

Objectives and Chapter Hints

Chapter 6 – Setting Up a New Drawing

Objectives

After studying this chapter you should be able to

1. Define the initial settings for Units and Limits of a new drawing
2. List the available linear and angular measurement units
3. Calculate the scale factor for scale-dependent items such as text height and linetype patterns
4. Inquire about the drawing status
5. Determine the drawing properties
6. Create a new drawing setup using the Advanced Setup Wizard

Chapter Hints

Scaling issues are always a difficult concept for new CAD students. The scale for all scale-dependent objects should be specified as the **reciprocal** of the plot scale. Therefore, a plot scale of $\frac{1}{2}$ would require that text be scaled to $\frac{2}{1}$ or 2.

Architectural and Engineering scale factors are a bit trickier because of the mixed units. For instance, a typical architectural factor of $\frac{1}{4}'' = 1'0''$ mixes feet and inches on opposite sides of the ratio. Ask the student how many $\frac{1}{4}''$ increments would fit in 1' (or 12''). Eventually, they'll figure out that there are 48 increments in a foot and therefore 48 becomes the scale factor.

- For text to show $\frac{1}{2}''$ on the plotted drawing, it would need to be drawn at 24'' (0.5 x 48).
- A paper size of 12'' x 18'' could accommodate an object that is 576'' x 864'' (48' x 72').

Remember that most CAD drawings are created at full size and then plotted to a standard scale factor.