

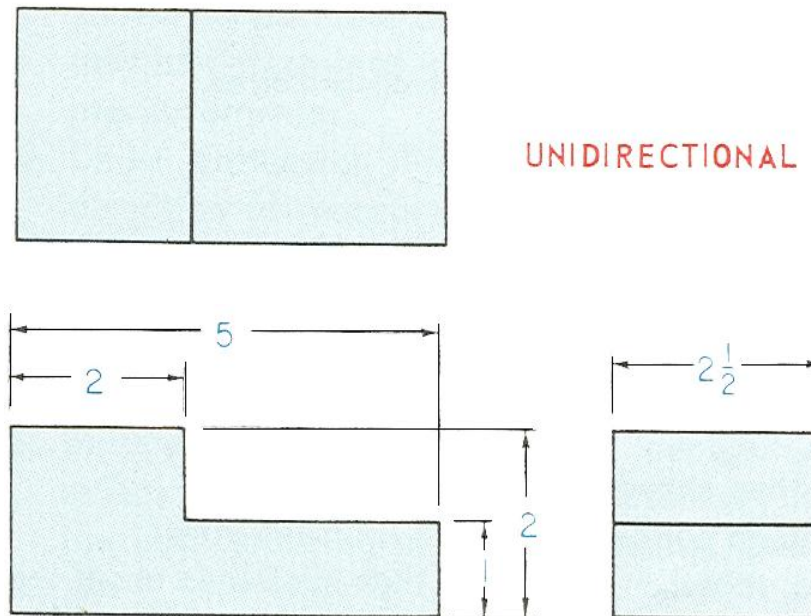
# DIMENSIONING

**Dimensioning** is the process of defining the sizes of the geometric features of an object and presenting them in appropriate units of measure: inches, millimeters, feet & inches, etc... If an object is meant to be made to precise specifications, the builder will need specific information about the object's size and shape, which will come in the form of dimensions and notes.

## Dimension Layout

### Unidirectional dimensioning

- A system that places all of the dimensions (numbers) horizontally



# DIMENSIONING

## Line Types

### Dimension Line (6H/0.05)

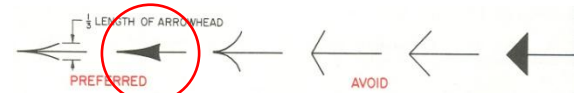
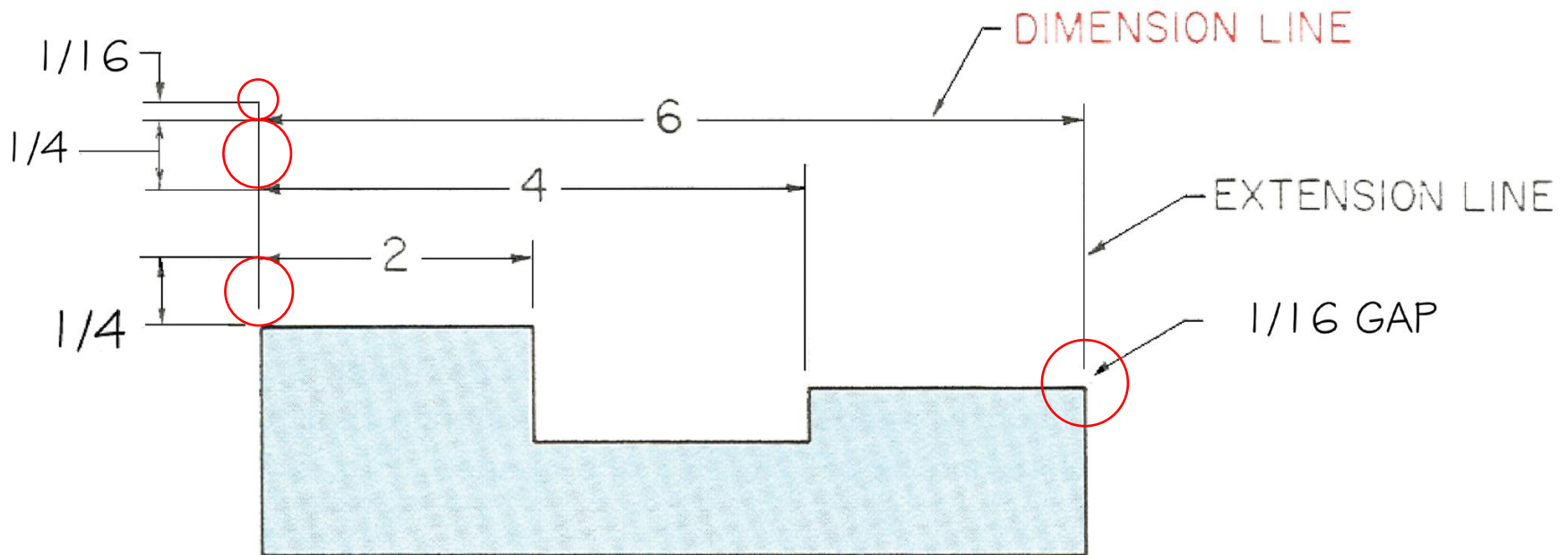


Fig. 8-4. Arrowheads are drawn freehand. The solid arrowhead is generally preferred.

- Thin broken line with arrowheads at each end and used to indicate location and sizes of geometric features

### Extension Line (6H/0.05)

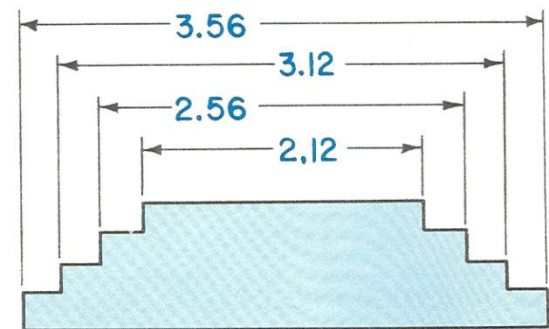
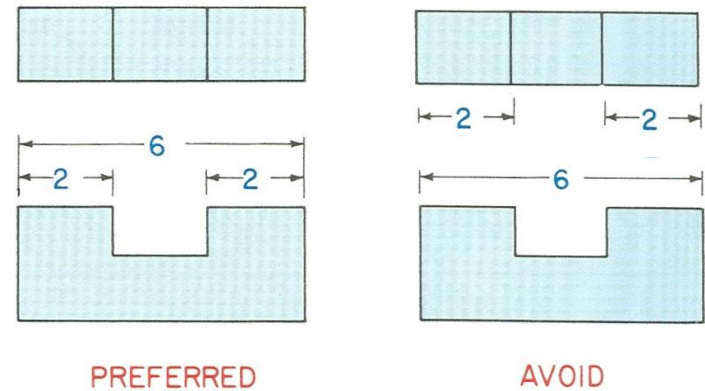
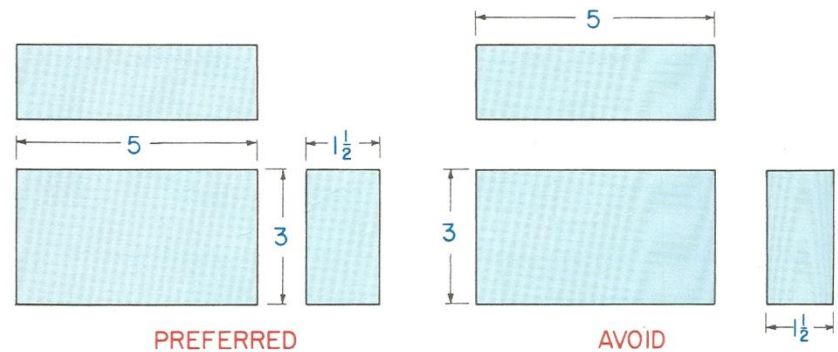
- Thin solid line that extends the edges of the geometric features to the dimension line



# DIMENSIONING

## General Rules for Dimensioning

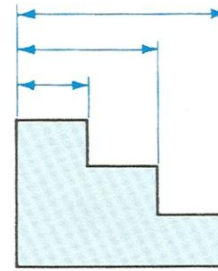
- Place dimensions on the views that show the true shape of the object. Do not dimension from a hidden line
- Unless absolutely necessary, dimensions should not be placed within the views
- When possible, dimensions should be grouped together
- Dimensions must be complete
- If there are several parallel dimension lines, the dimensions (numbers) should be staggered
- Dimensions should not be duplicated



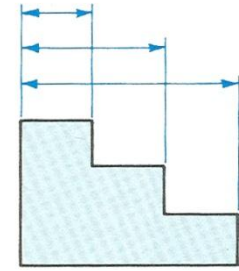
## DIMENSIONING

### General Rules for Dimensioning (cont.)

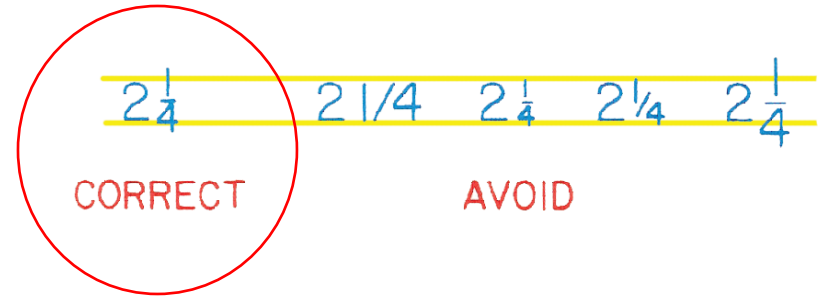
- Plan your work carefully so that no other line crosses through the dimension lines. You can achieve this by placing the smaller dimensions nearest the object and the larger/overall dimensions furthest from the object
- When all dimensions on a drawing are in inches, the inch symbol ( " ) is not used
- Numbers and fractions must be drawn in proper relation to each other



PREFERRED

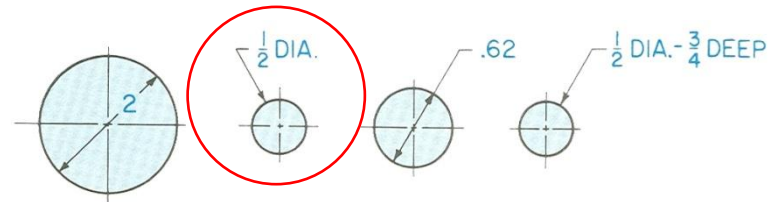


AVOID



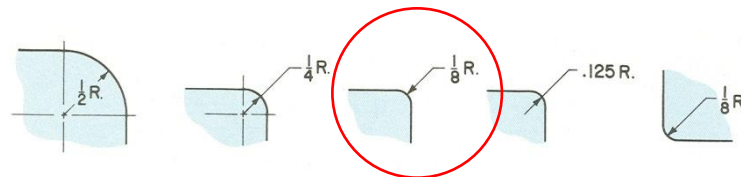
### Circles & Round Holes

- Generally indicated by its diameter



### Arcs

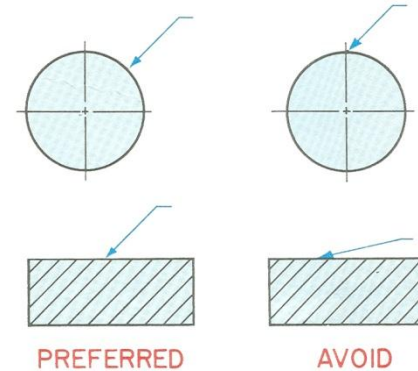
- Generally indicated by its radius



## DIMENSIONING

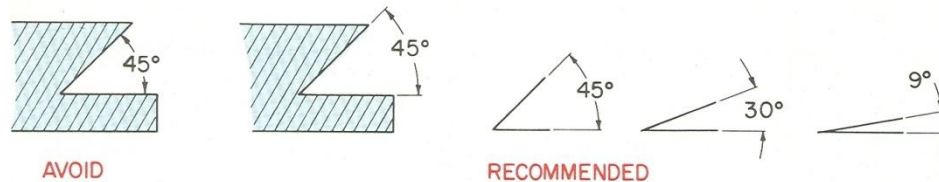
### Leader lines (6H / 0.05)

- Drawn at any angle, have an arrowhead at one end and a dimension and/or note at the other end. Must always extend from the center of the geometric feature



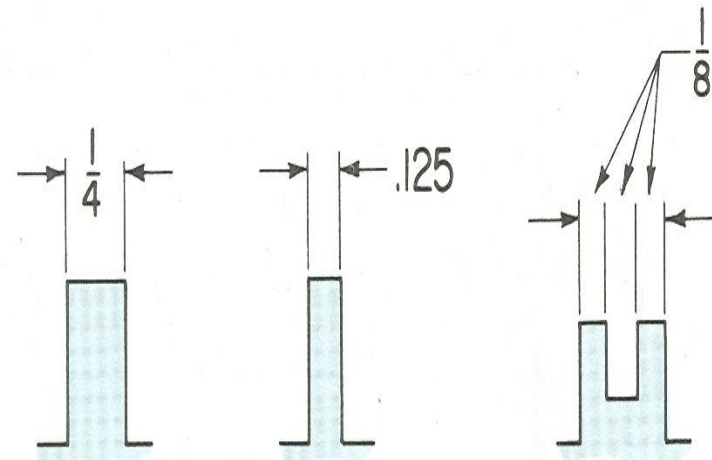
### Angles

- Generally indicated by its degrees



### Dimensioning Small Portions of an Object

- When the space between extension lines is too small to house both the dimension (number) and the dimension line, the dimension line is the first to be placed outside the extension lines. If the dimension doesn't fit either, then both the dimension (numbers) and the dimension line should be placed outside the extension lines.



## Site Works

Walker, John R. *Exploring Drafting; basic fundamentals*. N.p.: The Goodheart-Willcox Co., Inc., 1982. Print.

Wallach, Paul. *Drafting*. Encino: Glencoe Publishing Co., Inc., 1981. Print.