



## TRAINING EXERCISES

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**DRAW TRAINING EXERCISES  
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## LESSON 1: CREATING LINE AND TEXT GRAPHICS

### Exercise 1: Lines

In this exercise you will have 10 to 15 minutes to experiment with drawing a variety of straight lines.

To complete this exercise you must be familiar with the following sections of your *DRAW Reference Manual*:

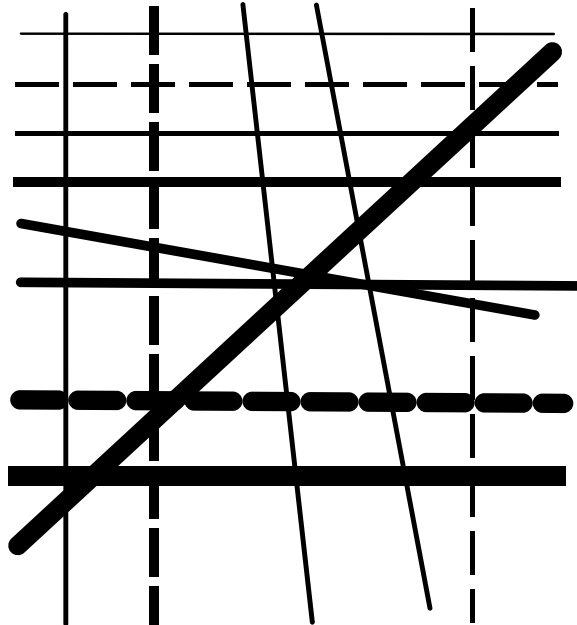
1.1 to 1.5  
4.1

2.1  
4.4

2.4  
4.5

- o Enter DRAW from the EXECUTIVE.
- o Turn the grid on
- o Draw a variety of vertical, horizontal and diagonal lines.
  - 9 Vary the width of the lines by selecting a wider line in the menu before creating the line in the picture area.
  - 9 Compare the results of using the left mouse button with those using the right mouse button.
  - 9 Change some of the lines to broken lines by retrieving the scissors from the menu, placing them over the line to be changed and clicking any mouse button.

Your creation may look something like this:



This is the end of Exercise 1. You may quit or prepare for Exercise 2 by clearing the picture area:

type:  
**LOOK E    LOOK D**

### Exercise 2: Creating and Positioning Text

In this exercise you will practice creating and positioning text within a graphic. After some practice you will create an organization chart.

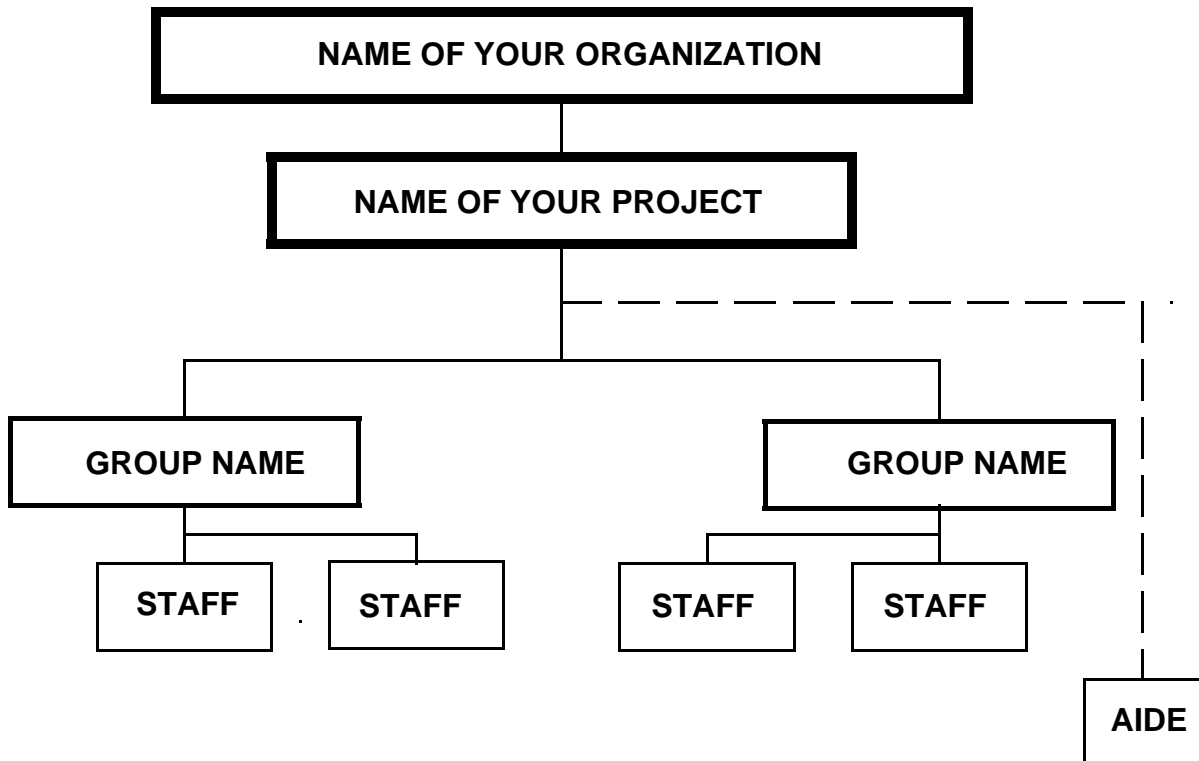
To complete this exercise you must be familiar with the following sections of your **DRAW Reference Manual**:

3.1 to 3.3  
6.5 to 6.6

4.2 to 4.3

6.2 to 6.3

- o Make sure you are in DRAW with the grid on.
- o Create three or more rectangles in your picture area. The rectangles should be 4 grid spaces high and 10 grid spaces wide.
- o Correct your errors using the appropriate method described in the *Errors and Help* section of your **DRAW Reference Manual**, section 4. You may delete the mouse points or knots (before they are connected) one at a time by using LOOK A, or all at once using DELEte. When lines become broken from overlapping or deleting, refresh your screen by pressing TAB.
- o Experiment placing the word "corporation" or a word of equal length in the rectangles.
  - 9 Use the various text positioning mode options.
  - 9 Experiment using the right or left mouse button when depositing text.
- o Clear your picture area.
- o Recreate this organization chart or create a similar one of your own.



- o When you are finished, create a working or DRAW file and a PRESS file.
  - 9 If you make a mistake, see *Correcting Errors in the Message Area*, Section 4.3 of your **DRAW Reference Manual**.
- o Print your chart using EMPRESS at the EXECUTIVE.
- o Quit

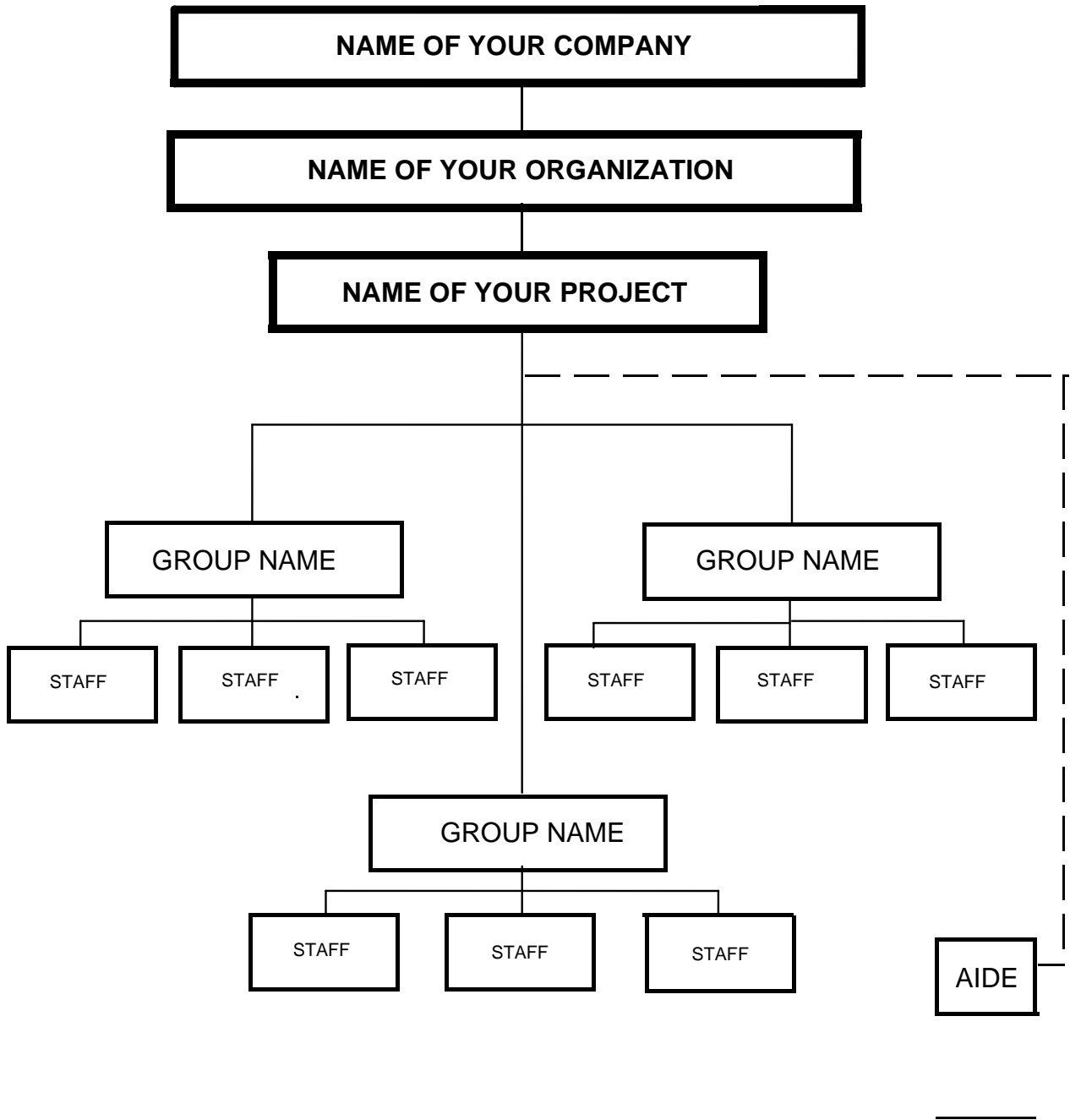
### Exercise 3: Advanced Line and Text Creation

In this exercise you will practice editing, revising and using special options.

To complete this exercise you must be familiar with the following sections of your *DRAW Reference Manual*:

2.3	5.1 to 5.4	6.1
6.4 to 6.6		

- o Enter DRAW and turn the grid on.
- o Retrieve your organization chart from your working file.
- o Experiment changing the width and brush shape of the lines in the chart.
  - 9 Change the wide lines to thin and vice versa by changing the options in the menu and using the paint brush.
  - 9 Change the broken line to solid by reapplying the "scissors" to the broken line.
- o Experiment changing the fonts of the text.
  - 9 Select a different font from the menu.
  - 9 Use the paint brush to change text to the new font.
- o Experiment moving the entire graphic.
  - 9 Select the entire graphic by typing:  
**LOOK E**
  - 9 Using the single arrow, move the graphic to the top of the grid, to the bottom of the grid, to the left or to the right.
- o Experiment moving a portion of the graphic, lines and text may be moved separately or together depending upon what was selected to be moved.
  - 9 Select the portion to be moved. Experiment using the bounding technique described in 5.2 to move sections of the graphic.
  - 9 Using the single arrow, move the selected portion.
- o Duplicate portions of the graphic by using the Copy option (double arrows).
  - 9 Select the portion to be copied.
  - 9 Using the double arrow, copy the selected portion into an empty space.
  - 9 Experiment copying text and lines separately and together.
- o Create a new organization chart from your original by changing fonts and line widths, and by moving and copying. You may create new text if necessary and add new connecting lines. Your new chart may look something like the one on the following page.



- o When you are finished, create a working or DRAW file and a PRESS file.
- o Print the new chart.
- o Quit.

## LESSON 2: DRAWING FREEHAND, CURVES AND CIRCLES

### Exercise1: Freehand Drawing

In this exercise you will experiment with freehand drawing and create your own cartoon with caption.

To complete this exercise you must be familiar with the following sections of your *DRAW Reference Manual*:

2.5

4.6

- o Enter DRAW from the EXECUTIVE level.
- o Draw freehand patterns experimenting with different line widths and brush styles.
  - 9 Select the width and brush stlye from the menu.
  - 9 Retrieve the DRAW cursor from the box under the width and brush menu.
  - 8 Notice that the system will allow only a certain amount of line creation before the program must plot and redraw the figure. Draw a single line until the cursor stops drawing. Long lines must be drawn in segments.
  - 9 Freehand drawings may be moved and copied in the same manner as straight lines. Experiment moving and copying some of your freehand drawings.
  - 9 The width and brush of freehand drawings may also be changed using the paintbrush. Try this with some of your lines. Italic brush styles are very effective with curves.
  - 9 Clear the screen. Draw your own cartoon with a caption.
    - 8 Before typing the caption for your cartoon, make sure you have changed the cursor from the freehand drawing point to another option such as the + or the x. The system creates text *very slowly* when the cursor is in the form of the draw point.

I hope your cartoon is better than this one!





- o Create a DRAW and PRESS file.
- o Print your cartoon.
  - 8 PRESS files take up a lot of disk space. You may want to delete unnecessary DRAW and PRESS files and store some in the FTP file. Another way to create disk space is to delete the PRESS files and retain the DRAW files. Create the PRESS files just before you want to print and delete them again after printing. Remember DRAW and PRESS files are deleted at the EXECUTIVE.
- o Quit.

## Exercise 2: Curves

In this exercise you will create curves and work with the arrow head font.

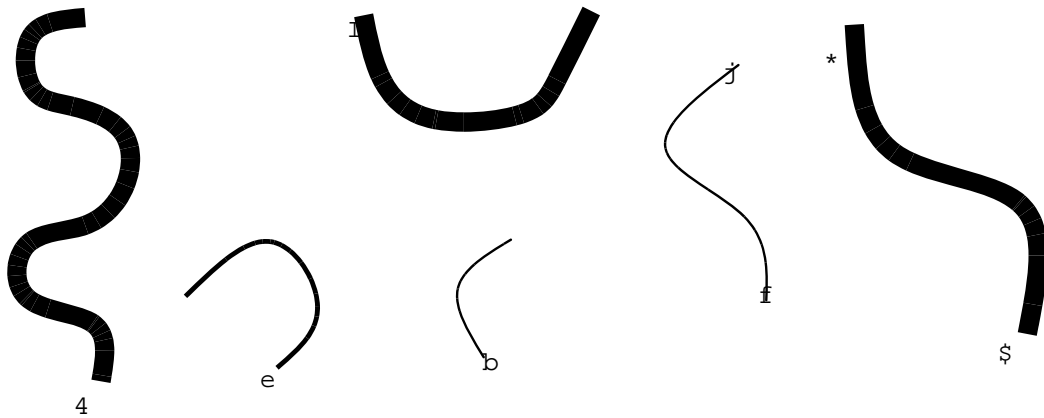
To complete this exercise you must be familiar with the following sections of your **DRAW Reference Manual**:

2.6

3.4

- o Enter DRAW from the EXECUTIVE.
- o Create a variety of open curves using three or more mouse points (+).
  - 9 Experiment using three widely spaced points and a series of closely placed points.
  - 9 Vary the width and brush styles.
  - 9 Move and copy some of the curves that you create.
- o Use the arrowhead font to make these curves into arrows.
  - 9 Select the arrowhead font.
  - 9 Experiment with the various sizes and styles.
    - 8 Arrowheads may be positioned at the end point of a curve or line using the text positioning mode *center* and the middle mouse button.

Your creation may look something like this:



- o Clear your screen.
- o Create a variety of closed curves using three or more knots. For closed curves use the circular menu symbol, 4, to make the knots.
  - 9 Try the same variations suggested above for open curves.
- o Clear your screen.

### Exercise 3: Circles, Arcs and Ovals

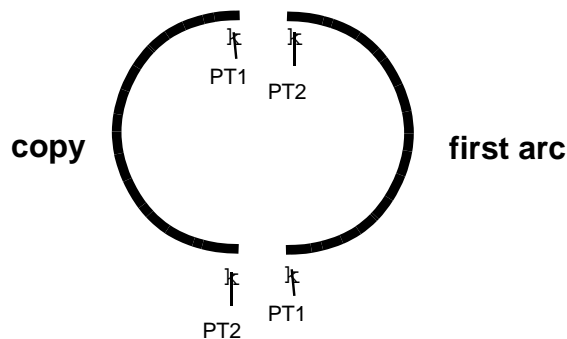
In this exercise you will create and manipulate circles, arcs and ovals.

To complete this exercise you must be familiar with the following sections of your **DRAW Reference Manual**:

2.7

5.5

- o Read the program Circle.Draw.
- o Turn on the grid.
- o Move the template into a corner of your picture area so that you have more work area.
- o Create circles of various sizes using the circle template.
  - 9 Select the perimeter of the circle template.
  - 9 Retrieve the rotating and scaling option from the menu.
  - 9 Select two points on the template that are diametrically opposed.
  - 9 Select two points in the work area which you want to be the end points of the diameter of the new circle.
  - 9 Continue to create circles until you feel comfortable with this. Vary the size, width and brush style of your circles.
- o Clear your picture area.
- o Read the Circle.Draw template.
- o Create arcs of varying sizes and positions using the arcs from the template.
  - 8 The program always draws the arc counterclockwise from the first point selected to the second point selected. If you want to make a mirror image of an arc, reverse the sequence in which you define the points:



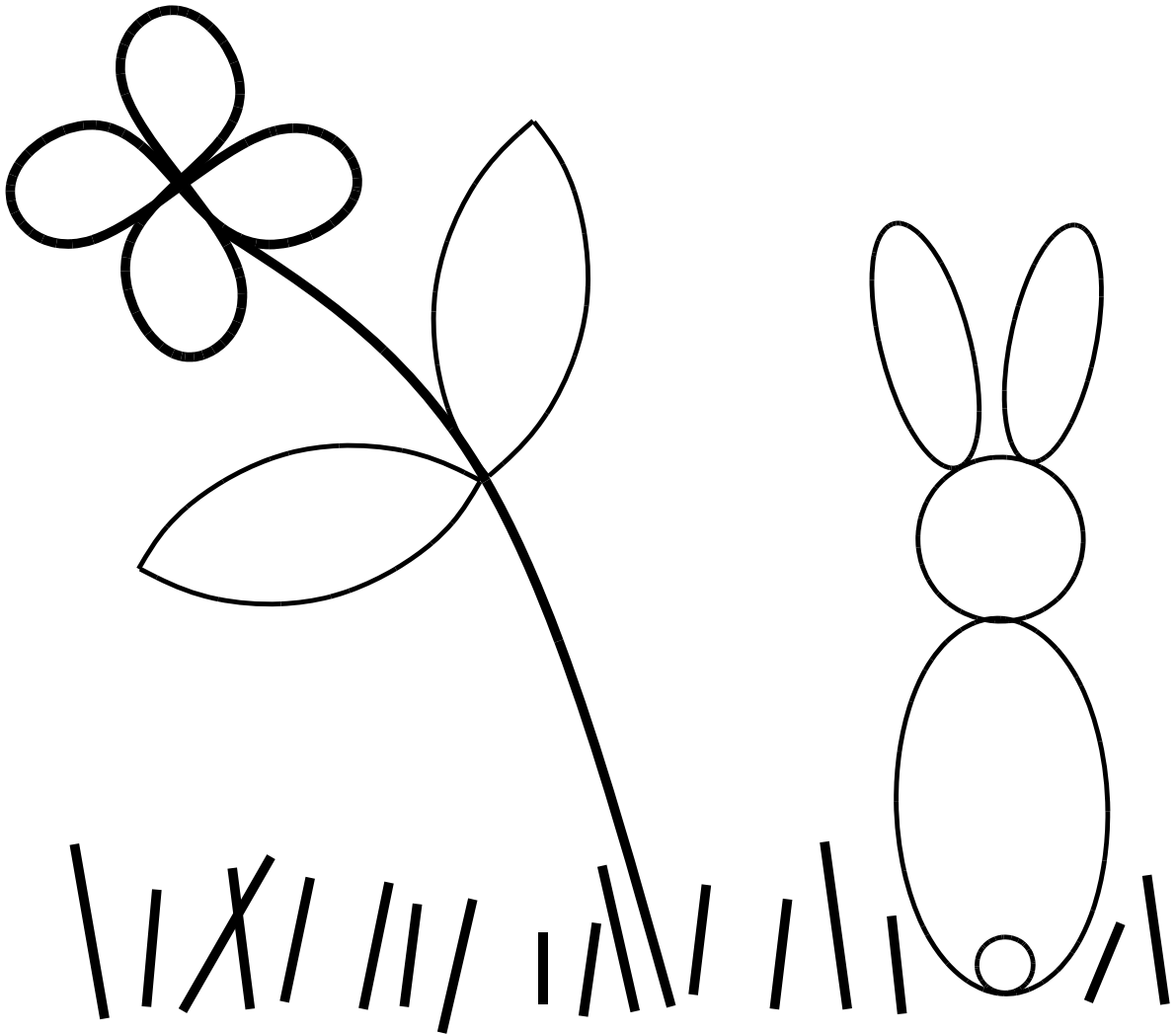
- 9 Experiment using the two arc templates.
- o Clear your picture area.
- o Read the Circle.Draw template.
- o Create ovals using the circle template and the three-point transformation option.
  - 9 Retrieve the three-point transformation option from the menu.
  - 9 Select three points on the circle template, then three points in the open area.
  - 8 You have greatest control over the shape and position of the oval if you select the 12 o'clock, 3 o'clock, 6 o'clock, or comparable positions on the circle. The three points selected for the oval should define the most distant points and the mid point on the perimeter. (Make the selection in an end point, mid-point, end point sequence.) However ovals may be created by choosing any three points.
  - 9 Experiment creating ovals of various size, shape and position.
  - 8 Notice that the system always creates perfect ovals, connecting the points counterclockwise in the sequence in which they were defined. If you define a sequence that cannot produce an oval, the system will respond with a small closed curve outside the defined points.
- o Clear your screen and quit or go on to Exercise 4.

**Exercise 4: Lesson Review**

In this exercise you will review and practice what you have learned in Lesson 2 by recreating a drawing.

To complete this exercise, you must be familiar with the ***DRAW Reference Manual*** sections covered in the previous three exercises.

- o Recreate this design:



8 Notes on picture creation:

- 9 Flower consists of two figure-eights. The first figure-eight is formed with seven knots defined with the circular symbol cursor. The second figure-eight is formed by rotating and copying the first.
- 9 Leaves on the flower are formed by scaling, rotating and transforming the smallest arc in the circle template. Create one leaf, then copy, scale and rotate to create the other.
- 9 The rabbit consists of circles and ovals scaled and rotated from the circle template.

## LESSON 3: ADVANCED DRAW PROCEDURES

### Exercise 1: Changing Fonts and Default Values

In this exercise you will experiment using text fonts other than those on the system and system characteristics other than those which are automatically on the system (default values).

To complete this exercise you must be familiar with the following sections of your *DRAW Reference Manual*:

3.5

X.3

#### Changing Fonts

- o Plan a graphic which will use fonts other than those already in your DRAW program. When you enter DRAW a message at the top of the screen tells you which fonts are in your DRAW program. Font 2, Helvetica8.al is the system font and cannot be changed. In the other three slots you can install any other font that is in your file. Check your files at the EXECUTIVE to find the exact name of each font. The B found after 10, 12 and 18 Helvetica indicates Bold.
- o Enter DRAW from the EXECUTIVE.
- o Install other fonts in the 0,1 and 3 slots. Helvetica18b.al is good for titles.

<sup>8</sup> Note: Only four different fonts can be used in a drawing. If you use a font and then install another in its slot, all the text printed in the first font will change to the second font when it is installed.

- o Create a drawing and text with the newly installed fonts. Include freehand drawing, broken lines, etc.
- o Create a DRAW file and return to the EXECUTIVE.

#### Changing default values:

- o Default values are changed at the EXECUTIVE as you enter DRAW.
  - 9 Change the size of the grid so there are more grid points per inch.  
Type: Draw (sp) 8/G
  - 9 Shorten the length of the dashes by changing the default to 8 or 4.
  - 9 Increase the number of knots and the number of splines. Make any other changes that you wish.

Your entry at the EXECUTIVE may look like this:

Draw (sp) 8/G (sp) 8/D (sp) 150/K (sp) 300/S (CR)

- o Read the drawing you created in the exercise above. Notice that the dashed lines have taken on the new value. Add to the drawing using freehand drawing and the closer grid points.

<sup>8</sup> If you anticipate making numerous curves and doing alot of freehand drawing increase the spline value before entering DRAW, this will help avoid the message **[Compute Regular Spline] Sorry, not enough storage: the command has been aborted**, which you will get when you have created more lines and curves than the memory can handle. Freehand drawing uses the greatest amount of memory.

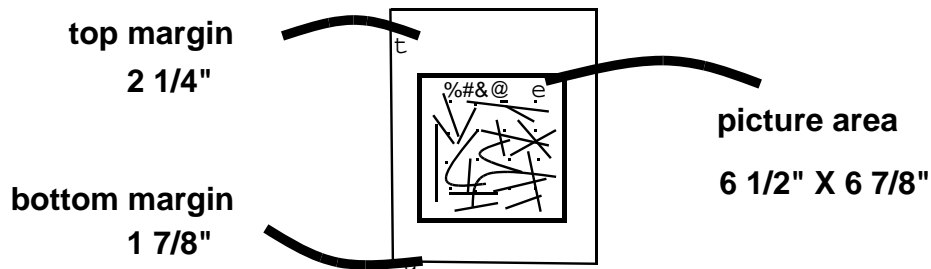
## Exercise 2: Making Documents Larger than the Picture Area

In this exercise you will create a document in DRAW that is larger than the picture area.

To complete this exercise you must be familiar with the following sections of your *DRAW Reference Manual*:

### X.2

When you create a document using the picture area only, the top line of your document will be 2 5/8 inches from the top of the sheet of paper and the document will end 1 7/8 inches from the bottom of the sheet. In EDITOR the document begins 1 { inches from the top. If you are creating a document in DRAW which requires the full page area or if you want the title of the document to be in the same position as your EDITOR titles you will have to extend your document beyond the picture area. The following illustration shows how a drawing will print on an 8 | x 11 sheet of paper when the drawing is no larger than the picture area of the DRAW screen:



- o Create a hardcopy of the normal DRAW picture area.
  - 9 Enter DRAW and make a border around the the picture area.
  - 9 Create DRAW and PRESS files of this border. Print.

You may want to keep this so that you can tell exactly how a document created in DRAW will print on a page.
- o Experiment extending text and graphics beyond your picture area. Remember that you cannot print beyond 1 { inches from the top of the page. DRAW files will print off the bottom of a page if enough space is not allowed. Remember also that when using the default value for the grid, there are six grid points to the inch.
  - 9 Read a DRAW file which you have already created. Add graphics to it, extending it beyond the bottom of the picture area.
  - 9 Create a title for the drawing, and, using the "handle" technique described in X.2, move the title 1 { inches above the picture area. You can then delete the "handle."
  - 9 Create DRAW and PRESS files.
- o You will have to print your document in order to find out if you have achieved the desired results.



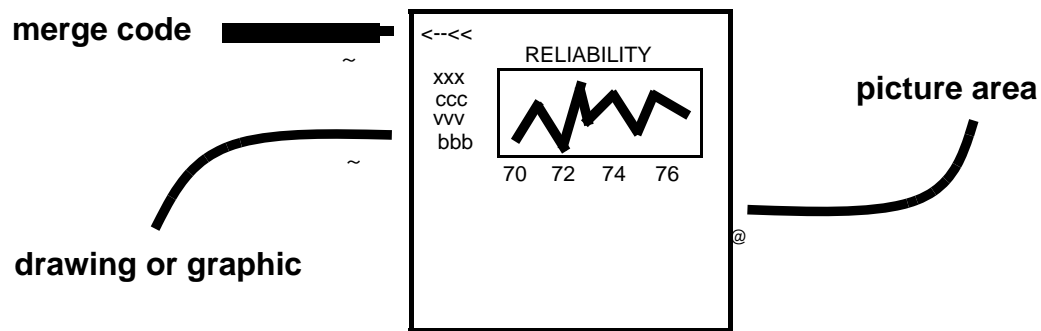
### Exercise 3: Combining DRAW Files and EDITOR Files (PRESSEDT)

In this exercise you will combine or merge into one document **text** created in the EDITOR and **graphics** created in DRAW. This capability results in a very professional appearance for your documents.

To complete this exercise you must be familiar with the following section of your *DRAW Reference Manual*:

#### X.4

- 8 In order to merge DRAW and EDITOR files you must have both in the form of PRESS files, the final document is also in PRESS form. Because PRESS files take up so much disk space make sure you have plenty of space on your disk. Delete unnecessary files, especially other PRESS files. You may also want to store some files on the file server to create disk space.
- o Choose a **small** drawing which you have created in a previous exercise or create a new one. (It is easier to start with small drawings.) Place a merge code [`<==<<`] in the drawing:



The merge code in the DRAW document will lock with the merge code in the text document. It is best to place the merge code for the DRAW document to the left and at the top of the drawing. Technically, merge codes can be placed anywhere.

- o Create a PRESS file of the drawing with the merge code.
- o In EDITOR, create text to go around the graphic. When you get to the point where the graphic will be merged, place a merge code following the directions in X.4 of your *DRAW Reference Manual*. For example:

#### GROUND HOG DAY

Ground Hog Day is observed every year on February 2. According to legend, ground hogs emerge from their dens on this day to check out the weather. If the ground hogs see their shadows, that is, if the sun is shining, we are in for six more weeks of Winter. However, if the ground hogs fail to see their shadows, Spring is just around the corner! Obviously these special powers can be found in only a few ground hogs. There are several ground hogs of reputed reliability. The chart below lists ten well-known ground hogs and graphs the accuracy of their predictions over the last ten years:

`<==<<Chart.press<`

`;`                    `t`   **merge code with title of graphic**

`;`  
`;`  
`;`

As you can see from the chart above, the world-famous ground hog in Punxsutawney, Pennsylvania, is second only in reliability to the lesser-known, but more accurate ground hog in Cootes Store, Virginia.

- 8 You can create space for the graphic with carriage returns as in the example above, or with a vertical tab on the text which follows the graphic. In either case you must know how large the graphic is. It is helpful to print the graphic separately first to determine its exact size.
- o Create a PRESS file of this text. Follow the directions in your ***DRAW Reference Manual***.
- o At the EXECUTIVE merge the two files creating a third PRESS file.
  - 9 Decide upon a name for the final document, such as Final.press.
  - 9 If the text is called Text.press and the chart is called Chart.press you will merge the files by typing:  
**Pressedit/m Final.press \_ Text.press Chart.press** **RETURN**
- o Print your final document using EMPRESS.