DIMENSIONING FUNDAMENTALS

Graphic entities on drawings describe shape and position. Dimensions and notes describe size and necessary manufacturing and building processes if the drawing is to be a complete instruction for a fabricator, builder, shop technician etc.

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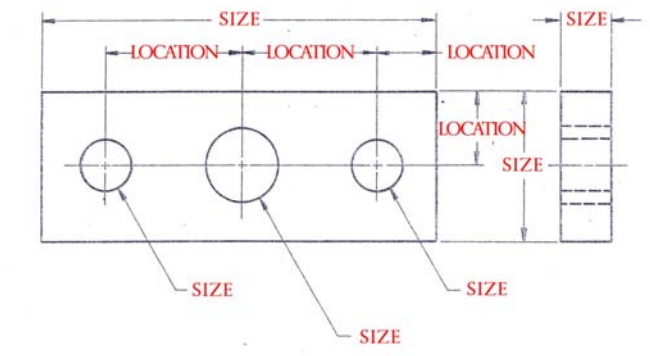
We have all heard the "rule of thumb". At one time, an inch was defined by the width of a man's thumb, and a foot, simply was the length of a man's foot.

THE RULE OF THUMB

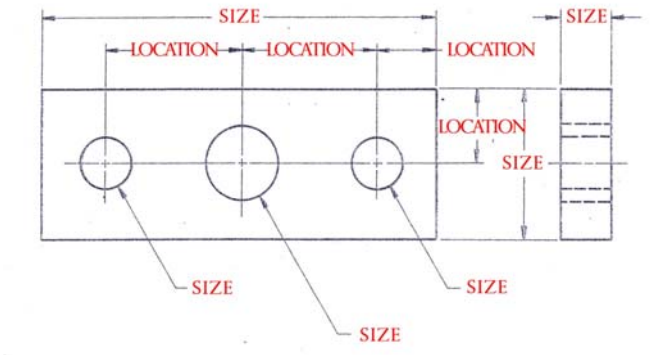
A FOOT

DIMENSIONING FUNDAMENTALS



LOCATION AND SIZE DIMENSIONS ON A DRAWING

In addition to drawing a complete ***shape description*** of an object, a drawing must also give complete ***size*** and ***location descriptions***. That is a drawing must be ***dimensioned.***



LOCATION AND SIZE DIMENSIONS ON A DRAWING

Shape description:_____

Size Dimensions: _____

_____

Location Dimensions: _____

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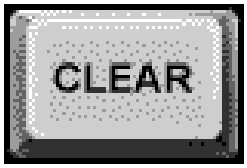
Dimensions on a drawing need to be _____

Dimensions on a drawing should be given so _____

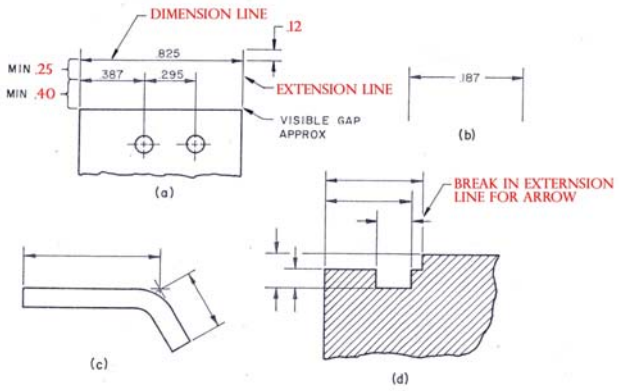
_____do not have to assume anything, measure anything, and dimensions given should always be to points or surfaces accessible to the worker.

DON'T MAKE SOMEONE ASSUME

DIMENSIONS SHOULD BE EXACT AND CLEAR



DIMENSIONING FUNDAMENTALS



DIMENSION LINES AND EXTENSION LINES

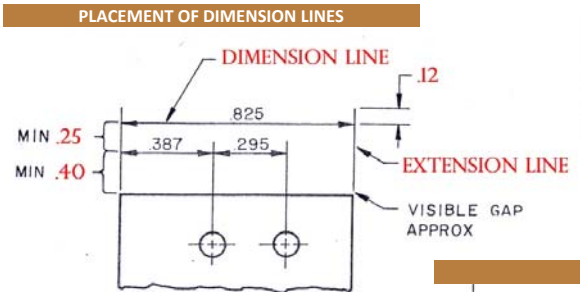
Dimension Lines: _____

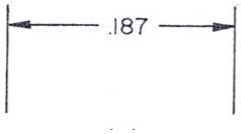
_____

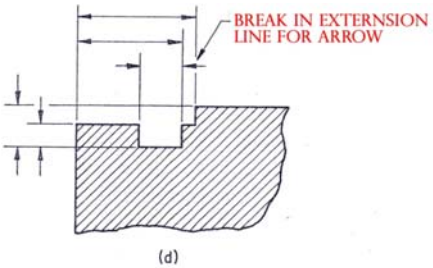
Extension Lines: _____

_____

PLACEMENT OF DIMENSION LINES



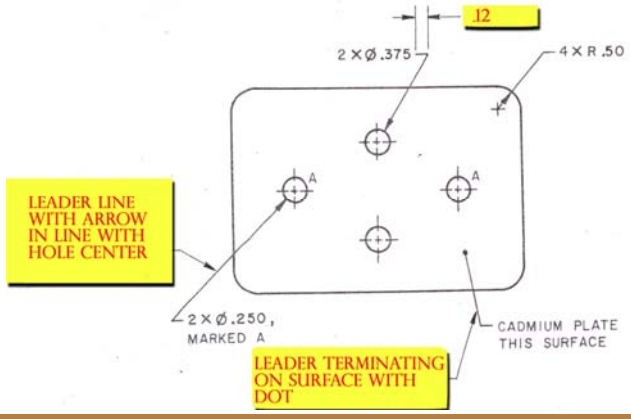




QUICK TIPS

- _____
  _____
  _____.
- Dimension lines should NEVER cross extension lines. (This would only happen if you placed the shorter dimensions outside of longer dimensions)
- Line up and group dimensions as much as possible so the drawing looks neat and keep spacing consistent everywhere.
- Be sure to leave a small _____
  _____
  _____

MARKET SUMMARY ANALYSIS

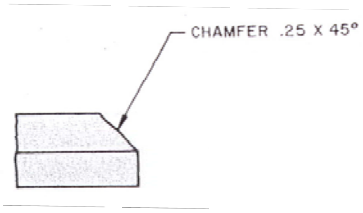


LEADER LINES

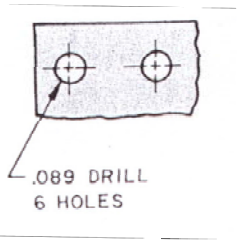
Leader Lines: A thin _____
_____
_____

LEADER LINES AT WORK

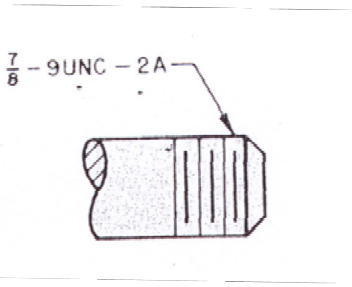
Leader used to describe form.



Leader used to describe hole size.



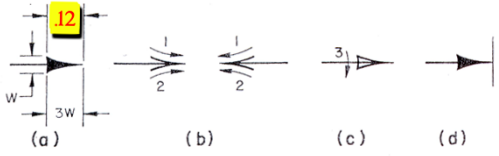
Leader used to describe part.



Leader used to describe cuteness.

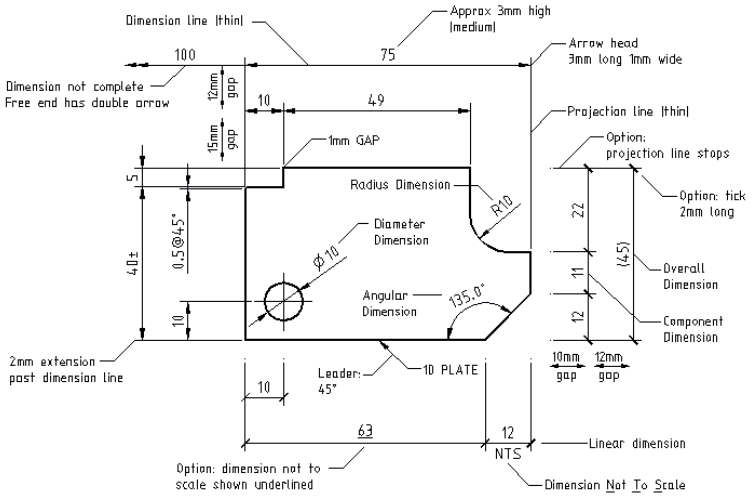
ARROWHEADS

As seen, arrowheads indicate the extent of dimensions. They should be uniform in size and style throughout the drawing. Arrowheads should be drawn freehand.



ALIGNED SYSTEM OF DIMENSIONING

Dimension text and numbers _____ with the dimension line they are noting.



DIMENSIONING FUNDAMENTALS

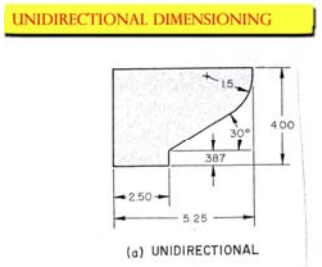
UNIDIRECTIONAL DIMENSIONING

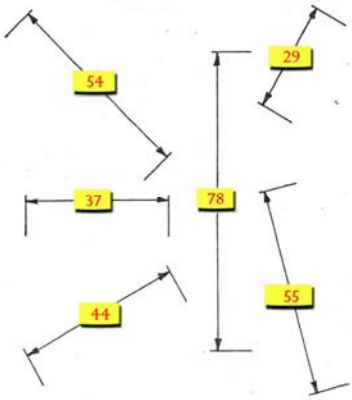
Unidirectional dimensions placed in awkward angles are _____

_____

_____

Easy to read	*All notes and numbers are horizontal*



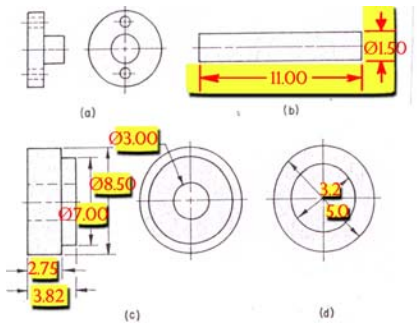


DIMENSIONING FUNDAMENTALS

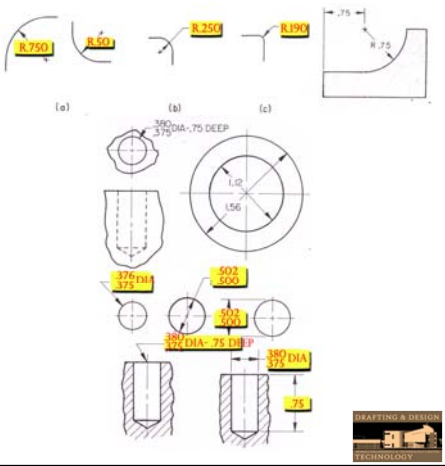
DIMENSIONING ARCS, CIRCLES, CYLINDERS

There are various ways to dimension arcs, cylinders, and circles. The key is to select the best method for the drawing and keep it consistent.

Dimensioning Cylinders



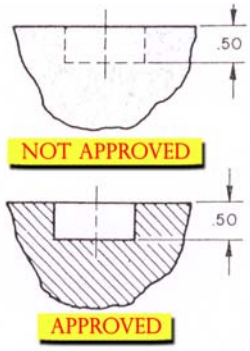
Dimensioning Arcs & Round Holes



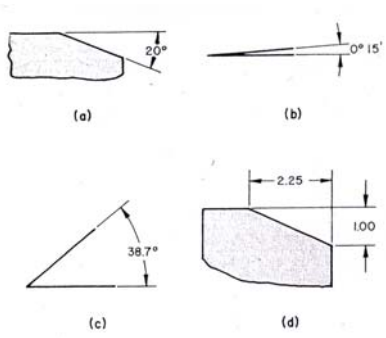
DIMENSIONING FUNDAMENTALS

DIMENSIONING HIDDEN OBJECTS AND ANGLES

Dimensioning Hidden Objects



Dimensioning Angles



DIMENSIONING FUNDAMENTALS