Dimensioning Guidelines

General Rules for Dimensioning

1. Dimensions should reflect the actual size of the object, not the scaled size.
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. Dimensions should be placed so that it is not necessary for the observer to calculate, scale or assume any measurement.
4. Do not include unnecessary dimensions.
   a. Dimensions should NOT be duplicated, nor should the same information be given in two different ways.
   b. Do not include chain dimensions that add up to a given overall dimension.

   Important Note: In the case of chain dimensions, in general, you do not need to know the measurement of every smaller dimension in a chain that contributes to an overall dimension if the overall dimension is given. At least one of the contributory dimensions should be omitted to avoid duplication. This omission does not require a calculation of the omitted dimension since the part can be produced without knowing the specific magnitude of that dimension. That magnitude is simply the distance remaining after the part is built according to the overall dimensions and the other contributory dimensions that are provided.

5. Dimensions should be attached to the view that best shows the contour of the feature to be dimensioned.
6. A dimension should be attached to only one view (i.e., extension lines should not connect two views).
7. Place dimensions between adjacent views whenever possible.
8. Avoid dimensioning to hidden lines.
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.