smaller length dimensions

This component would be manufactured to the smaller dimensions of length

The overall dimension is for reference only and is not truly necessary

Redundant dimensions are placed in brackets



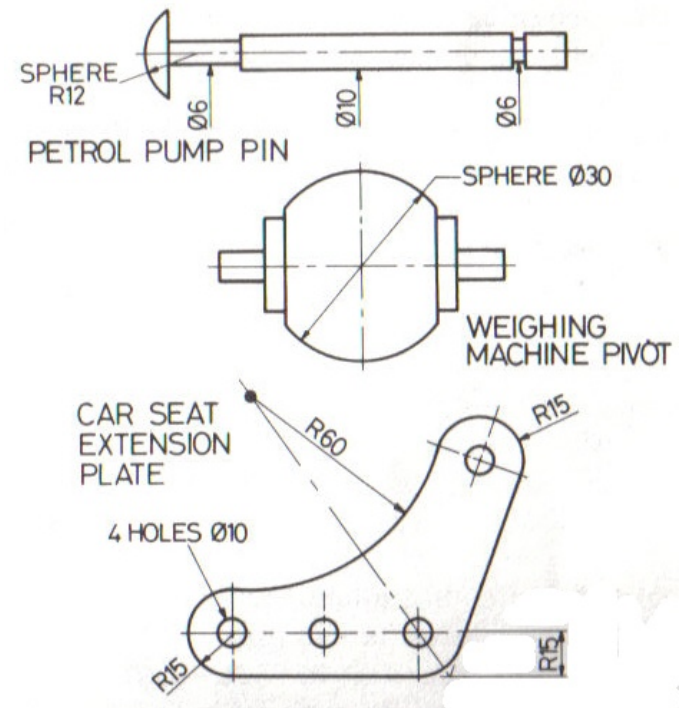
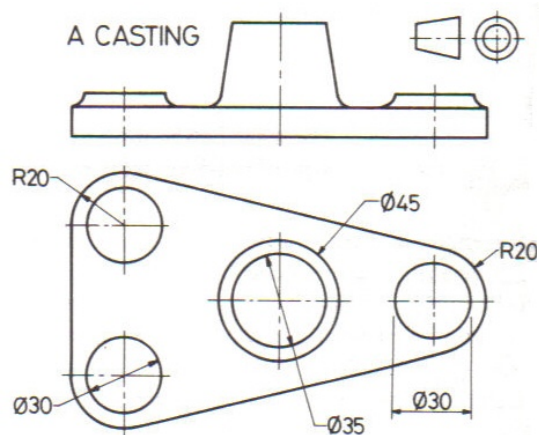
Rules for Dimensioning

Dimensioning Radii & Diameters

Methods of dimensioning the radii of arcs, diameters of circles & holes and the radii & diameters of spherical parts are shown in drawings of a casting, a pin from a petrol pump, a spherical pivot and an extension plate from a car seat

The dimension line should pass through the centre of the arc, circle or sphere

A circle can also be dimensioned by the method shown for the right hand circle of the plan of the casting



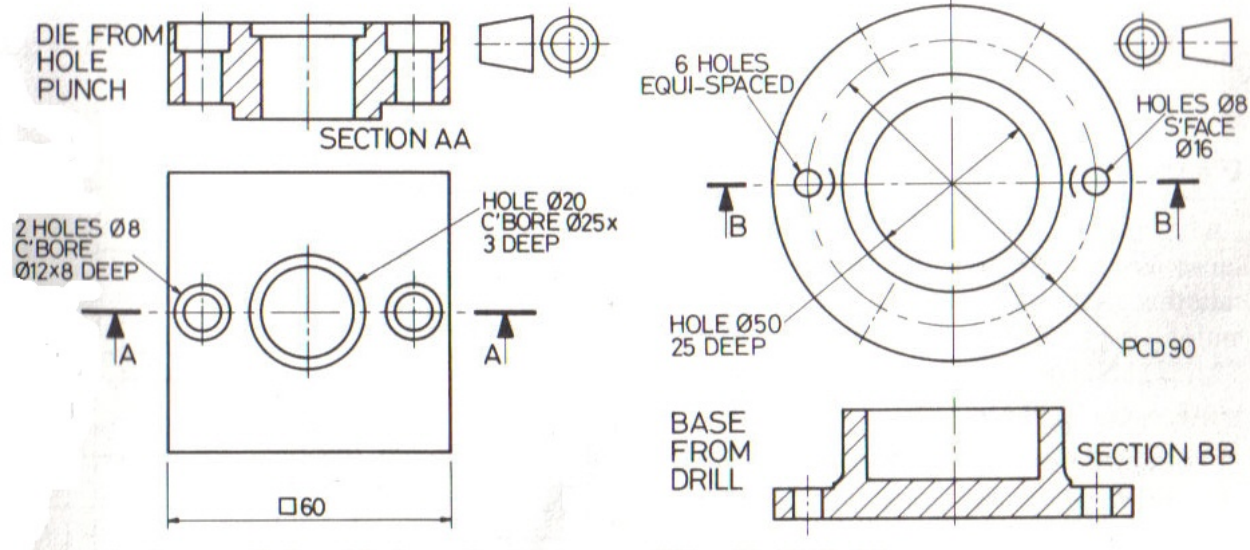
Rules for Dimensioning

Dimensioning Holes

Dimensions for holes should have the word HOLE placed in front of the dimension

A typical example of dimensioning counter-bored holes is shown in the diagram

Countersunk holes would be dimensioned as follows:
Ø CSK AT 90° TO Ø18

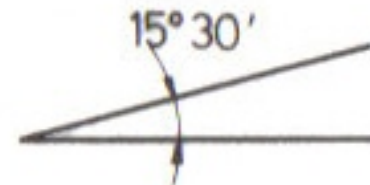
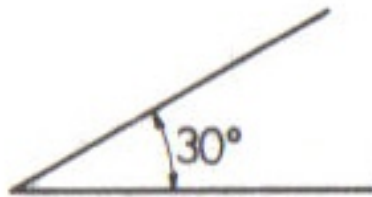
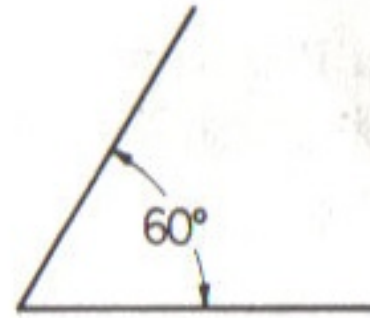
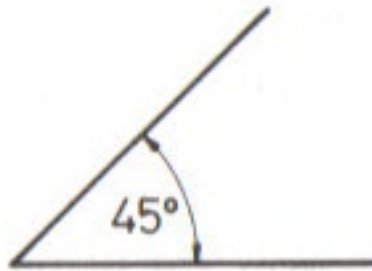


Rules for Dimensioning

Dimensioning Angles

Four methods of dimensioning angles are shown

Angles of less than one degree should be preceded by a 0 e.g. 0.45°



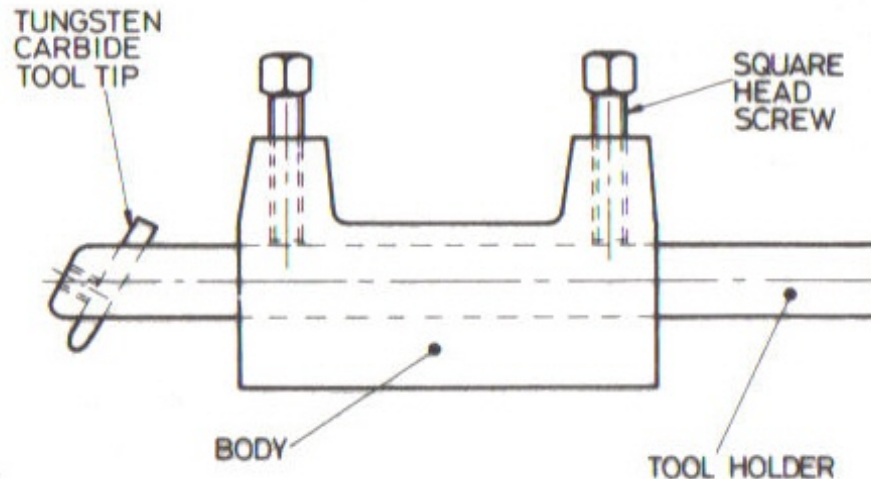
The Use of Leaders

If notes are to be included in drawings, leaders may be needed to indicate the parts to which the notes refer

Leader lines ending on the drawing outline should terminate in an arrow

Leader lines ending within the drawing outline should terminate in a dot

Notes should normally be written in capital letters and not underlined



Application of Dimensioning

