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

LEARNING ACTIVITY SHEET
SPECIAL PROGRAM IN ICT 8
FREEHAND DESIGN 8
Fourth Quarter, Week 1

Name: _____ Date: _____

Grade Level / Section: _____

COMPUTER AIDED DESIGN SOFTWARE

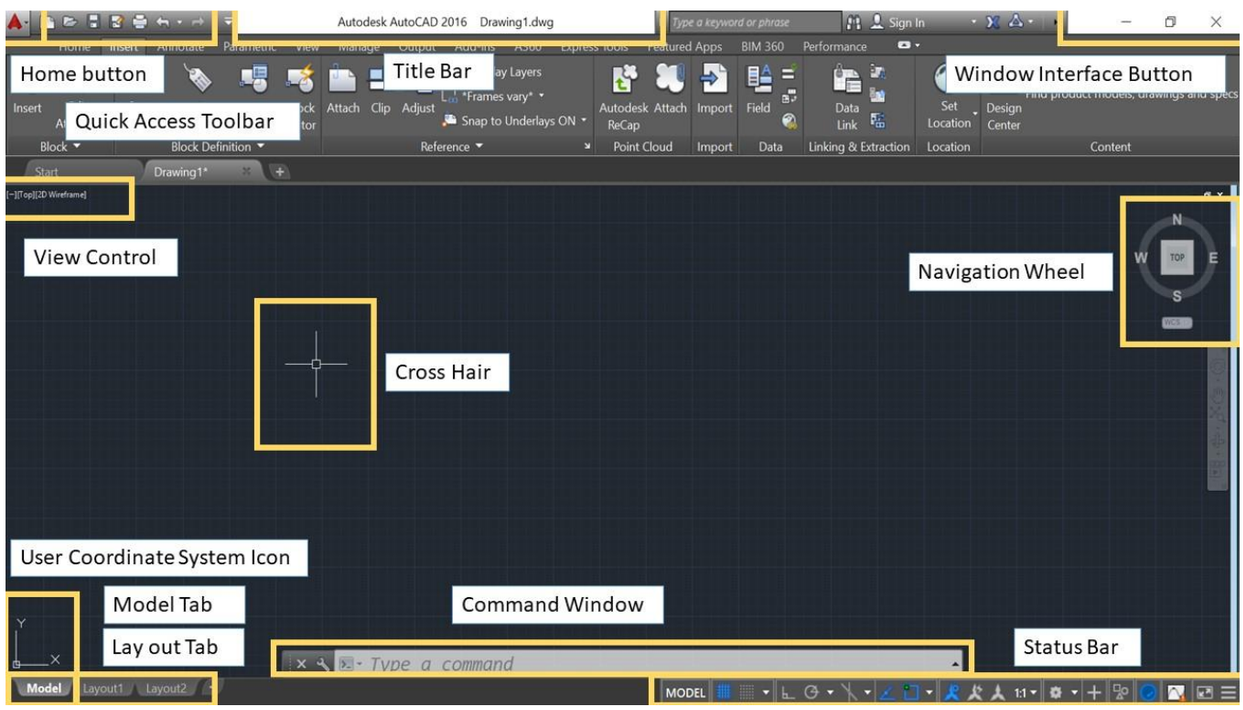
BACKGROUND INFORMATION:

Computer-aided design (**CAD**) is the use of computers (or workstations) to aid in the creation, modification, analysis, or optimization of a design. CAD software is used to increase the productivity of the designer, improve the quality of design, improve communications through documentation, and to create a database for manufacturing. **AUTOCAD** was one of the first Computer Aided Design programs to be made available on personal computers. It is built to help people design buildings, products, or public spaces, without having to draw up plans by hand. It was released in 1982 by Autodesk. Inc., and offered a personal solution to software that was before then released only for larger workstations. AUTOCAD is used for 2D and 3D design and technical drawing. Additional tools allow it to be used by architects and engineers. (en.wikipedia.org)

OPERATE CAD SOFTWARE AND COMPUTER HARDWARE

According to Vangie Beal, managing director of Webopedia.com, CAD is an acronym for computer-aided design. CAD, or computer-aided design and drafting (CADD), is the use of computer technology for design and design documentation. CAD software replaces manual drafting with an automated process. (www.autodesk.com). There are CAD software that sounds familiar; there are others which are both common to us. Examples of CAD software that is very in demand in the market are AutoCAD, Sketchup, MicroStation, SolidWorks, etc.

PARTS OF THE COMPUTER AIDED DESIGN SOFTWARE (AUTOCAD v. 2016)



COMMANDS

A command is a specific instruction given to a computer application to perform some kind of task or function. AutoCAD application has an enormous number of commands that a user or CAD operator must understand on how to use them.

Since the essence of CAD is more on computer based, we will utilize the different types of commands. These commands are categorized according to their uses and functions.

THE DRAW COMMANDS

Linear Commands are a command that creates line segments. Each command has its own properties and different methods to utilize them.

- ✓ **Line –** it creates a straight-line segment between two points usually the line segment that is created is independent to each other.
  Command Entry: Line/ or L
- ✓ **Polyline –** it creates two-dimensional polylines and usually the line segments that is created is dependent to each other.
  Command Entry: Pline/or PL
- ✓ **Multiline –** it creates multiple parallel lines and by default two parallel lines are created when you use this command.
  Command Entry: Mline/ or ML
- ✓ **Mlstyle –** it creates, modifies, saves and loads multiline styles. The multiline style controls the number of elements and the properties of each element. Mlstyle also controls the background color and the end caps of each multiline.
  Command Entry: mlstyle
- ✓ **Construction Line** – it creates an infinite line and usually this command used to create a reference line.
  Command Entry- Xline/XL

Curve Commands are command that creates curve or circular objects. Each command has its own properties and different methods to utilize them.

Arc – it creates an arc segment.

Command Entry: Arc/ or A

- ✓ **Circle –** it creates a circle.
  Command Entry: Circle/ or C
- ✓ **Donut –** it draws filled circles and rings.
  Command Entry: Donut/ or DO
- ✓ **Ellipse -** it creates an ellipse or an elliptical arc.
  Command Entry: Ellipse/ or EL
- ✓ **Spline –** it fits a smooth curve to a sequence of points within a specified tolerance.
  Command Entry: Spline/ or SPL

Rectangular Commands are a command that creates a rectangular object. Each command has its own properties and different methods to utilize them.

- ✓ **Polygon –** it creates an equilateral closed polyline.
  Command Entry: Polygon/ or POL
- ✓ **Rectangle** – it draws a rectangular polyline and usually this command adopts the format or relative Cartesian coordinate which means that exact value of x and y axis will be created,
  Command Entry: Rectangle/ or REC

Special Commands can be summoned for a special purpose and usually the name of its commands corresponds to their functions. Each command has its own properties and different methods to utilize.

- ✓ **Table –** it inserts an empty table in the drawing.
  Command Entry: Table/ or TB
- ✓ **Boundary** – it creates a region or a polyline from an enclosed area.
  Command Entry: Boundary/ or BO
- ✓ **Point -** it creates a point object.
  Commands Entry: Point/ or PO
- ✓ **Region** – it converts an object that encloses an area into a region object.
  Command Entry: Region/ or REG
- ✓ **Wipeout -** it covers existing objects with a blank area.

  Command Entry: Wipeout

LEARNING COMPETENCY:

- Operate CAD software and computer hardware

ACTIVITIES: Write your answers in a one whole sheet of paper.

ACTIVITY 1. Identify the following:

1. This is one part of the AutoCAD that serves as the mouse pointer.

2. These commands summoned for a special purpose and usually the name of its commands corresponds to their functions.

3. This is the first Computer Aided Design programs to be made available on personal computers.

4. This linear command, the line segments that is created is dependent to each other.

5. This software is used to increase the productivity of the designer, improve the quality of design, improve communications through documentation, and to create a database for manufacturing.

6. This is one part of the AutoCAD that let's the CAD user to enter the commands.

7. This is a specific instruction given to a computer application to perform some kind of task or function.

8. This command draws filled circles and rings.

9. }
10. } Other examples of CAD software, *except* AutoCAD.

ACTIVITY 2. Perform the following:

(1) Draw a square with the use of command Line.
(2) Draw a square with the use of command Polyline
(3) Draw anything by the use of any commands except command Line and Polyline.

Screenshot the output and send it to your teacher.

RUBRICS

Attainability	50 %
Completeness	50 %
TOTAL	**100%**

REFLECTION:
Share your experience in using AutoCAD.

REFERENCES:

Technical Drafting by Billy Jack DR. Pasion
https://en.wikipedia.org/wiki/Computer-aided_design

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