

Dimensioning Guidelines_

1. Dimensions should reflect the actual size of the object, not the size of the drawing.
2. Include overall dimensions in the three principle directions – height, width, and depth.
 - a. Overall dimensions should be placed the greatest distance away from the object so that intermediate dimensions can nest closer to the object to avoid crossing extension lines.
3. Include all dimensions necessary to produce or inspect the part.
 - a. The observer should not need to calculate, scale or assume any measurement.
4. Do not include unnecessary dimensions.
 - a. Dimensions should NOT be duplicated.
 - b. The same information be given in two different ways.
 - c. Do not include chain dimensions that add up to a given overall dimension.
5. Dimensions should be attached to the view that best shows the contour of the feature to be dimensioned.
6. Place dimensions between adjacent views whenever possible.
7. A dimension should be attached to only one view (i.e., extension lines should not connect two views).
8. Avoid dimensioning to hidden lines when possible.
9. Do not place dimensions on the object unless it is absolutely necessary.
10. Do not cross a dimension line with another dimension line or with an extension line.
11. Avoid crossing dimension or extension lines with leader lines.
12. Leader lines point toward the center of the feature at an angle and should never be placed horizontally or vertically.
13. Dimension numbers should be centered between arrowheads, except when using stacked dimensions where the numbers should be staggered.
14. In general, a circle is dimensioned by its diameter; an arc is dimensioned by its radius.
15. Holes should be located in the view that shows the feature as a circle.
16. Holes should be located by their center lines which may be extended and used as extension lines.

How to decide how many dimensions and where they go:

1. Use the Ruler Slide Method to Determine the number of dimensions needed.
 - a. Width =
 - b. Height =
 - c. Depth =
2. Start in the **Front** view Dimension each line for **Width** keeping in mind the rules above. If needed add width dimensions to the **Top** view.
 - a. Identify each of the lines to which you will dimension with the Ruler Slide Method
 - b. Define one of the sides as your 0 or starting dimension line.
 - c. Add a dimension to each of the lines while considering the following tips:
 - i. Dimension the view that shows the best contour
 - ii. Keeping the smallest dimension closer to the object
 - iii. Placing the dimension between adjacent views when possible
 - iv. Don't forget to dimension the overall length of the object
 - v. Prioritize dimensions in the front view.
 - vi. Try to avoid dimensioning to hidden lines.
3. Next Dimension the **Height** in the **Front** view and **Right** view.
 - a. Identify each of the lines to which you will dimension with the Ruler Slide Method
 - b. Define one of the sides as your 0 or starting dimension line.
 - c. Add a dimension to each of the lines while considering the following tips:
 - i. Dimension the view that shows the best contour
 - ii. Keeping the smallest dimension closer to the object
 - iii. Placing the dimension between adjacent views when possible
 - iv. Don't forget to dimension the overall length of the object
 - v. Prioritize dimensions in the front view.
 - vi. Try to avoid dimensioning to hidden lines.
4. Lastly, Dimension the **Depth** in the **Top** view and **Right** view. *Remember that the depth is horizontal in the Right view and Vertical in the Top view and the dimensions project across a 45 degree angle.*
 - a. Identify each of the lines to which you will dimension with the Ruler Slide Method
 - b. Define one of the sides as your 0 or starting dimension line.
 - c. Add a dimension to each of the lines while considering the following tips:
 - i. Dimension the view that shows the best contour
 - ii. Keeping the smallest dimension closer to the object
 - iii. Placing the dimension between adjacent views when possible
 - iv. Don't forget to dimension the overall length of the object
 - v. Prioritize dimensions in the front view.
 - vi. Try to avoid dimensioning to hidden lines.