2D Design

Tutorials

DT DESIGN TECHNOLOGY
MR MILLER'S BOOKLETS
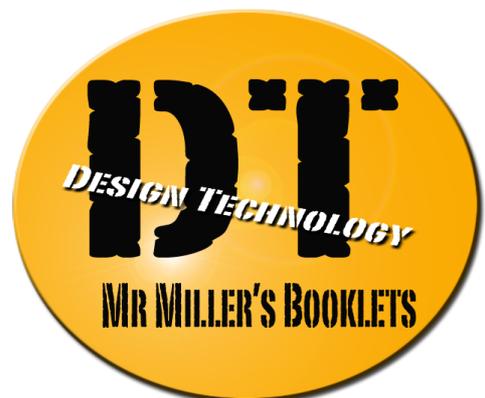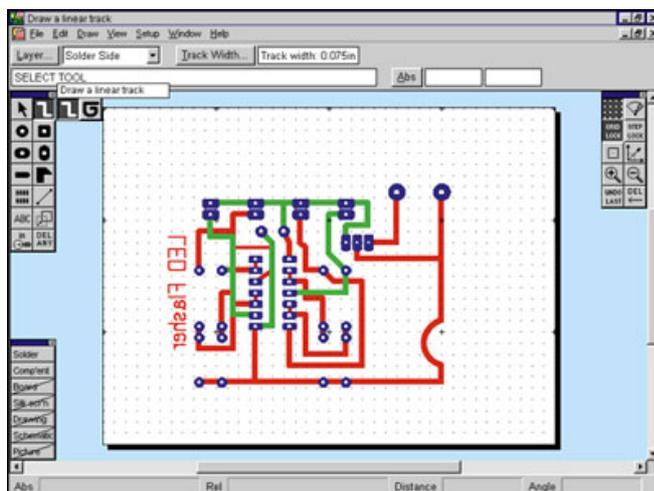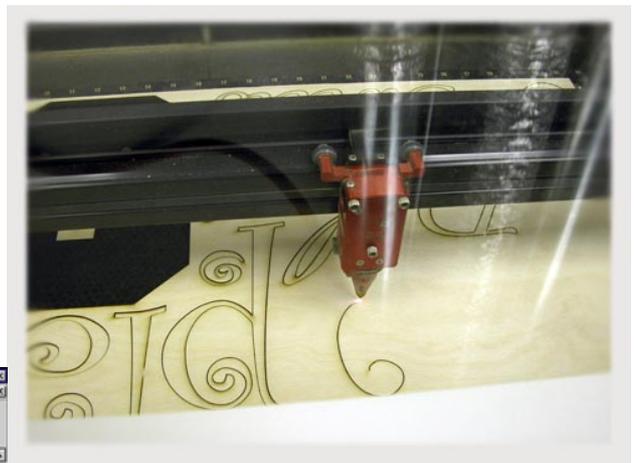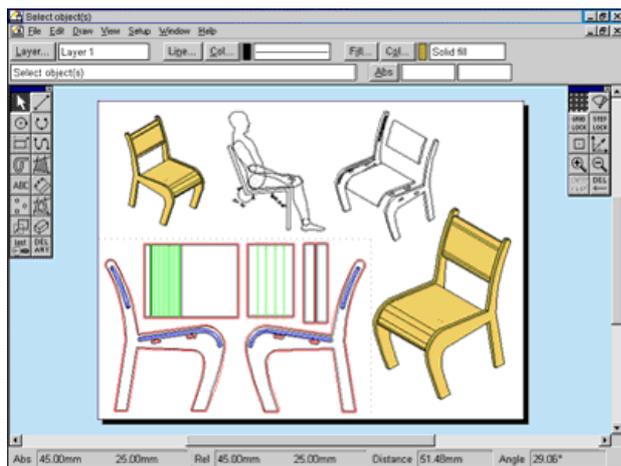

This tutorial shows you how to set up a workspace to draw in. The workspace is the area you are working in on the screen.
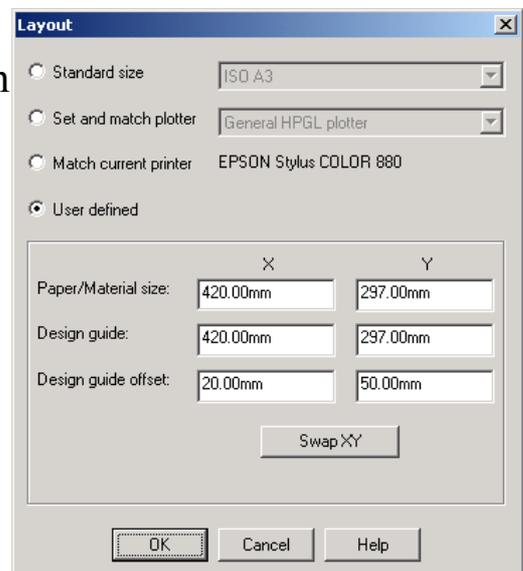
1. Open 2D Design. A screen with a blank workspace should appear, as shown to the right. If not, select **File / New. Ensure that the screen is maximised.**

2. Select Setup / Drawing / Layout. A menu will appear on the screen like the one shown to the right.

3. To choose the size of your workspace select *User Defined*.

   Try changing the Paper/Material Size to 200mm both in the X and Y column. Now do the same with the Design Guide, change the values in the X and Y columns to 200mm. Leave the Deign Guide Offset at 0. OK.

   Notice what happens to the workspace, it should now be a square.

4. Repeat step 2 again. This time select *Standard size*. In the drop down menu select ISO A4 and make sure *landscape* is selected. OK.

5. The page is now set up for using A4 paper.
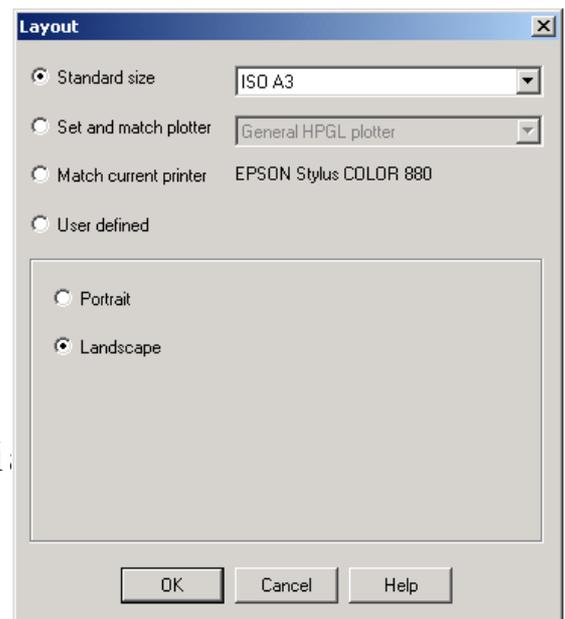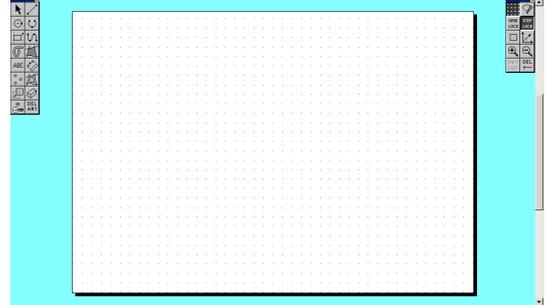
This tutorial shows you how to draw simple shapes.

1. Open 2D Design. A screen with a blank workspace should appear, as shown to the right. If not, select File / New. Ensure that the screen is maximised. Make the workspace A4 sized.

2. Select the Circle tool ⊙ from the icon bar and drawer a circle onto the workspace. Do this by clicking on the workspace moving the curser, then clicking when the circle is as large as you want it.
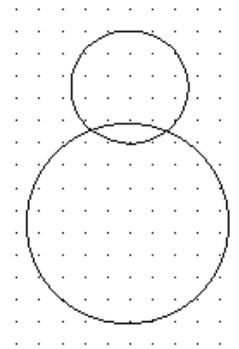
3. Draw another circle above the first one, make sure that they overlap, as shown.

Delete part of an (

4. Select the Delete icon. DEL ANY Hold down until a selection of icons appear. Select the one on the right as shown.
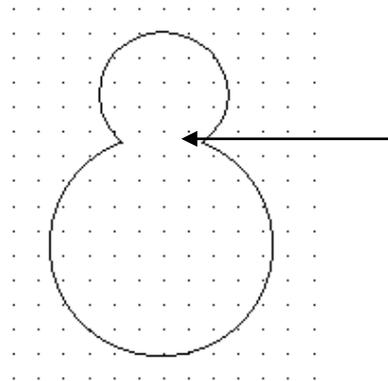
5. Click on the lines that fall inside the 2 circles. Your drawing should now look like the one to the right.

6. Now add a rectangle underneath it and remove the line that goes through the circles using the same deleting tool as before. The rectangle button looks like this: ⬜
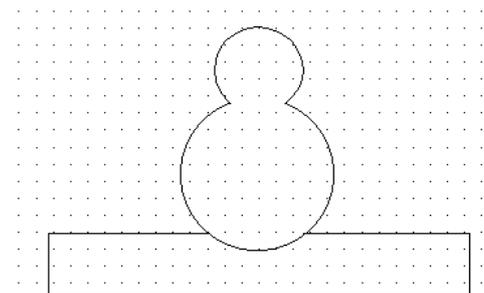
7.   Using the circle tool again draw a small circle like the one shown. Now we are going to copy this circle by using the select button ➤ and clicking on the circle, then pressing the button underneath the circle as shown in the bottom right.
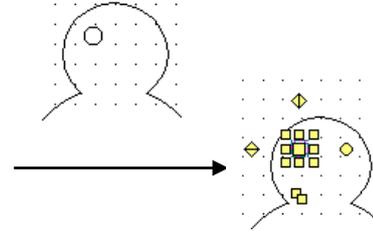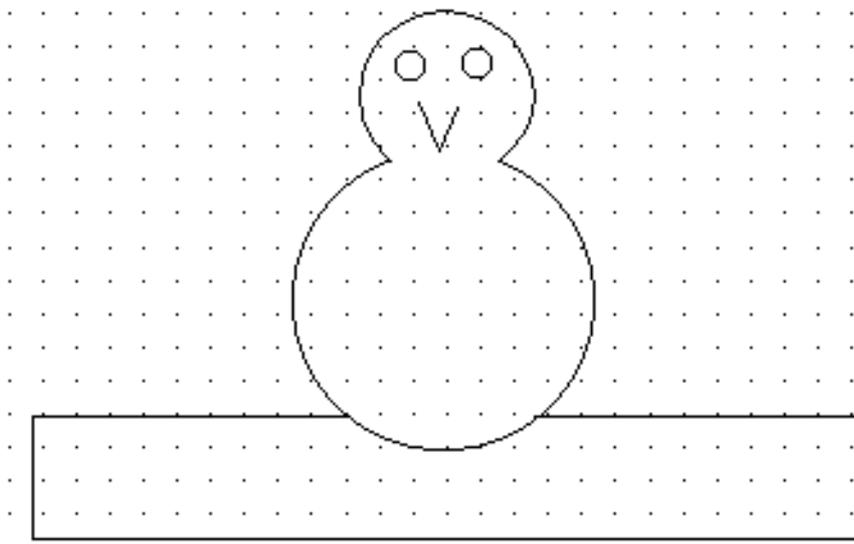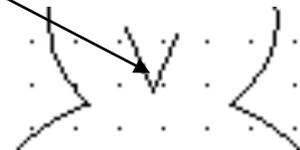
9.   Still using the select tool, on the new circle, click on the square in the centre of the circle. This button moves the shape to wherever you click next. Place it next to the first circle.
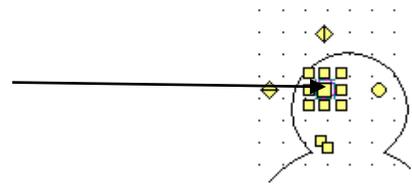
10.   Then use the line tool to draw two lines as shown.
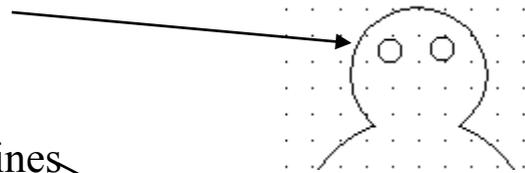
11.   Well done! You've made a bird on a perch!

If you want to go further with your drawing, put on wings or anything else you can think of.

This tutorial shows you how to draw a simple house in 2D.

1. Open 2D Design. A screen with a blank workspace should appear, as shown to the right. If not, select File / New. Ensure that the screen is maximised. Make the workspace A4 sized.

2. Select the **Rectangle tool** from the icon bar and draw a rectangle onto the workspace. (Click where you want one corner of the rectangle, then click where you want the diagonal corner to go)

3. Now draw the windows using the rectangle tool again.

4. Add the door, again using the rectangle tool.

5. To add the roof select the line tool and draw a sloped roof. Your house should now look like the one shown.

6. Use the rectangle tool to put a chimney on the roof of the house.

7. Now add a sun to the picture. Do this by using the circle tool to draw a circle in the top of the picture.

8. Draw a small rectangle next to the sun like the one shown.
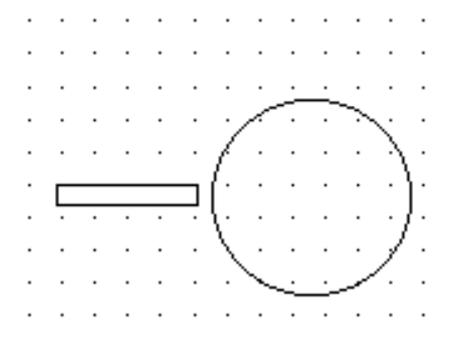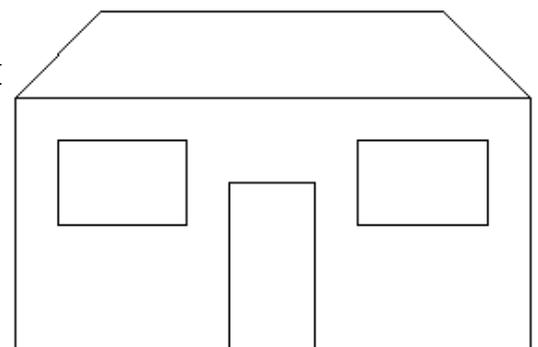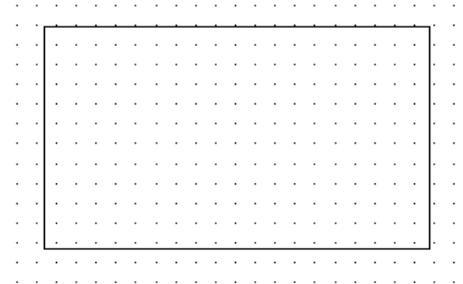
9. As in the previous tutorial, copy the rectangle   using the button underneath the rectangle once you have selected it using the select tool.
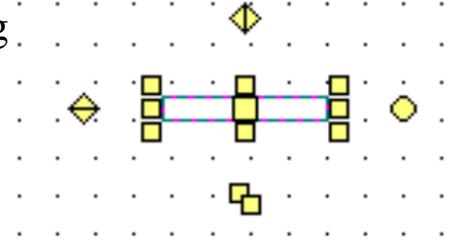
10. Now rotate the circle using the circle button to the right of rectangle and then move it to where you want to around the circle to make it part of the sun.

11. Repeat steps 9 and 10 until you have the desired number of rays coming from the sun.

12. To add colour to the sun select the Hatch/Fill tool

Double click the tool to choose the colour. Once you have chosen the colour, click on the shapes that you want to fill with that colour. When the programs asks for 'any islands? Select 'No'.

13. Your drawing is now complete and should look like the picture below.
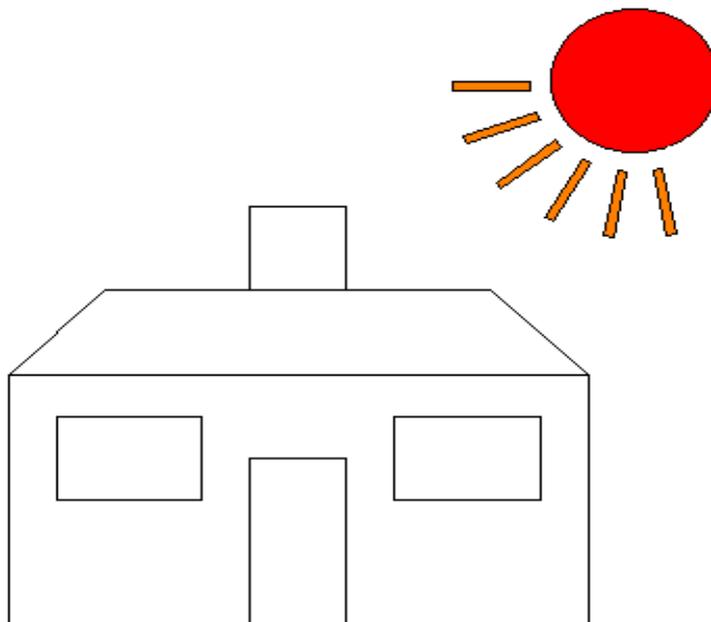
If you want to go further with your drawing, put on window ledges, window frames, door handles, smoke coming from the chimney and anything else you might think the house could do with.

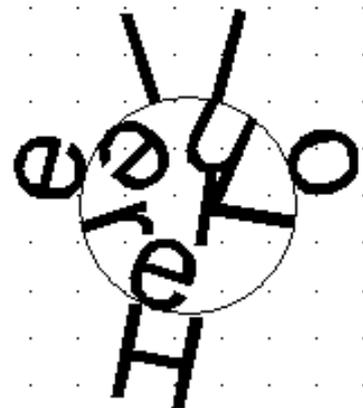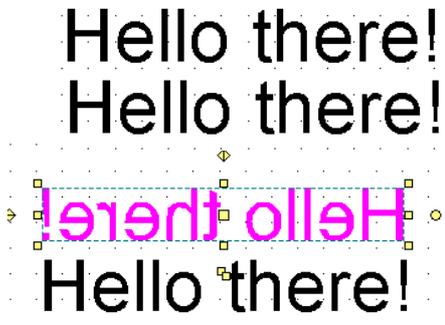**This tutorial shows you how to draw a simple house in 2D.**

1. Open 2D Design. A screen with a blank workspace should appear, as shown to the right. If not, select File / New.   Ensure that the screen is maximised. Make the workspace A4 sized.

2. Select the Text tool ABC then click anywhere in the workspace. When the box comes up enter your first name and press OK. If you need to edit the text (change font, colour or size), then press on the settings menu before you press OK.

3. To add your surname into the same text entry click on the select tool, then click on the text. The text should now have the options to move it, rotate it or reverse it available, as shown to the right.   In the bottom right hand corner of the screen are 2 new buttons: *property* and *edit*.
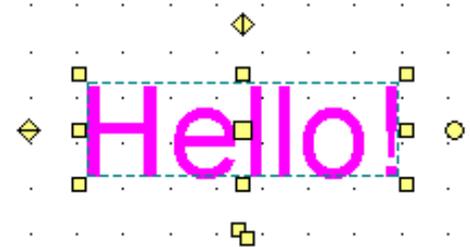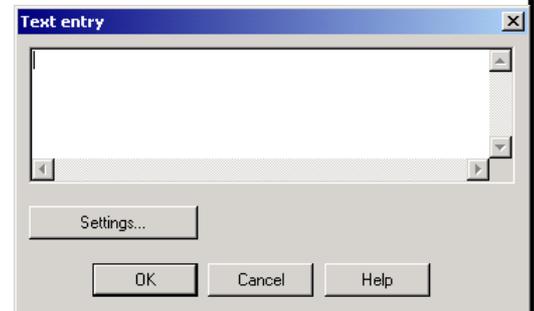
    Click on the property button and you can now edit your text as before. In this box, after you first name put your last name.
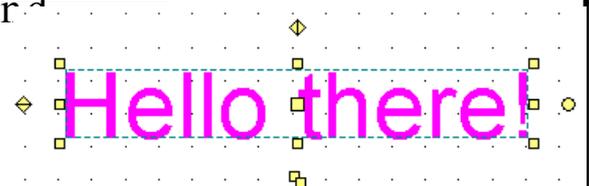
4. Now copy the text using the [icon] icon and move it below the first set of text. Then reverse the text using the icon. It should now look like the text below.

5. Somewhere else on the page, out of the way of the other work, draw a circle using the circle tool. [icon] Click and hold down the text icon then go to the icon furthest to the right (like shown on the right).

6. You should now have a hand with a pointing finger. Click on the outside of the circle and when the text box appears write your First name inside it and press OK. Then click on the inside of the circle and when the text box appears enter your last name.

7. You should now have the first piece of text along with one similar to the one shown below on the same page. Now save your work as instructed below.

Hello there!
Hello there!

Draw text along a path

ABC ABC ABC ABC

This tutorial shows you how to use the grid lock and step lock function.

1. Open 2D Design. A screen with a blank workspace should appear, as shown to the right. If not, select File / New. Ensure that the screen is maximised. Make the workspace A4 sized.
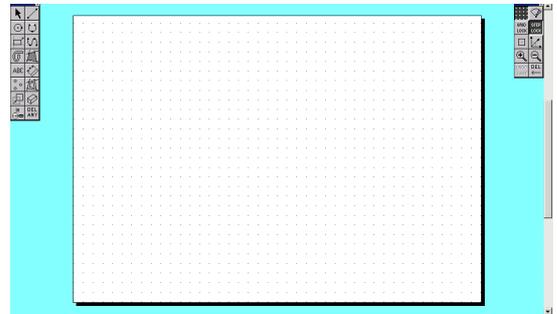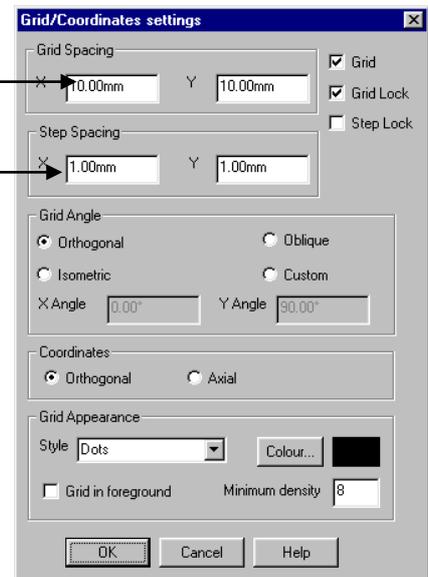
2. Right click on either the *grid lock* or *step lock* button. A box will appear like the one shown below.

Grid spacing

Snap spacing

3. Change the value of the snap spacing in both the X and Y columns to 10mm and click OK. Look what happens when you run the curser around the screen. Now draw a rectangle 5 grid spaces long and 3 grid spaces wide.

4. Try changing the grid and step lock settings and see what happens. Note: if you want to snap to the step lock setting the step lock must be selected and if you want to snap to the grid, the grid lock must be selected. If you wish to you can remove the grid by pressing the [button]. The X direction and Y direction are shown to the right as a guide.
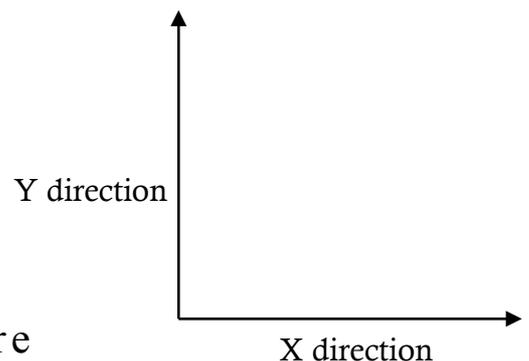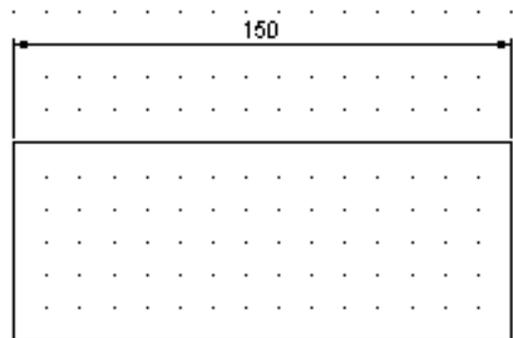
Y direction

X direction

This tutorial shows you how to use the grid lock and step lock function.

1. Open 2D Design. A screen with a blank workspace should appear, as shown to the right. If not, select File / New. Ensure that the screen is maximised. Make the workspace A4 sized.
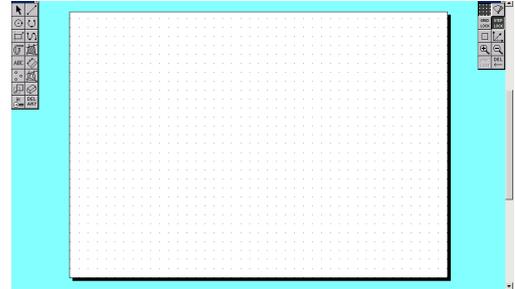
2. Draw a rectangle to the right of the page. Select the dimension lines button. Then select the attach tool

(this will snap to an object where it is clicked near to). Click on the top right of the rectangle, then the top left, then click up from the rectangle. This will give you the length of the line.

3. To the left of the page draw a circle. Click and hold the dimension tool and a menu will appear. Select draw a radius dimension as shown and click on the circle. Now click outside the circle and the radius of the circle is displayed.

Draw a radius dimension

R 25

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This tutorial shows you how to use the grid lock and step lock function.

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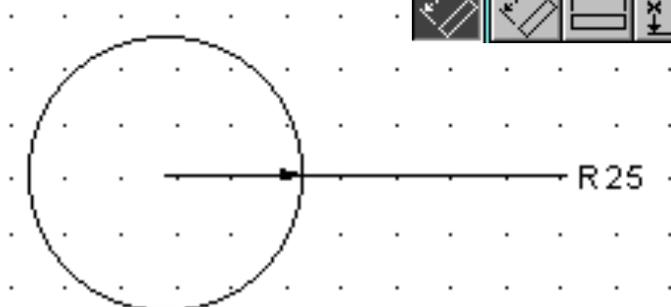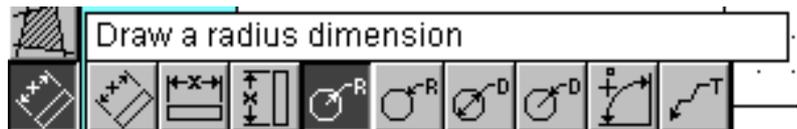
2. Turn on the grid <u>lock</u> by pressing the grid lock button. | GRID LOCK |

3. Draw a rectangle 90mm across and about 160mm down.

4. Select the circle tool and draw 4 circles, one in every corner of the rectangle. The centre of each circle needs to me 10mm in from the edges with a diameter of 10mm.

5. Select the delete lines button and delete the lines indicated with arrows. Do this for all 4 corners. | DEL |

6. Now press the redraw icon and it will refresh your drawing.

7. Draw a square 10mm in from the top and sides.

8. Draw circles 10mm inside the edges and erase around them like in steps 4 and 5. Then press the redraw icon again to refresh the page.
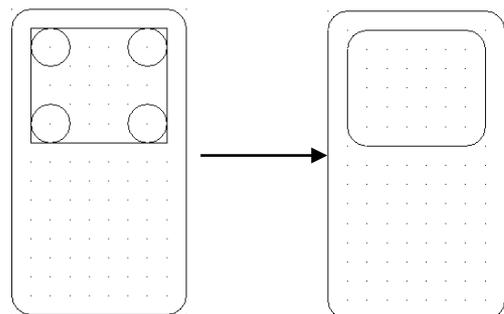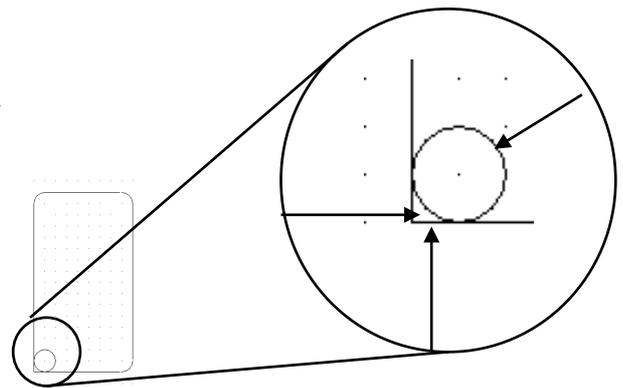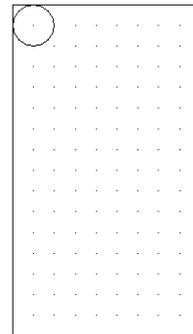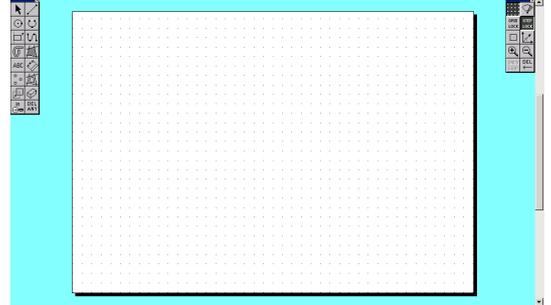
9. Adjust the grid spacing to 5mm in the X and Y axis.

10. Now draw the top left button on the phone. Do this by creating 2 circles next to each other.

11. Draw 2 lines; one joining the top of the circles, the other joining the bottom of the circles.

12. Then use the erase lines tool again to delete the lines as shown.

13. Use the select tool to select the whole of the button. Do this by dragging the curser over the items you wish to select.

14. From the tool bar select *Draw, Transform, Move/Copy*

15. From the menu that appears select *repeat* and repeat 3 times, then click OK.

16. With the cursor click anywhere in the workspace, then click 4 squares below where you just clicked.

17. Using the select tool select all of the buttons by dragging the cursor over them.

18. Repeat step 14 and in the menu that appears select *repeat* and repeat 2 times, then click OK.
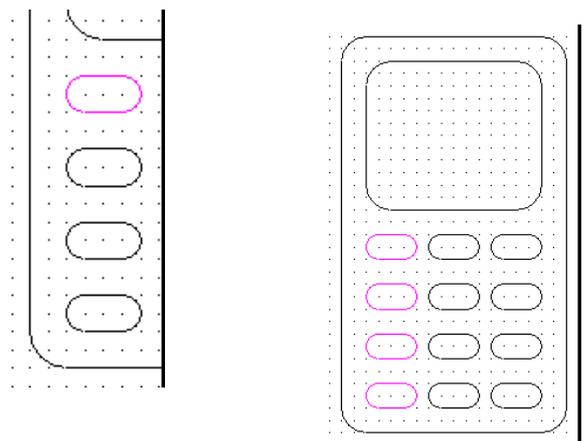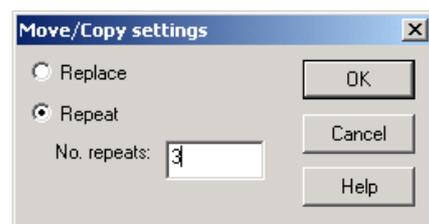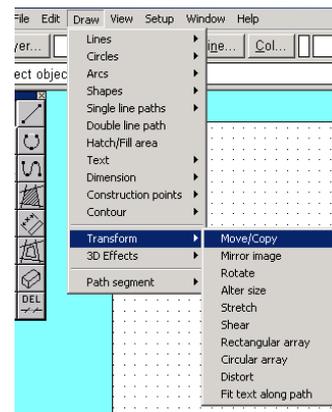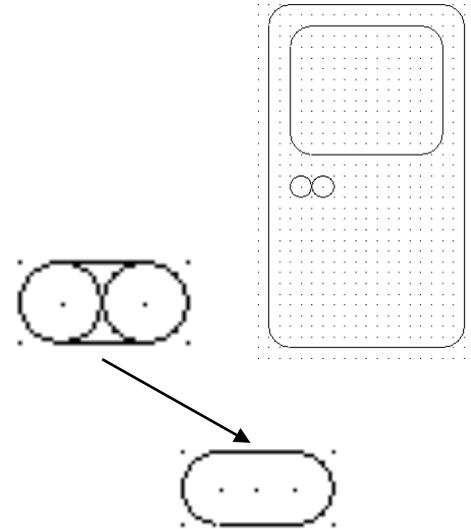
19. With the cursor click anywhere in the workspace, then click 5 squares to the right of where you just clicked.

20. To draw the aerial, draw a small circle above the phone and join the sides of the circle to the top of the phone.

21. Erase the bottom of the circle to finish the aerial.

22. Add numbers to the buttons. Select the text icon and click where you want the text to go (i.e. inside of the buttons). When entering the text, select the *settings* button and change the height to 7mm and select *bold*. Press OK, then OK again. You may need to move the number to the right place.

23. Repeat this step for all the buttons numbering 1-9, 0, * and #.

24. Then select all the outer edges of the phone including the aerial (to select more than one item, hold down the shift key).

25. From the tool bar select Draw, 3D Effects, Extrude. Click OK when a box appears.

26. Click anywhere in the workspace, then click diagonally up and left (like shown on the right) not too far away from where you did the first click.

27. You have now completed the phone tutorial!