Republic of the Philippines
Department of Education
REGION III
SCHOOLS DIVISION OFFICE OF NUEVA ECIJA

LEARNING ACTIVITY SHEET
IN SPECIAL PROGRAM IN ICT 8
TECHNICAL DRAFTING 8
Fourth Quarter, Week 7

Name: _____ Date: _____
Grade Level / Section: _____

AUTOCAD PLOTTING

BACKGROUND INFORMATION FOR LEARNERS

What is the Difference between Printing and Plotting?

The terms printing and plotting can be used interchangeably for CAD output. Historically, printers would generate text only, and plotters would generate vector graphics. As printers became more powerful and could generate high-quality raster images of vector data, the distinction largely disappeared.

In addition to paper output, electronic delivery of multiple drawing sheets uses the encompassing term, publishing. The process of generating physical models in plastic and metal is called 3D printing.

Plotter Manager

The Plotter Manager is a window that lists plotter configuration (PC3) files for every non-system printer that you install. Plotter configuration files can also be created for Windows ® system printers if you want to use default properties different from those used by Windows. Plotter configuration settings specify port information, raster and vector graphics quality, paper sizes, and custom properties that depend on the plotter type.

The Plotter Manager contains the Add-a-Plotter wizard, which is the primary tool for creating plotter configurations. The Add-a-Plotter wizard prompts you for information about the plotter that you want to set up.

Layouts

A layout represents a drawing sheet, and typically includes

- A drawing border and title block
- One or more layout viewports that display views of model space
- General notes, labels, and possibly dimensions
- Tables and schedules

Usually a drawing file contains only one layout, but you can create as many layouts as you need. The first time you display a layout, it is initialized and a default page setup is assigned to it.

Once initialized, layouts can be modified, published, and added to sheet sets as sheets.

Page Setups

When you create a layout, you specify a plotter, and settings such as paper size and orientation. These settings are saved in the drawing as a page setup. Each layout can be associated with a different page setup.

You can control these settings for layouts and for model space using the Page Setup Manager. You can name and save page setups for use with other layouts.

If you do not specify all the settings in the Page Setup dialog box when you create a layout, you can set up the page just before you plot. Or you can override a page setup at plot time. You can use the new page setup temporarily for the current plot, or you can save the new page setup.

Plot Styles

A plot style is an optional method that controls how each object or layer is plotted. Assigning a plot style to an object or a layer overrides properties such as color, lineweight, and linetype when plotting. Only the appearance of plotted objects is affected by plot style.

Plot style tables collect groups of plot styles, and save them in a file that you can later apply when plotting.

The Plot Style Manager is a folder that contains all the available plot style tables, along with the Add-A-Plot-Style wizard.

There are two plot style types: color-dependent and named. A drawing can use only one type of plot style table. You can convert a plot style table from one type to the other.

For color-dependent plot style tables, an object's color determines how it is plotted. These plot style table files have .ctb extensions. You cannot assign color-dependent plot styles directly to objects. Instead, to control how an object is plotted, you change its color. For example, all objects assigned the color red in a drawing are plotted the same way.

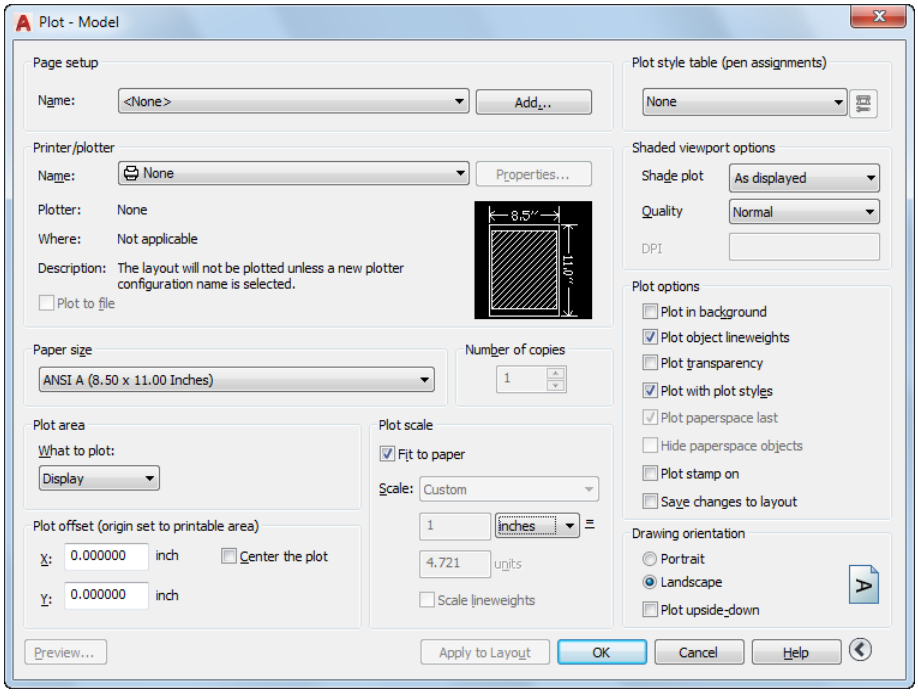
Named plot style tables use plot styles that are assigned directly to objects and layers. These plot style table files have .stb extensions. Using them enables each object in a drawing to be plotted differently, independent of its color.

Plot Stamps

A plot stamp is a line of text that is added to your plot. You can specify where this text is located on the plot in the Plot Stamp dialog box. Turn this option on to add specified plot stamp information—including drawing name, layout name, date and time, and so on—to a drawing that is plotted to any device. You can choose to record the plot stamp information to a log file instead of plotting it, or in addition to plotting it.

To Plot a Drawing

1. Click Output tab ➤ Plot panel ➤ Plot. 



2. Select a plotter.
3. Select paper size, plot area, plot scale, orientation and other options.
4. For additional options, click the More Options button.

Printing From Paper Space

When you prepare your drawing for output in paper space (on a layout), you typically step through the following process:

- Create a drawing or model in model space.
- Click a layout tab to access paper space.
- Specify layout page settings such as output device, paper size, drawing area, output scale, and drawing orientation.
- Insert a title block into the layout (unless you have started with a drawing template that already has a title block).
- Create a new layer to be used for layout viewports.
- Create layout viewports and position them on the layout.
- Set the orientation, scale, and layer visibility of the view in each layout viewport.
- Add dimensions and annotate in the layout as needed.
- Turn off the layer containing the layout viewports.
- Output your layout.

You can also use annotative objects if you want to annotate your drawing in model space and scale the annotations automatically.

Setting Options for Plotted Objects

In the Plot, and the Page Setup dialog boxes, you can choose from options that affect how objects are plotted.

- **Shaded Viewport Plotting**. Specifies shaded plotting options: As Displayed, Wireframe, or Hidden. The effect of this setting is reflected in the plot preview, but not in the layout.
- **Plot Object Lineweights**. Specifies that lineweights assigned to objects and layers are plotted.
- **Plot Transparency**. Specifies that transparency levels applied to objects and layers are plotted. Plot Transparency applies to wireframe and hidden plots only. Other visual styles, such as Realistic, Conceptual, or Shaded will always plot with transparency.
- **Plot with Plot Styles**. Specifies that the drawing is plotted using plot styles. Selecting this option automatically plots lineweights. If you do not select this option, objects are plotted with their assigned properties and not with the plot style overrides.
- **Plot Paper Space Last**. Specifies that objects in model space are plotted before those in paper space.
- **Hide Paperspace Objects**. Specifies whether the Hide operation applies to objects in the layout viewport. The effect of this setting is reflected in the plot preview, but not in the layout.
- **Plot Stamp On**. Turns on plot stamps and places a plot stamp on a specified corner of each drawing and can add it to a log file. Plot stamp settings are specified in the Plot Stamp dialog box, where you can specify the information you want applied to the plot stamp, such as drawing name, date and time,

plot scale, and so on. In the **Advanced settings**, you can specify the text properties of the plot stamp, including the font used and its size.

- **Save Changes to Layout**. Saves the changes that you make in the Plot dialog box to the layout.

Setting the Plot Scale

When you specify a scale to output your drawing, you can choose from a list of real-world scales, enter your own scale, or select Fit to Paper to fit onto the selected paper size.

Usually, you draw objects at their actual size. That is, you decide how to interpret the size of a unit (an inch, a millimeter, a meter) and draw on a 1:1 scale. For example, if your unit of measurement is millimeters, then every unit in your drawing represents a millimeter. When you plot the drawing, you either specify a precise scale or fit the image to the paper.

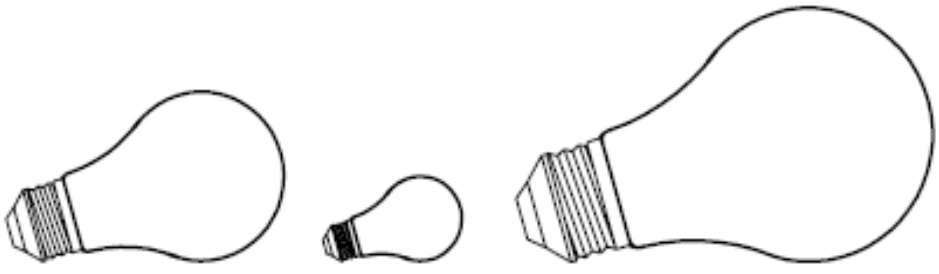
Most final drawings are plotted at a precise scale. The method used to set the plot scale depends on whether you plot model space or a layout:

- From model space, you can establish the scale in the Plot dialog box. This scale represents a ratio of plotted units to the world-size units you used to draw the model.
- In a layout, you work with two scales. The first affects the overall layout of the drawing, which usually is scaled 1:1, based on the paper size. The second is the scale of the model itself, which is displayed in layout viewports. The scale in each of these viewports represents a ratio of the paper size to the size of the model in the viewport.

Set a Specific Scale

When you plot, the paper size you select determines the unit type, inches or millimeters. For example, if the paper size is in mm, entering 1 under mm and 10 under Units produces a plotted drawing in which each plotted millimeter represents 10 actual millimeters.

The illustrations show a light bulb plotted at three different scales.



Scale the Drawing to Fit the Page

When you review drafts, a precise scale is not always important. You can use the Fit to Paper option to plot the view at the largest possible size that fits the paper. The height or width of the drawing is fit to the corresponding height or width of the paper.

When you plot a perspective view from model space, the view is scaled to fit the paper even when you enter a scale.

When you select the Fit to Paper option, the text boxes change to reflect the ratio of plotted units to drawing units. This scale is updated whenever you change the paper size, plotter, plot origin, orientation, or size of the plotted area in the Plot dialog box.

Note:

This option is not available when the Plot Area is set to Layout.

LEARNING COMPETENCY

1. Operate CAD software and computer hardware.

ACTIVITIES

Activity 1: Identify what is being asked. Select your answer from the box and write it in a one whole sheet of

Plotter Manager	Layouts	Page Setups
Plot Styles	Plot Stamps	

paper. (5 pts.)

1. It is a line of text that is added to your plot.
2. The settings of plotter, paper size and orientation are saved in the drawing as?
3. A window that lists plotter configuration files for every non-system printer that is installed.
4. An optional method that controls how each object or layer is plotted.
5. It represents drawing sheets with drawing border and title block, layout viewports, general notes, and tables with schedules.

Activity 2: True or False. In a one whole sheet of paper write TRUE if the statement is true and FALSE if the statement is false. (5 pts.)

1. When you specify a scale to output your drawing, you can choose from a list of real-world scales, enter your own scale, or select Fit to Paper to fit onto the selected paper size
2. Plot Transparency applies to wireframe and hidden plots only.
3. The effect of this setting is reflected in the plot manager, but not in the layout.
4. You can also use annotative objects if you want to annotate your drawing in model space and scale the annotations automatically.
5. The process of generating physical models in plastic and metal is called 2D printing.

Activity 3: Create a floor plan of your dream house with complete details in Autocad. Plot your floor plan in A4 bond paper. (15 pts.)

Rubrics

	(5)	(4)	(3)
Details	Complete Details are placed accordingly and clearly in the drawing.	Partial Details are placed accordingly and clearly in the drawing.	Details are not emphasized in the drawing.
Into Scale	All measurements and sizes are accurately scaled.	Some measurements and sizes are accurately scaled.	Measurement and sizes are not followed accurately.
Design	Dream house wss designed completely.	Dream house was designed enough.	Dream house was designed effortless.

REFLECTION: Write your answer in a one whole sheet of paper

1. In your own understanding, why do we need to plot our drawings into scale?

REFERENCES

Electronic Resources:

http://help.autodesk.com/view/ACD/2019/ENU/?guid=GUID-89A23BE8-5844-49F1-A7AB-1DBCF2D75A4F

Autodesk Autocad 2019 - Help

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