Learning VectorWorks Chapter 3

Using Grids and Scales

Drawing sketches to scale is one of the main purposes of a CAD package. VectorWorks allows you to set the grid to a required scale to main the sketch as easy as possible to create.

1 Load VectorWorks, or close the current file then select NEW from the FILE menu and select CREATE BLANK DOCUMENT followed by OK.

2 Set the units to CENTIMETRES using UNITS from the PAGE menu.

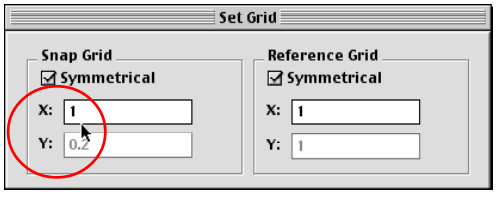
3 At the moment the grid is in 1 centimetre intervals. That is, each square on the grid is 1 cm by 1 cm. The grid can be altered at any time.

Altering the Grid

A Snap Grid

1 Display the PAGE menu and select SET GRID.

2 The SNAP GRID section is where you set the *cursor* to snap to invisible increments within the grid. Let's set the snap so that you can only draw on the grid lines.



3 In the SNAP GRID section enter 1 in the X box.

NB: Symmetrical means that the snap will be the same for both the X and Y directions. You can set the X and Y directions to have different snaps by turning off the SYMMETRICAL box

4 Select OK and try drawing some rectangles and lines. You should not be able to draw them between any grid lines.

5 Delete the objects you have just drawn.

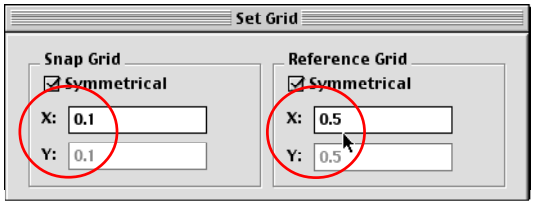
B Changing Grid Lines

1 Display the PAGE menu and select SET GRID.

2 Set the SNAP GRID to 0.1. This is the smallest increment that can be set for a centimetre grid.

3 In the REFERENCE GRID section enter 0.5 in the X box.

4 Select OK and the grid should now be at 0.5 cm intervals.



5 Try drawing some rectangles, lines and arcs.

C Rotating Grid Lines

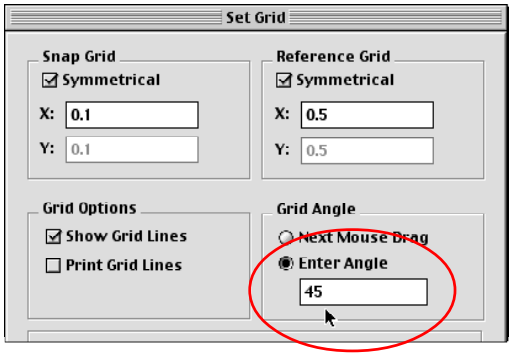
You can place grids on an angle when accurate diagonal lines are required.

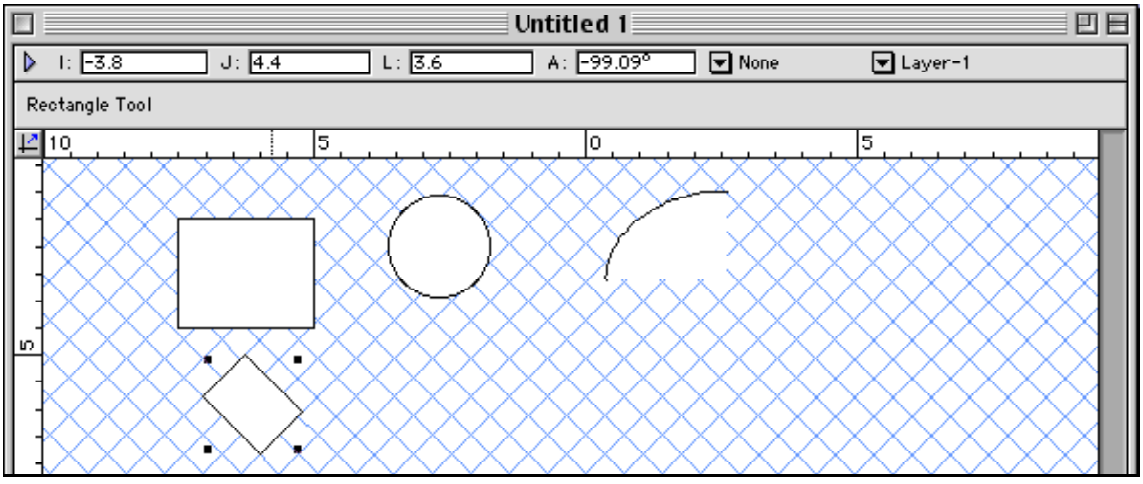
1 Display the PAGE menu and select SET GRID.

2 In the GRID ANGLE box enter:

45

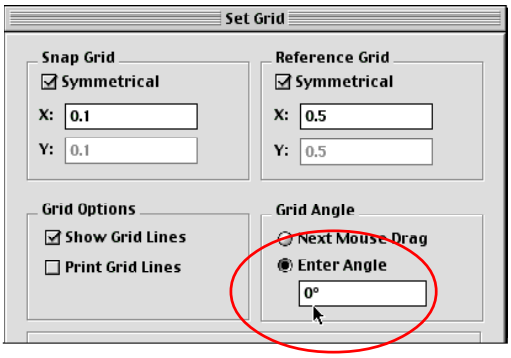
3 Select OK and try drawing a rectangle - it follows the angled grid lines.





4 Once the diagonal work is completed the grid can be returned to normal. Display the PAGE menu, select SET GRID and enter 0 in the GRID ANGLE box.

5 Select OK and the diagonal rectangle stays in its drawn state.



Creating a Design to Scale

To illustrate the use of text in a design a sketch of a pocket calculator will be produced. The keys will be one cm squares and half a centimetre apart. The scale to be used is 1 cm = 1 cm.

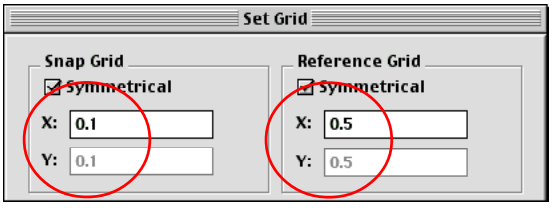
1 Close the current document without saving then select NEW from the FILE menu and select CREATE BLANK DOCUMENT followed by OK.

2 Set the units to CENTIMETRES using UNITS from the PAGE menu.

3 Display the PAGE menu and select SET GRID.

4 Set the SNAP GRID section to 0.1 and the REFERENCE GRID box to 0.5.

5 Select OK to set the grid.



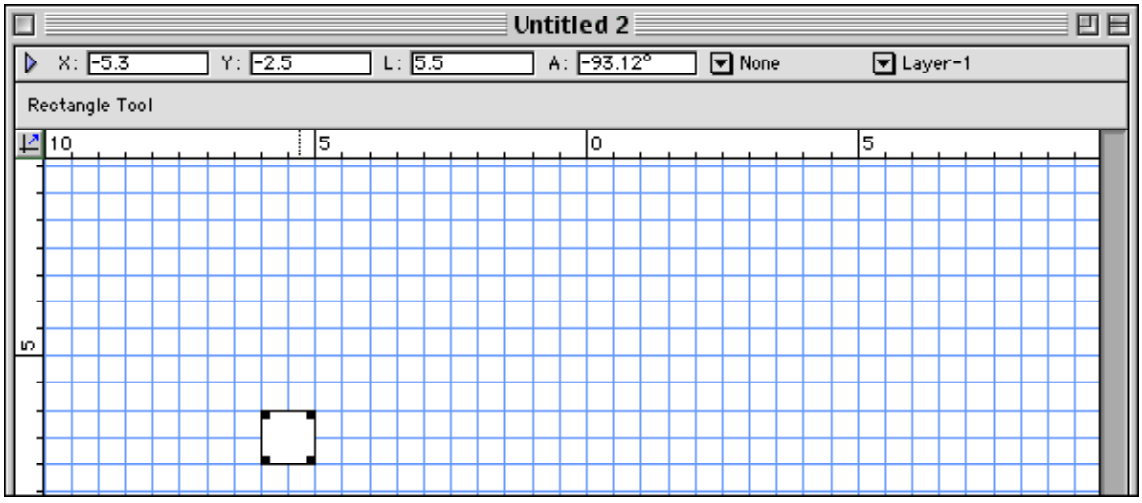
Entering a Calculator Key

One calculator key will be entered then duplicated so that all the keys that make up the calculator will be identical.

1 Select the RECTANGLE tool.

2 Move the *cursor* to -6 cm in the top *Ruler* and 6 cm in the left *Ruler*. This point is read as (-6,6).

3 Click the mouse button and move the *cursor* to (-5,7) and click the mouse button. You should have a 1 cm square as shown in the diagram at the top of the next page.



4 Select the TEXT TOOL from the DRAWING TOOLS. Click the *I-Beam* inside the rectangle and enter: 1

5 Press the <enter> key on the number keypad of the keyboard and the text should have its 'handles' displayed.

6 Display the TEXT menu, highlight FONT and select TIMES (NEW ROMAN).

7 Display the TEXT menu again, highlight SIZE and select 16 point using SET SIZE.

8 Display the TEXT menu again, highlight STYLE and select BOLD.

9 Use the ARROW keys to nudge the number to the centre of the rectangle.