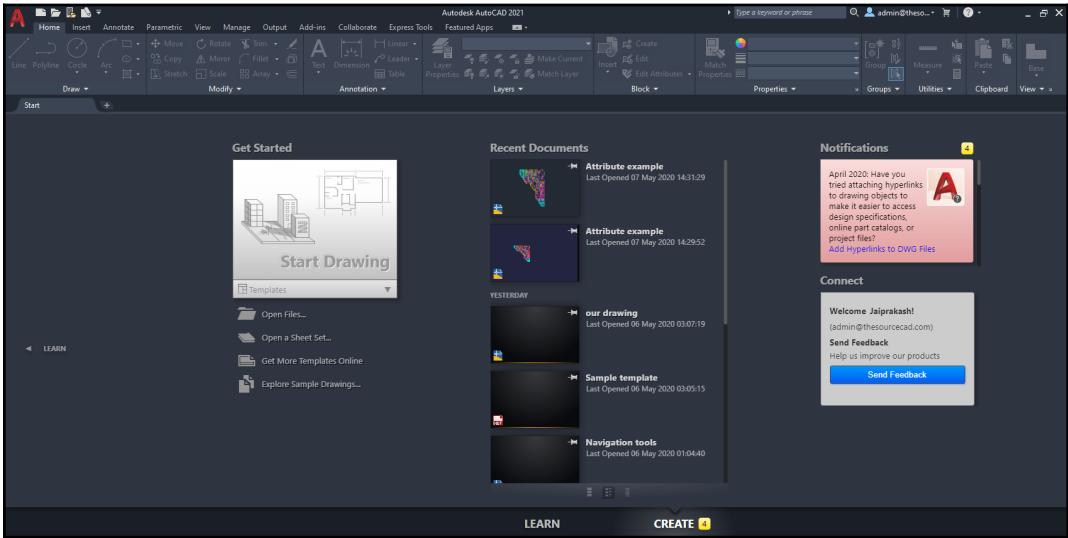
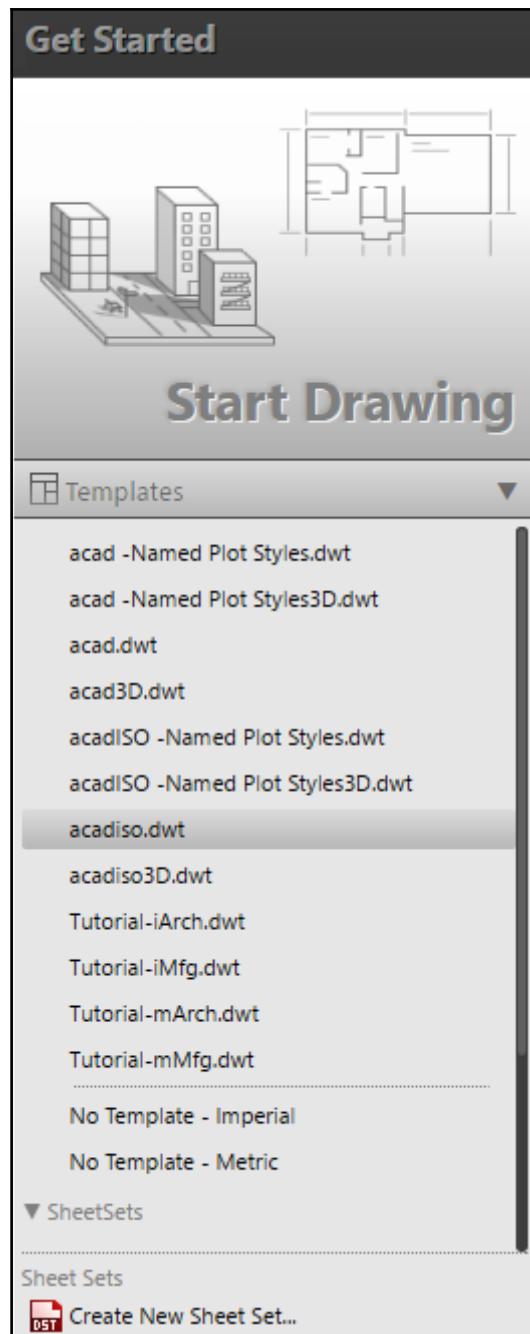
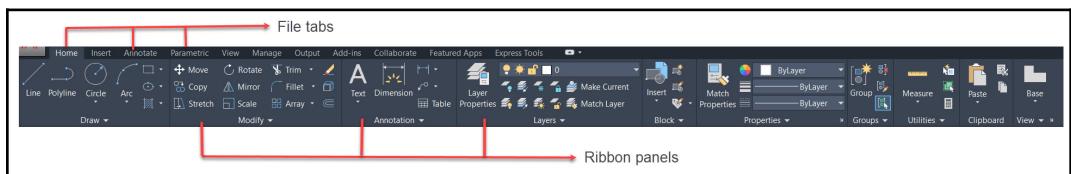
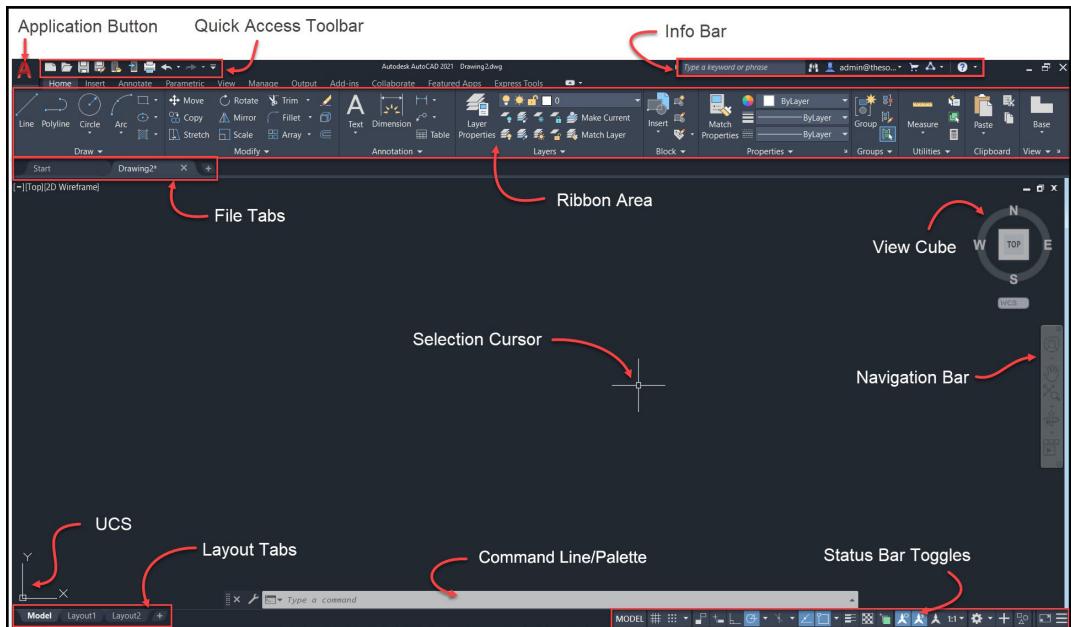
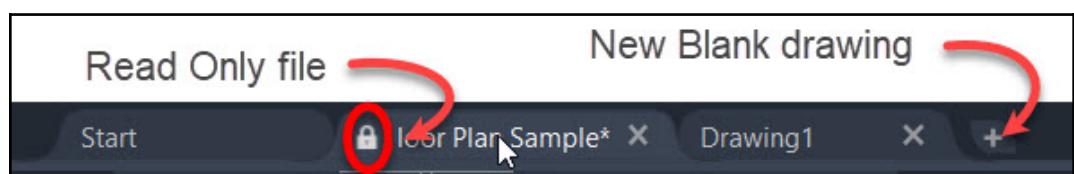
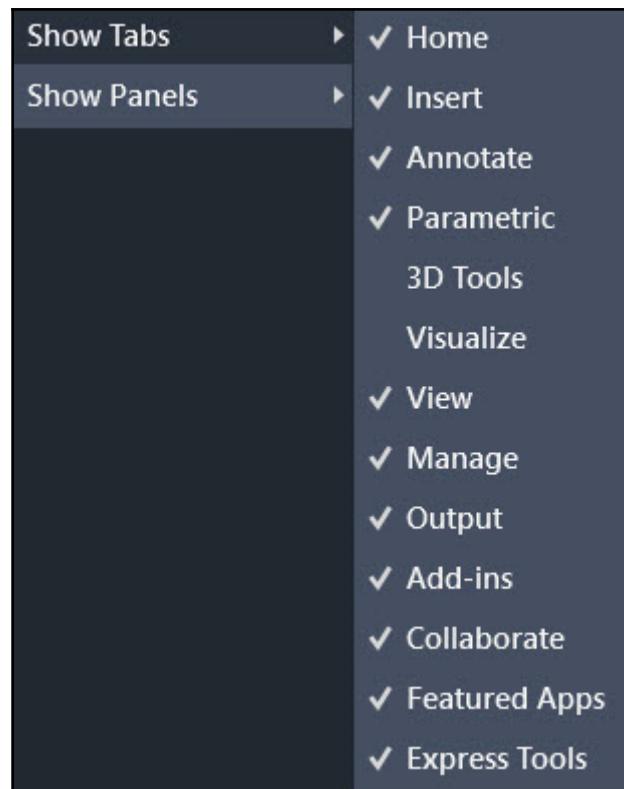


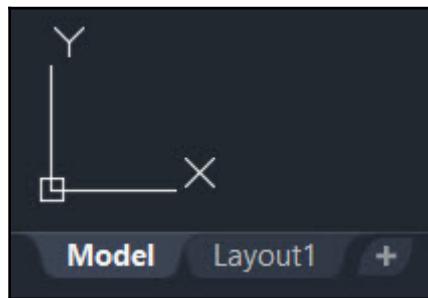
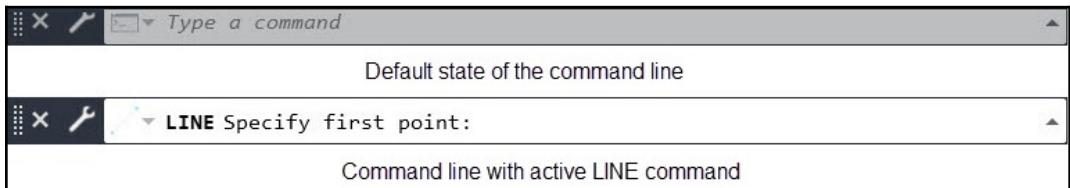
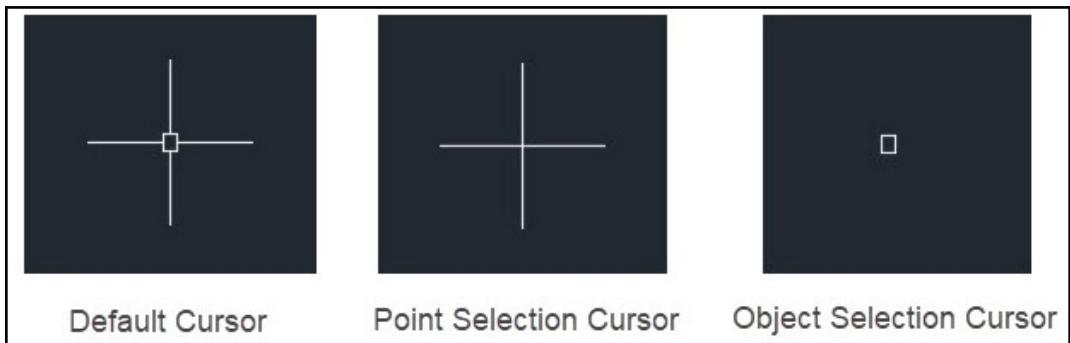
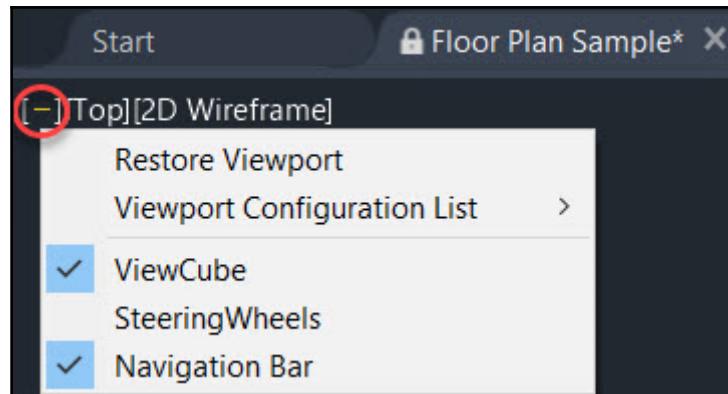
Chapter 1: An Introduction to AutoCAD

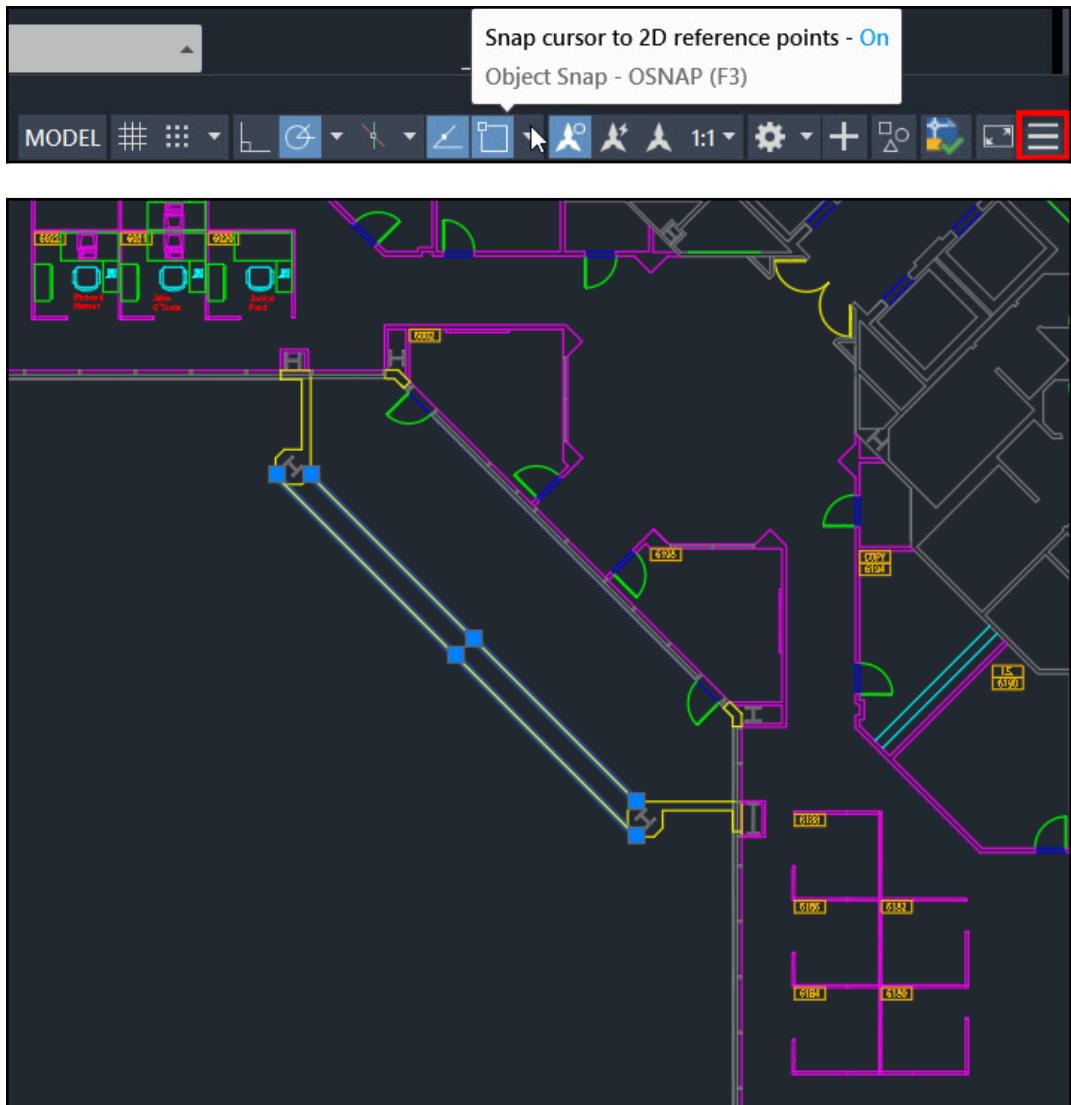


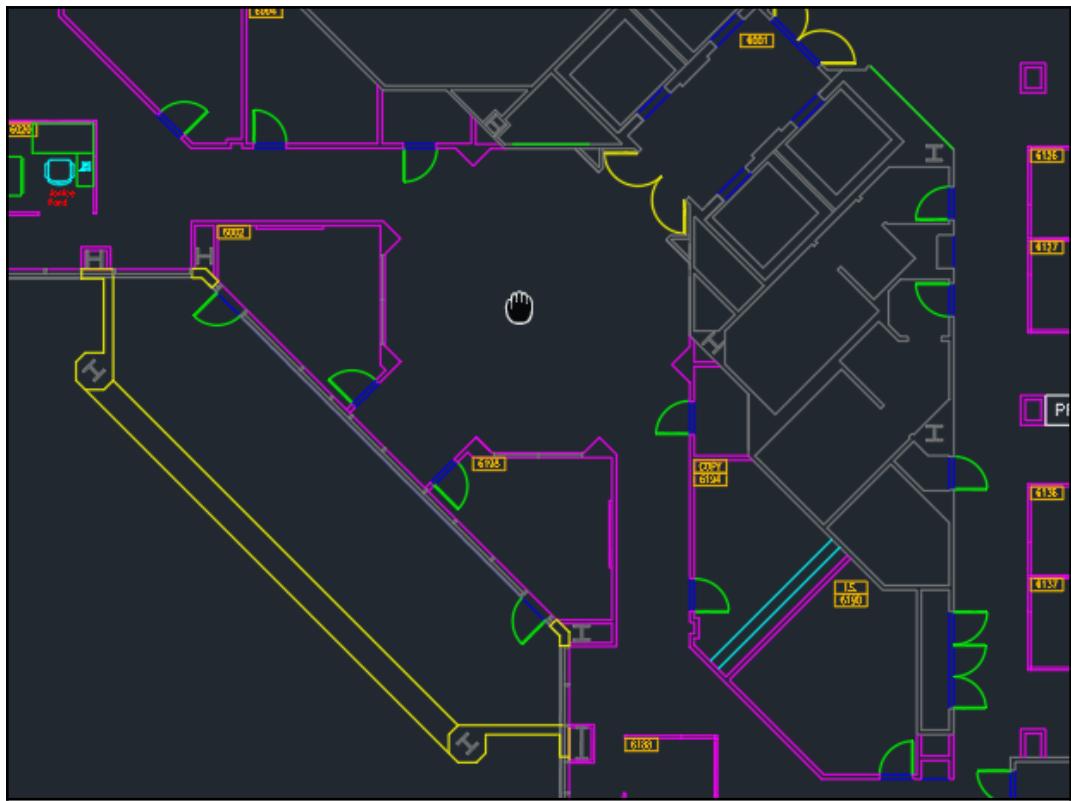


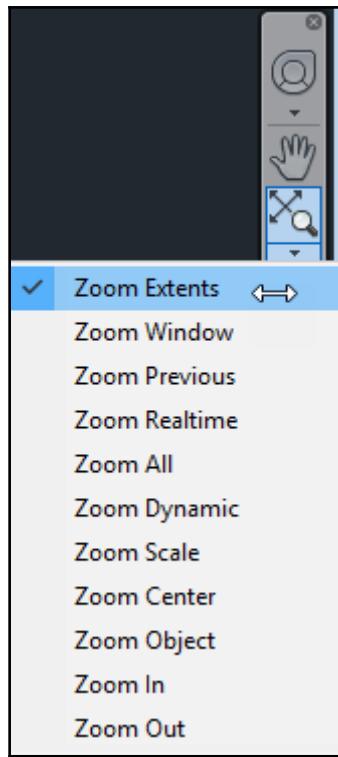


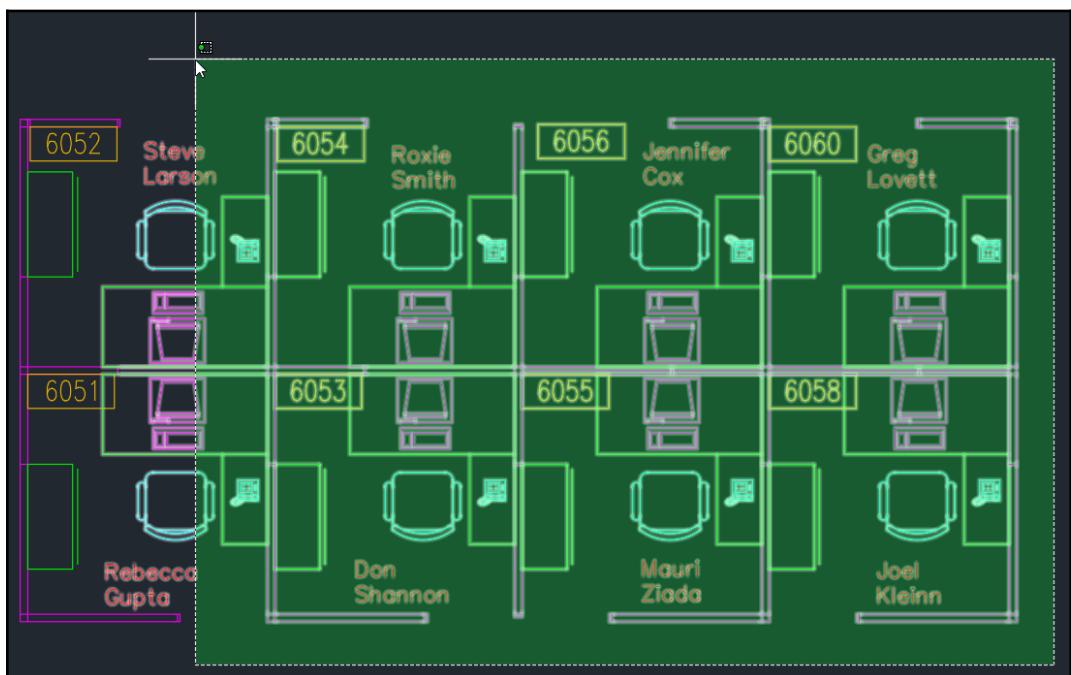
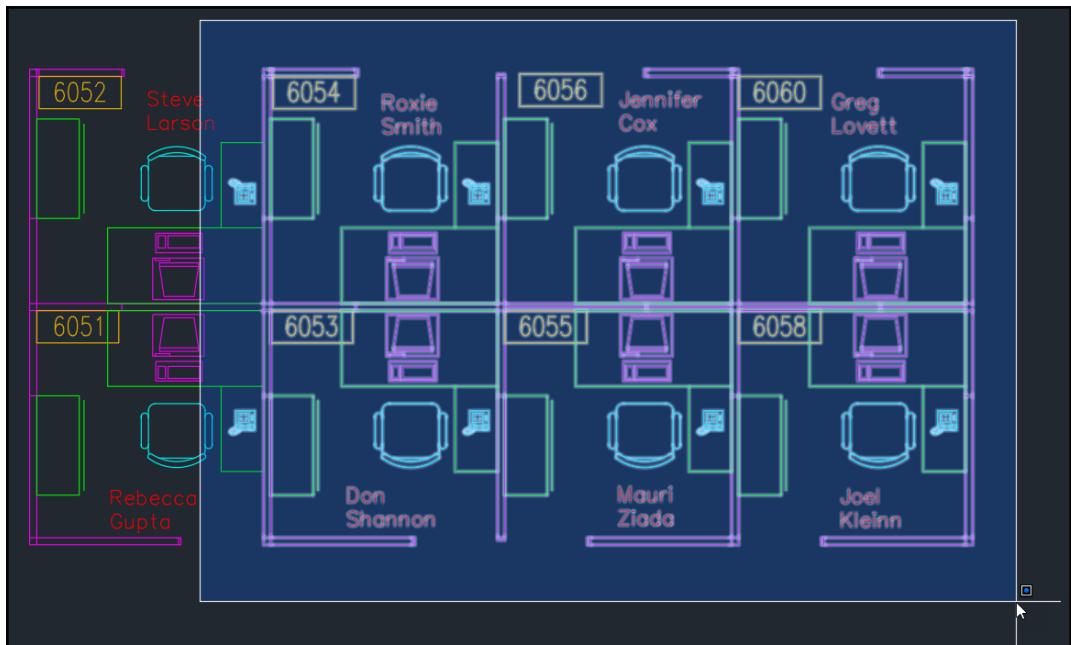


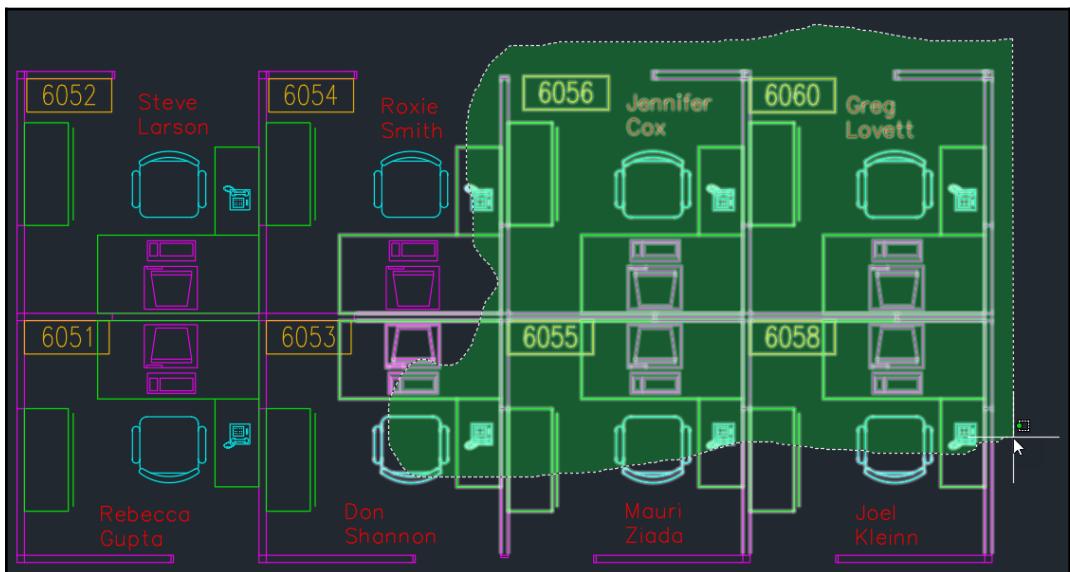


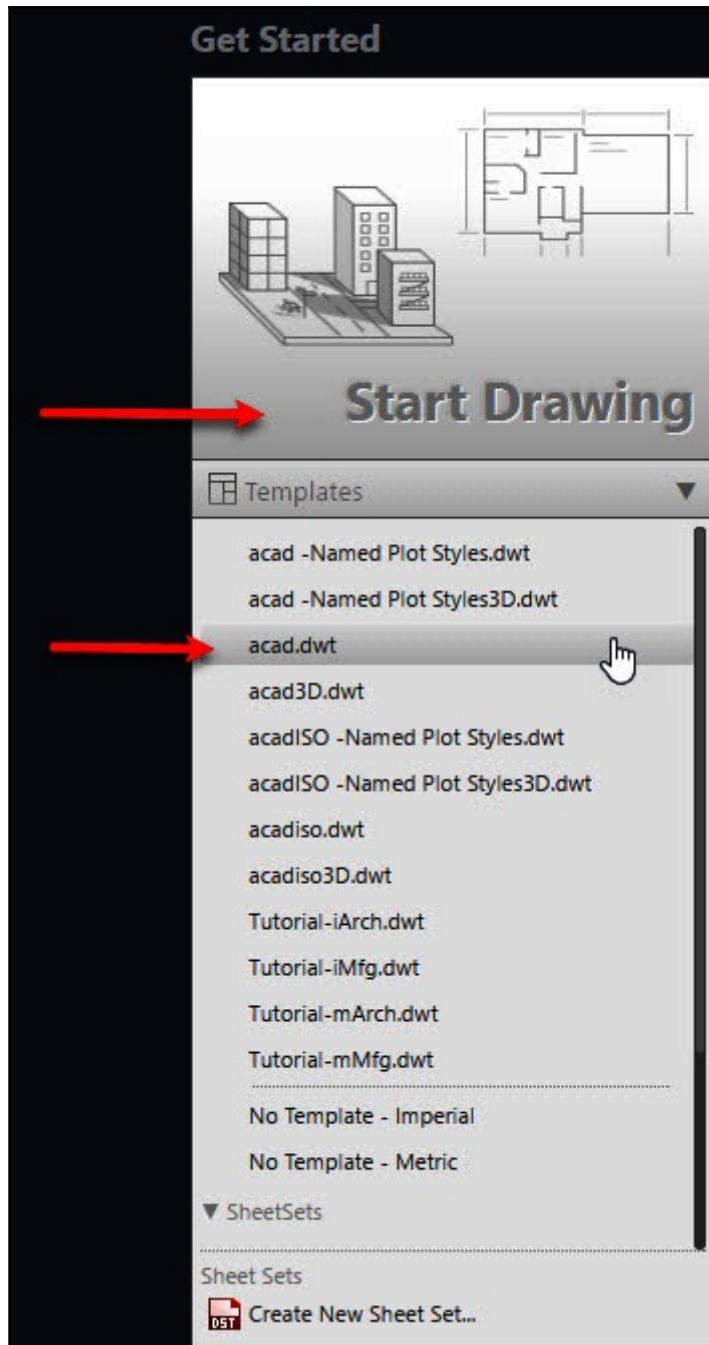


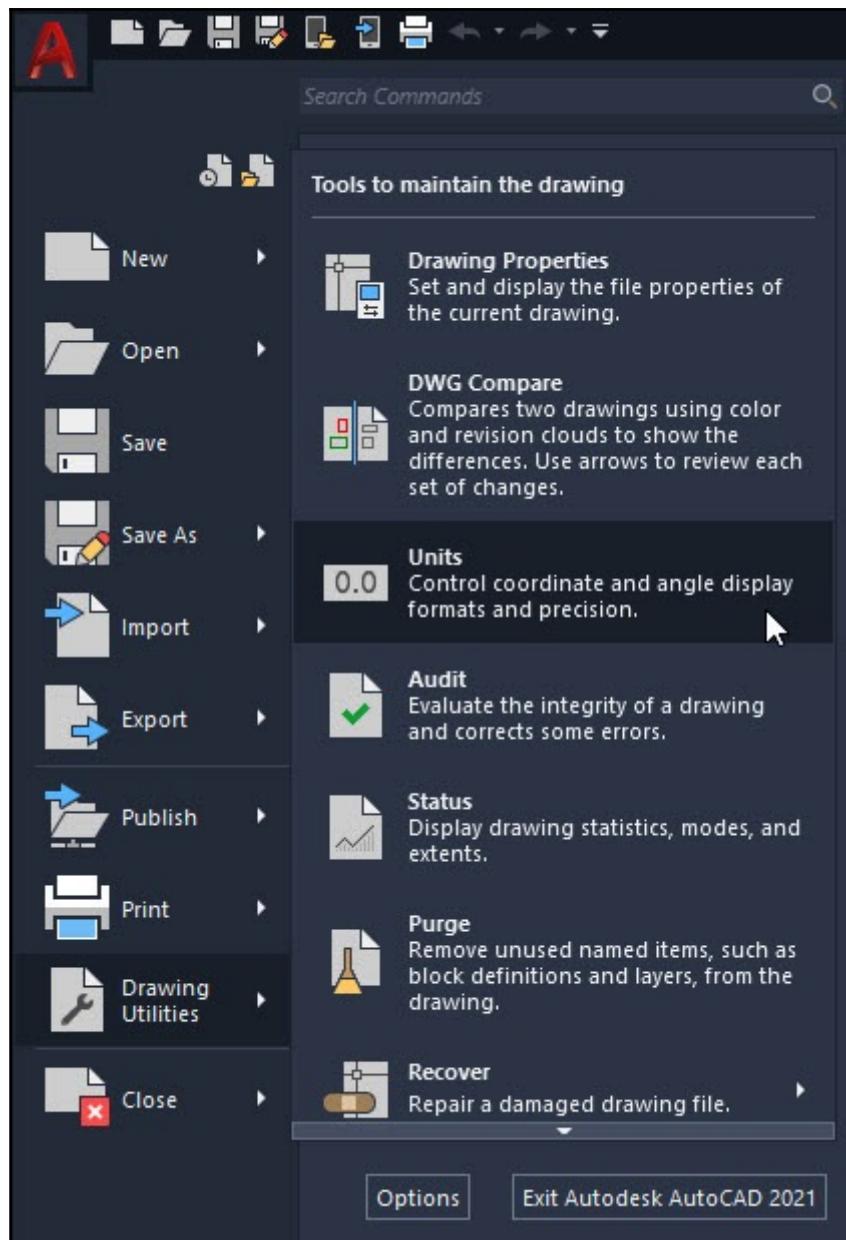


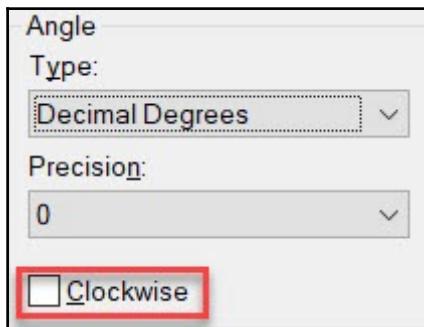
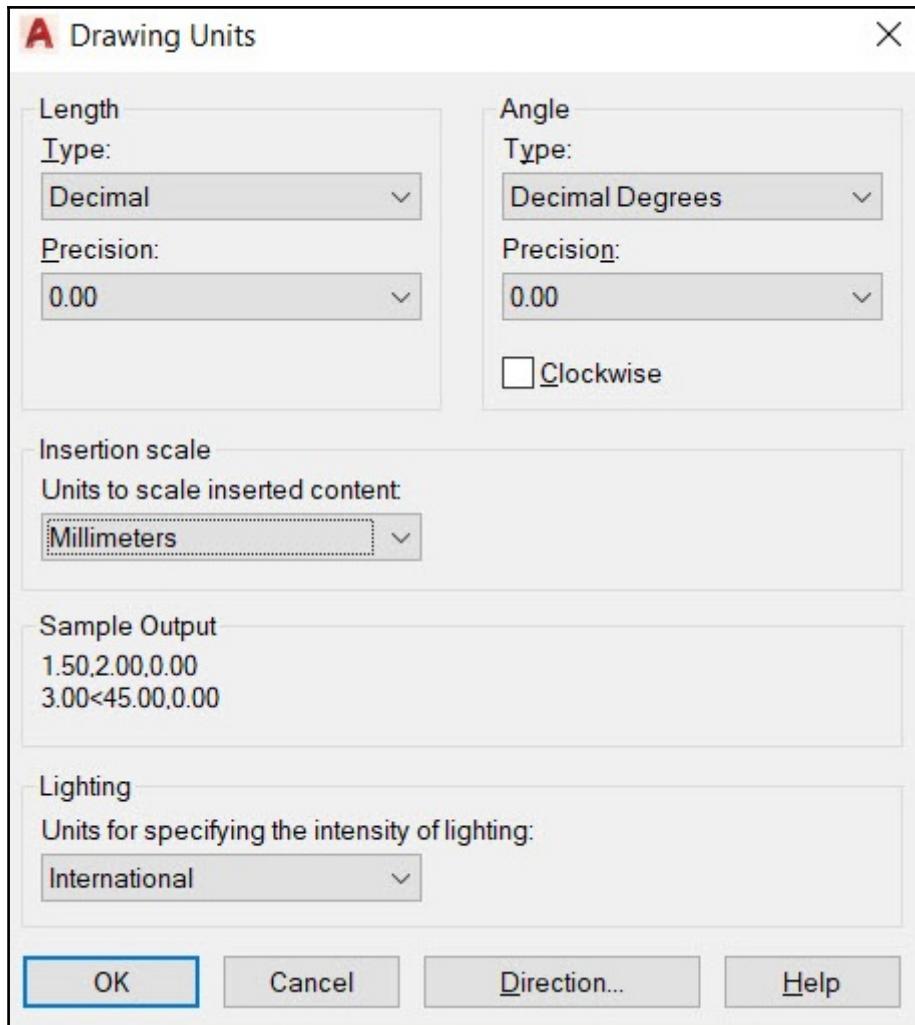


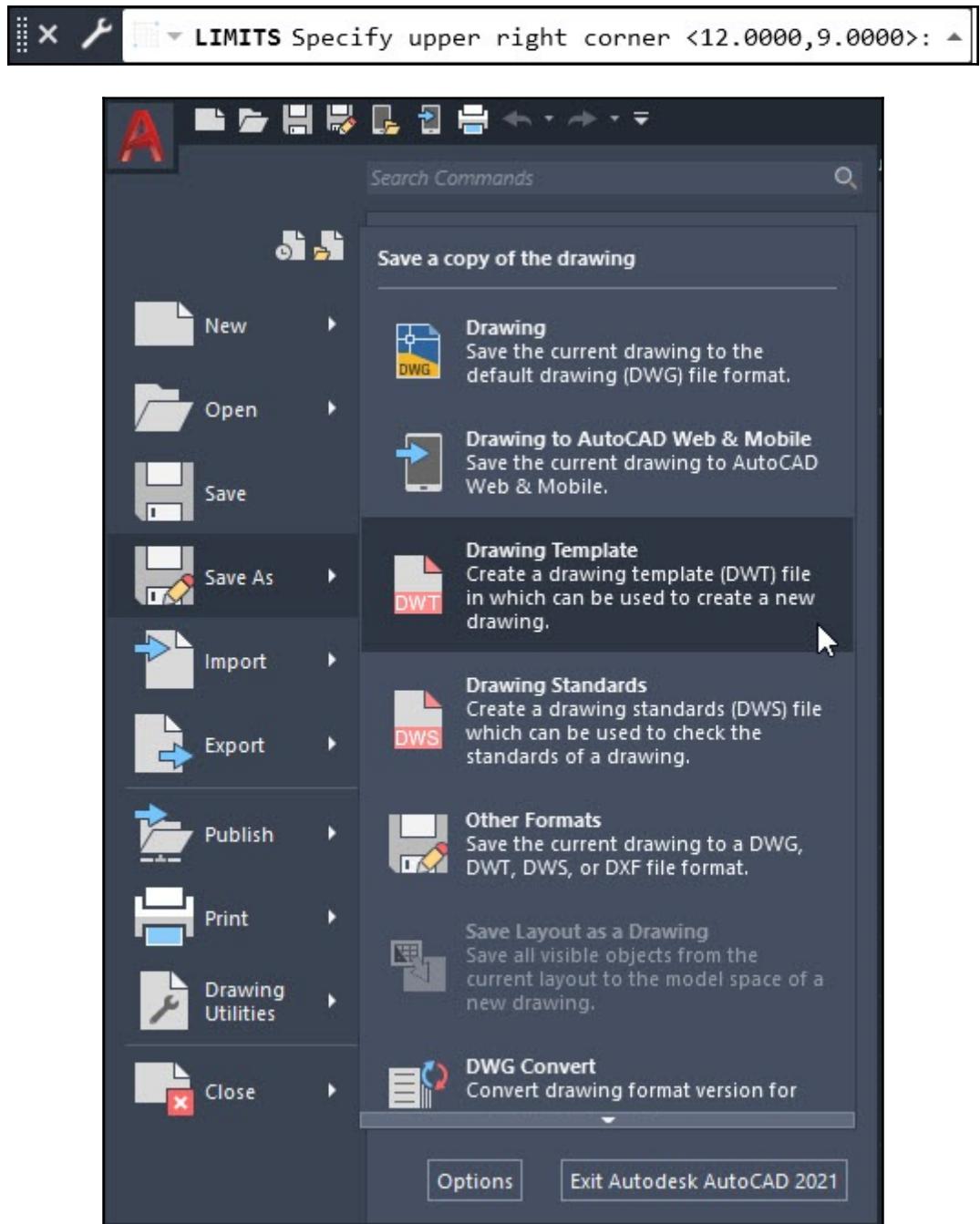


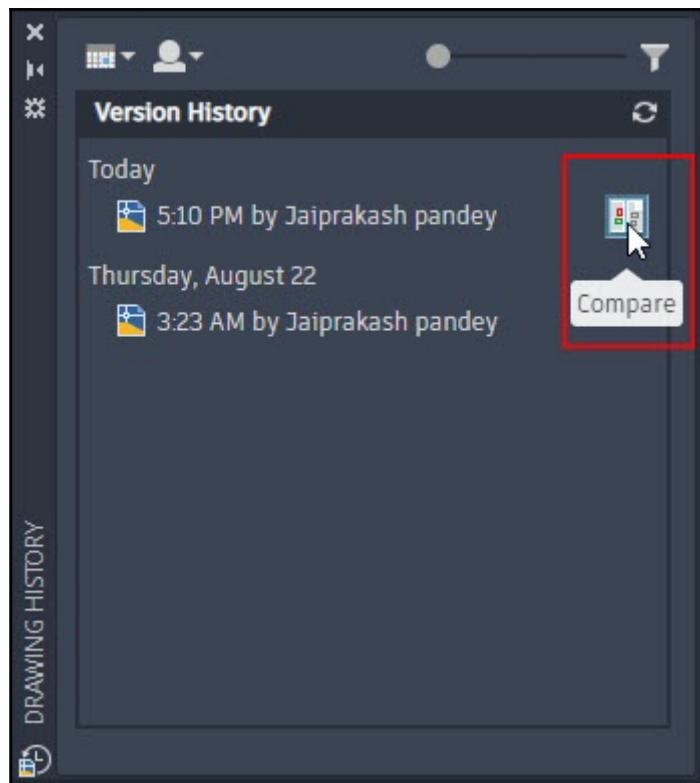




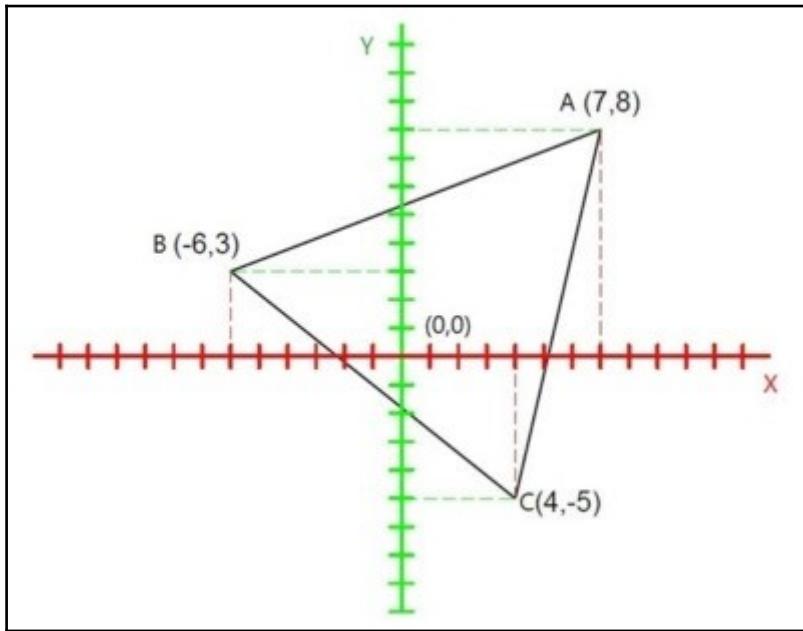
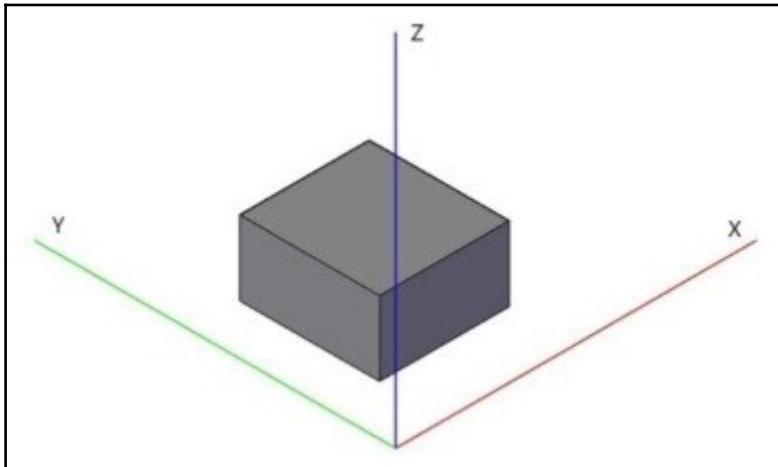


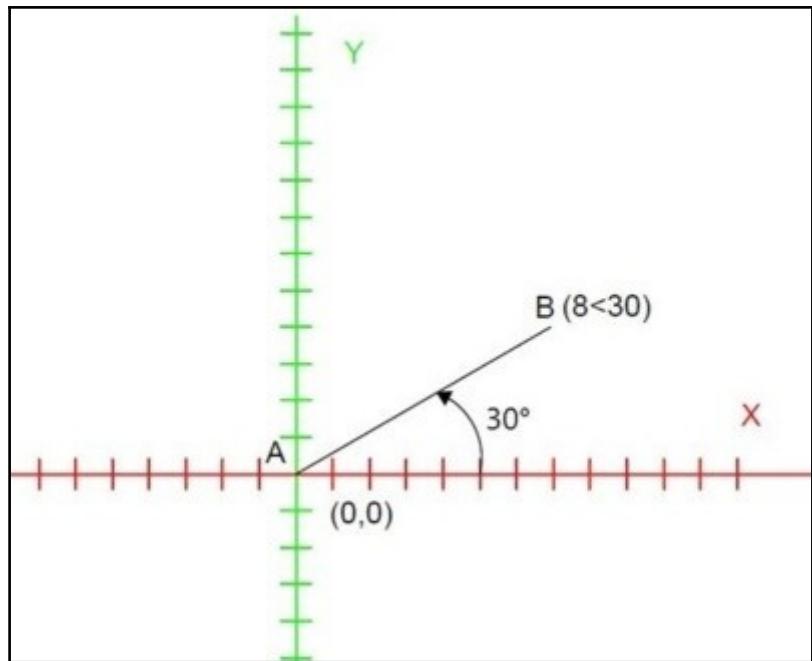




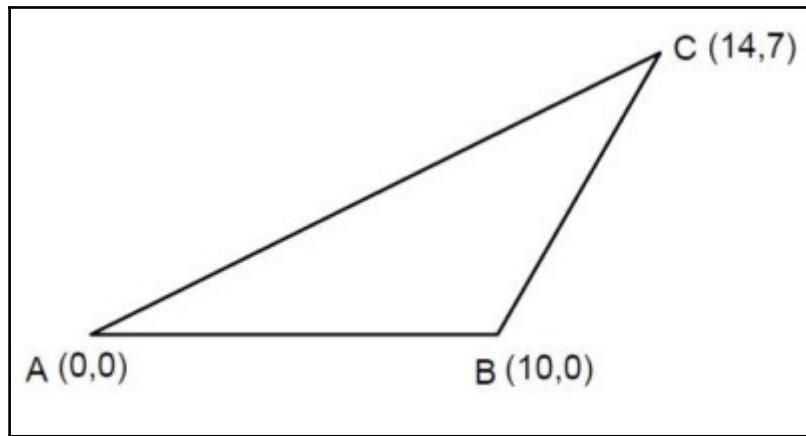
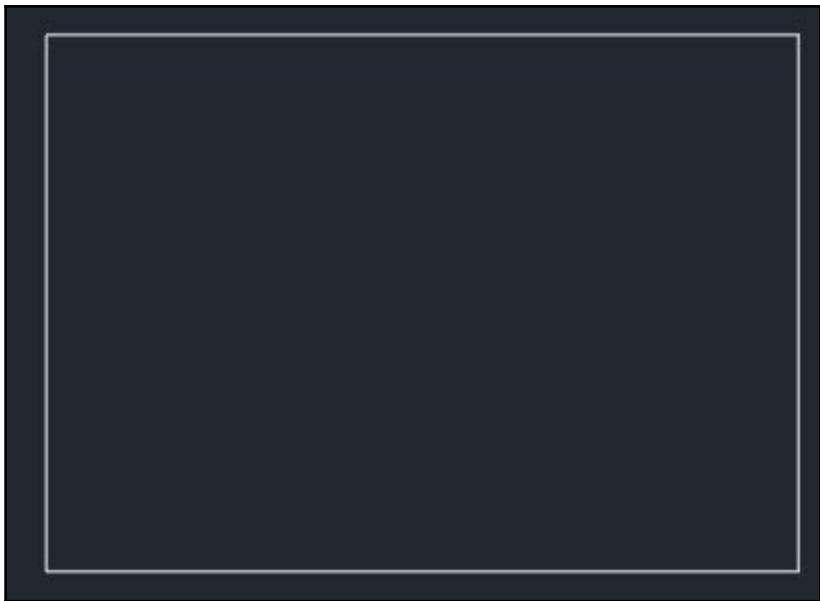


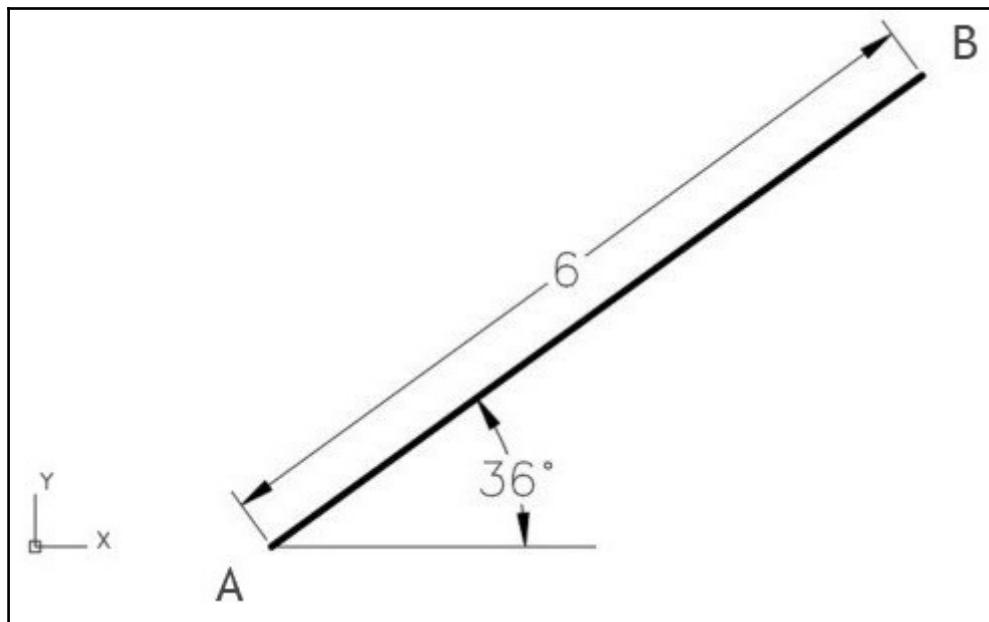
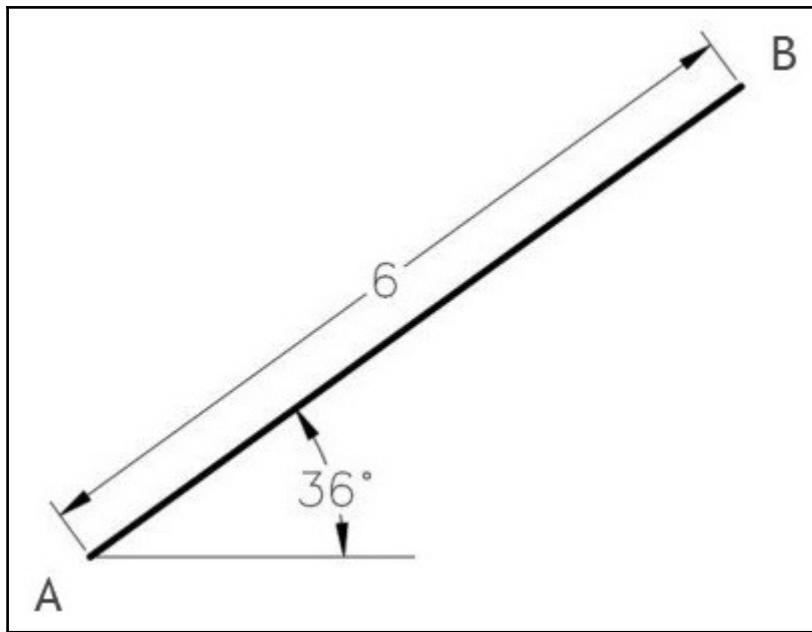
Chapter 2: Basic Drawing Tools

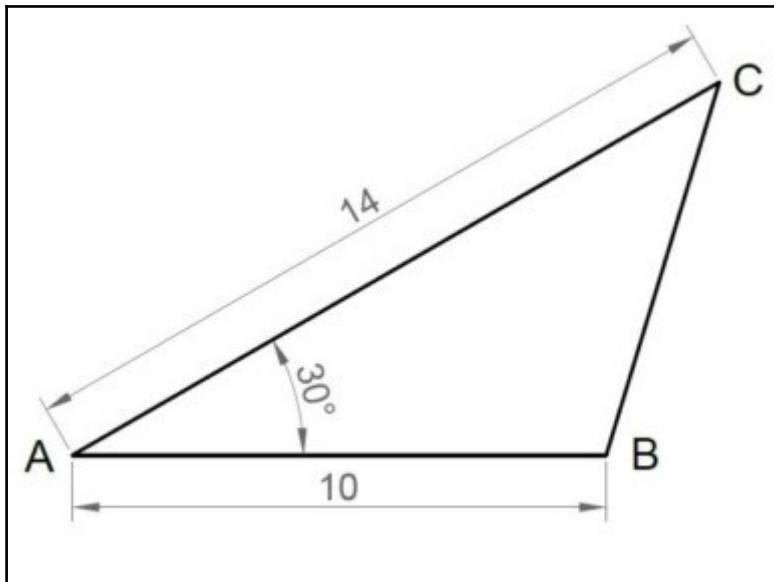
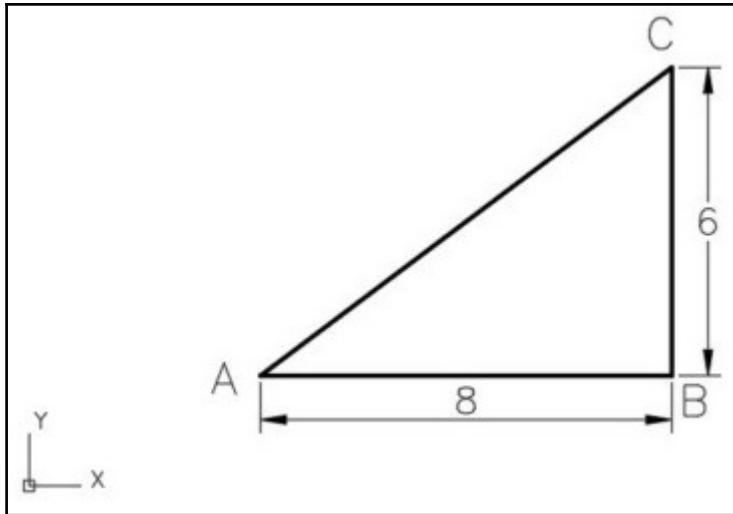


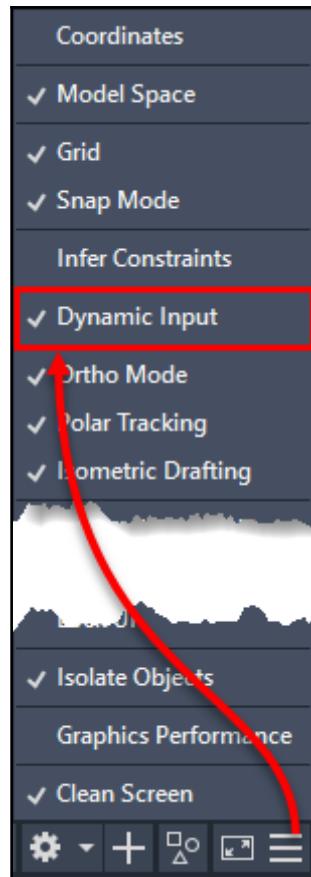


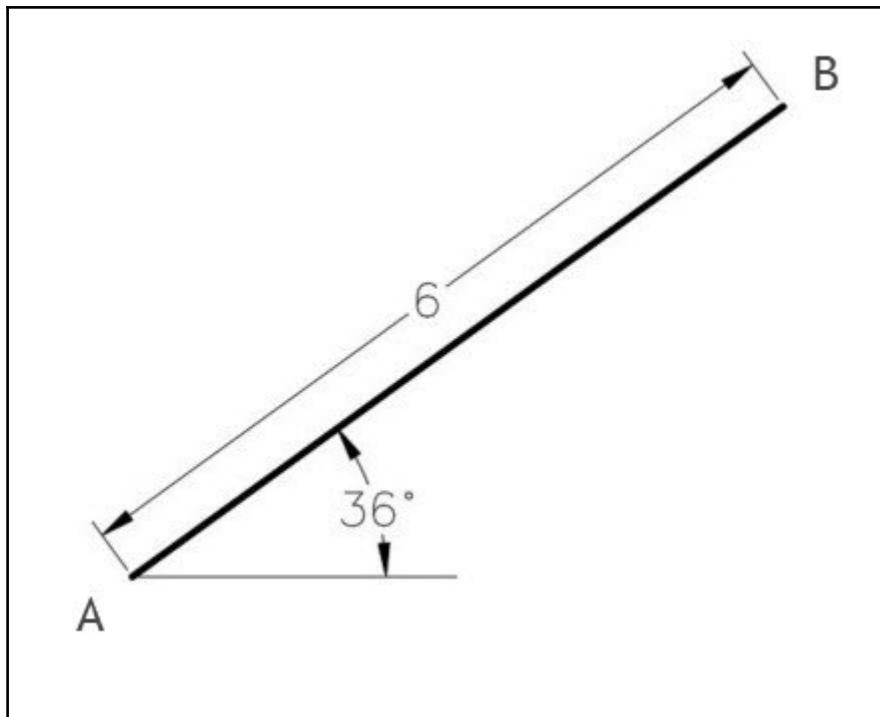
The AutoCAD command line interface shows the following prompt:
LINE Specify first point:

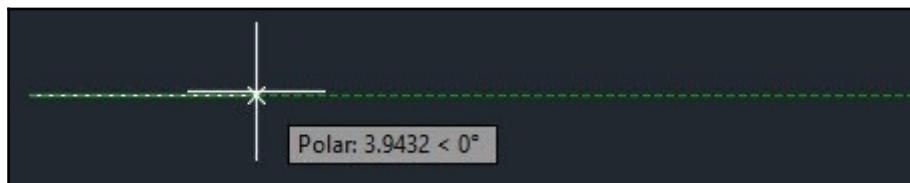
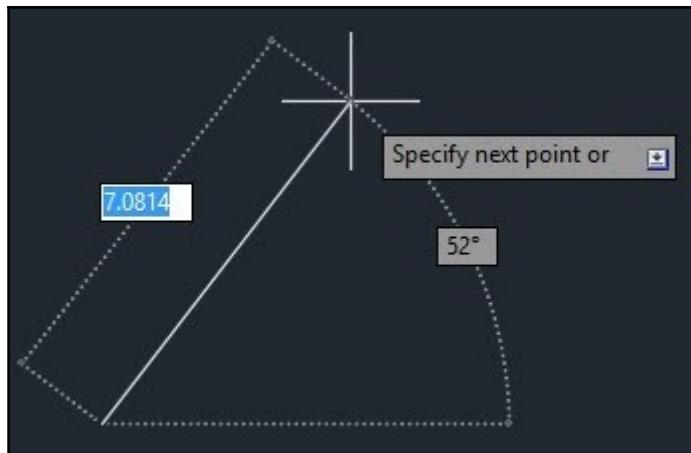


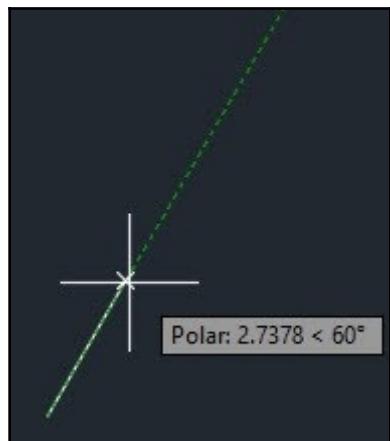
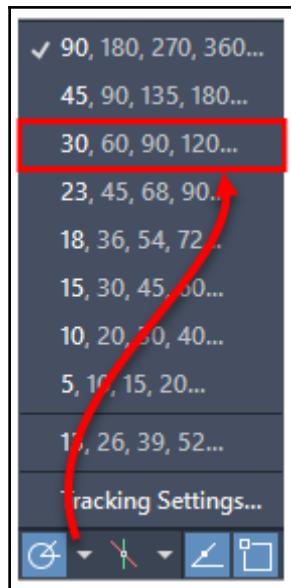


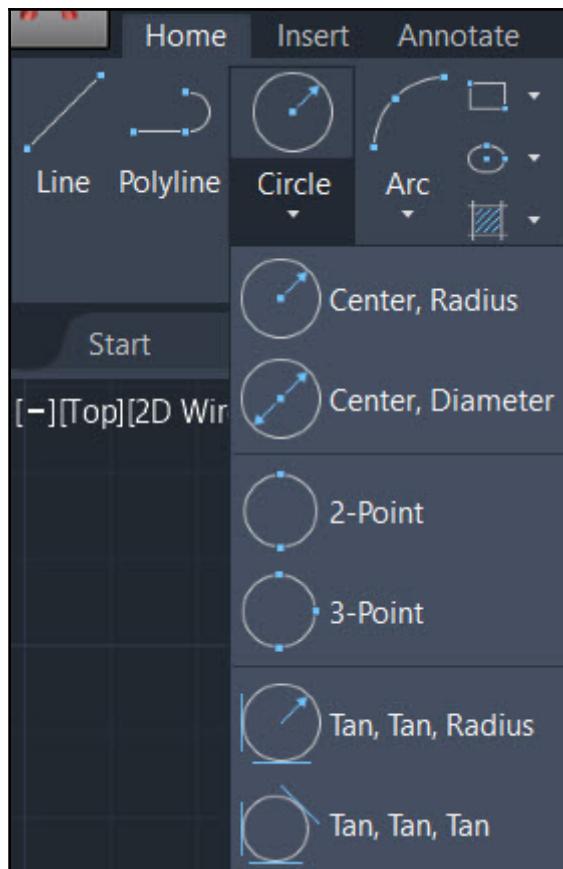








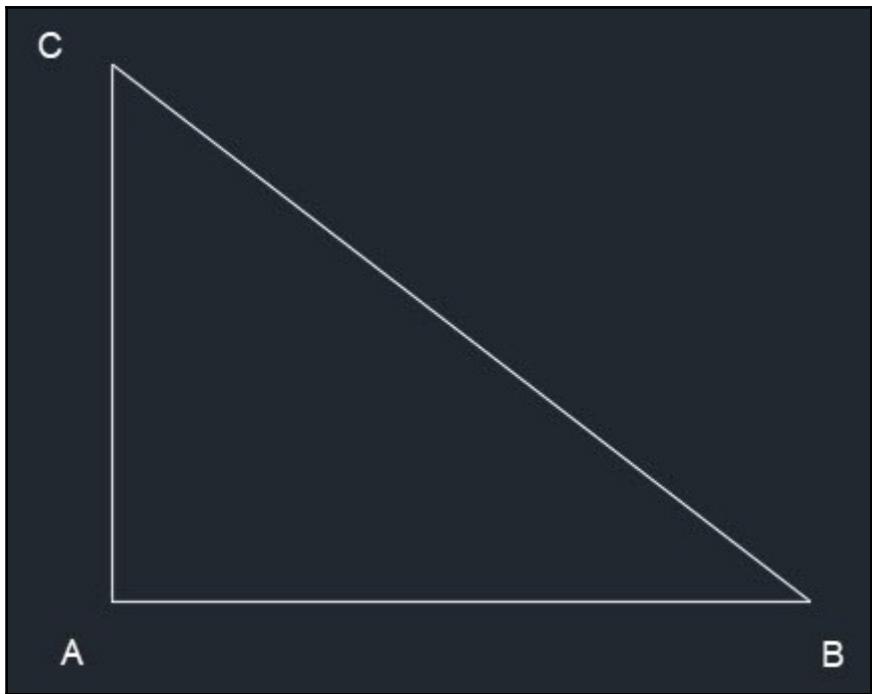


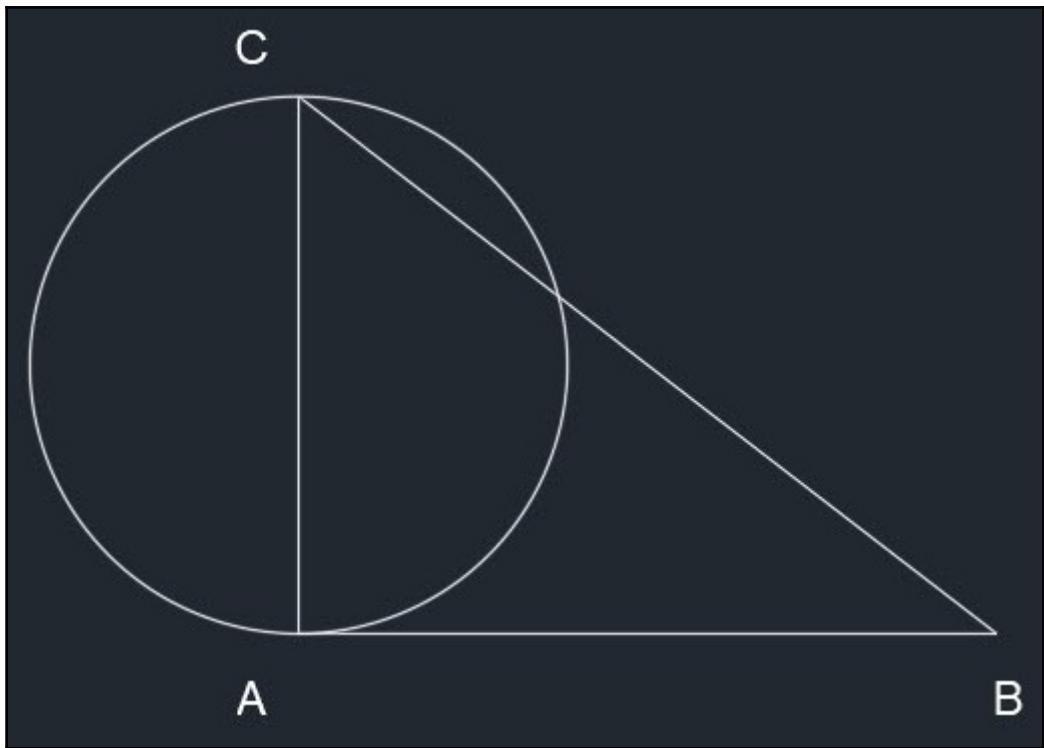


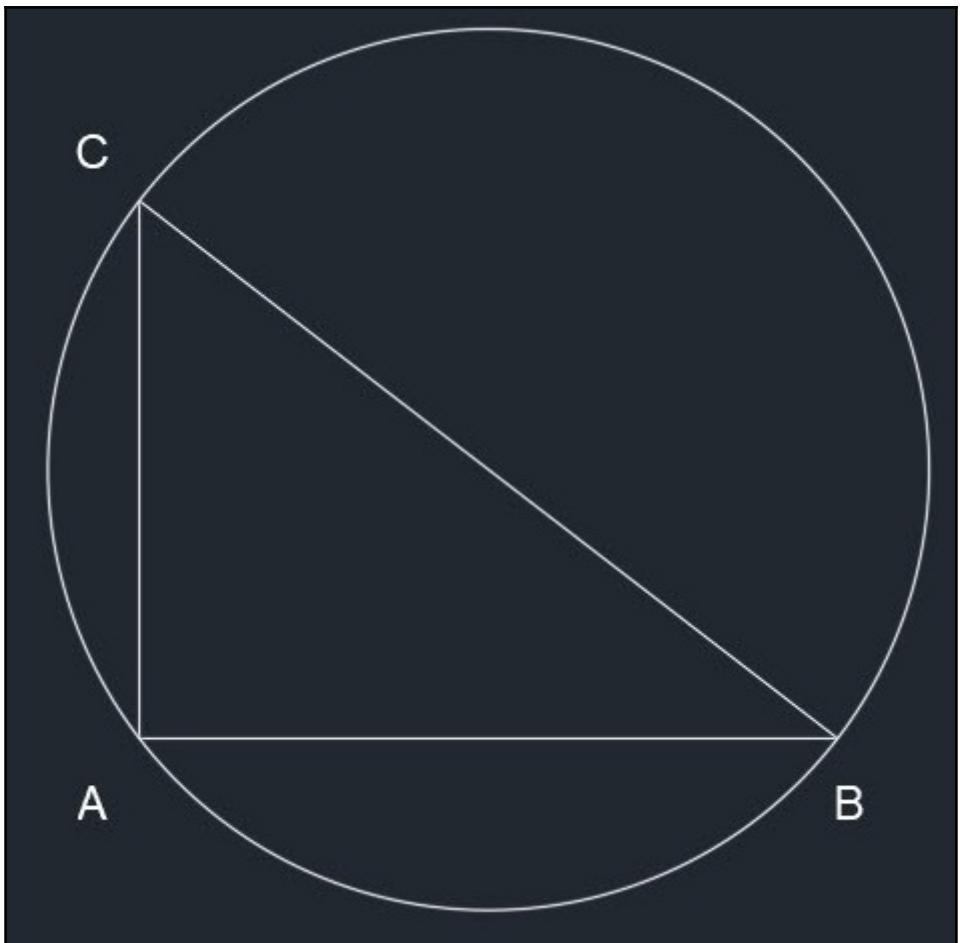
✖ ✎ CIRCLE Specify center point for circle or [3P 2P Ttr (tan tan radius)]:

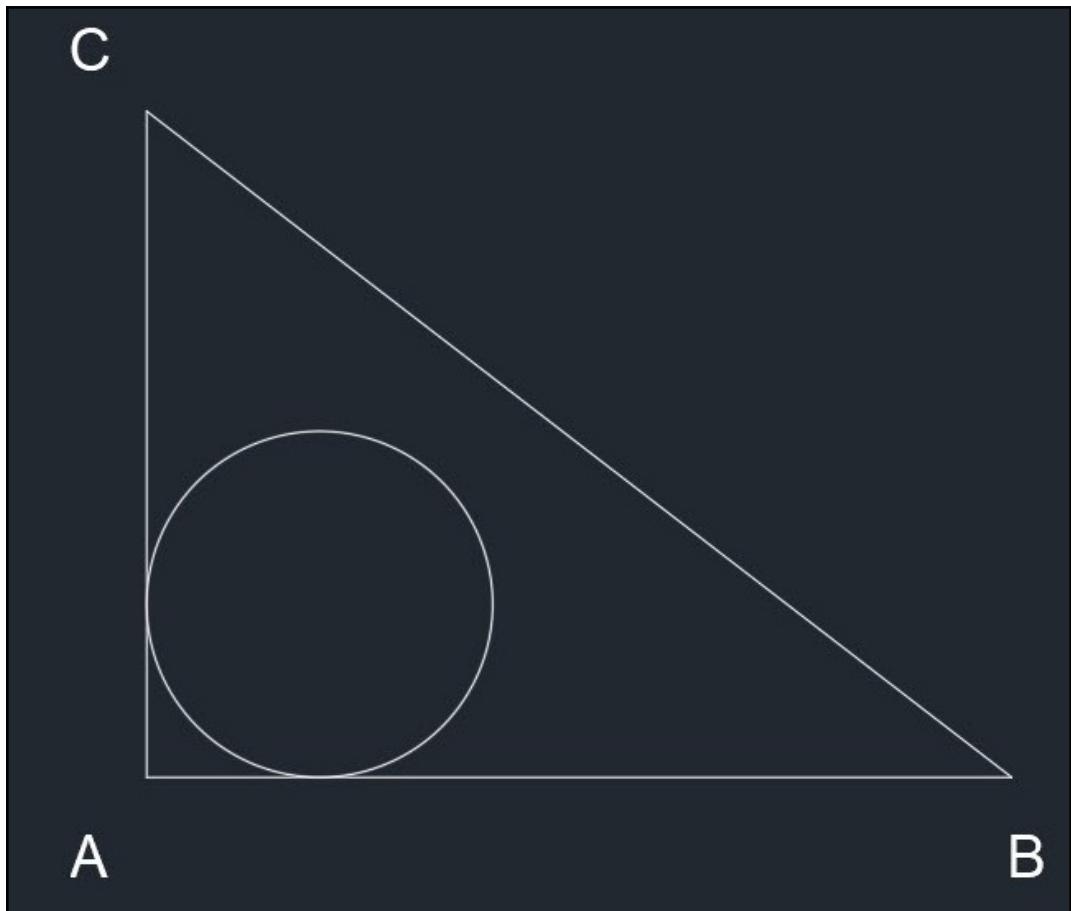
✖ ✎ CIRCLE Specify radius of circle or [Diameter]:

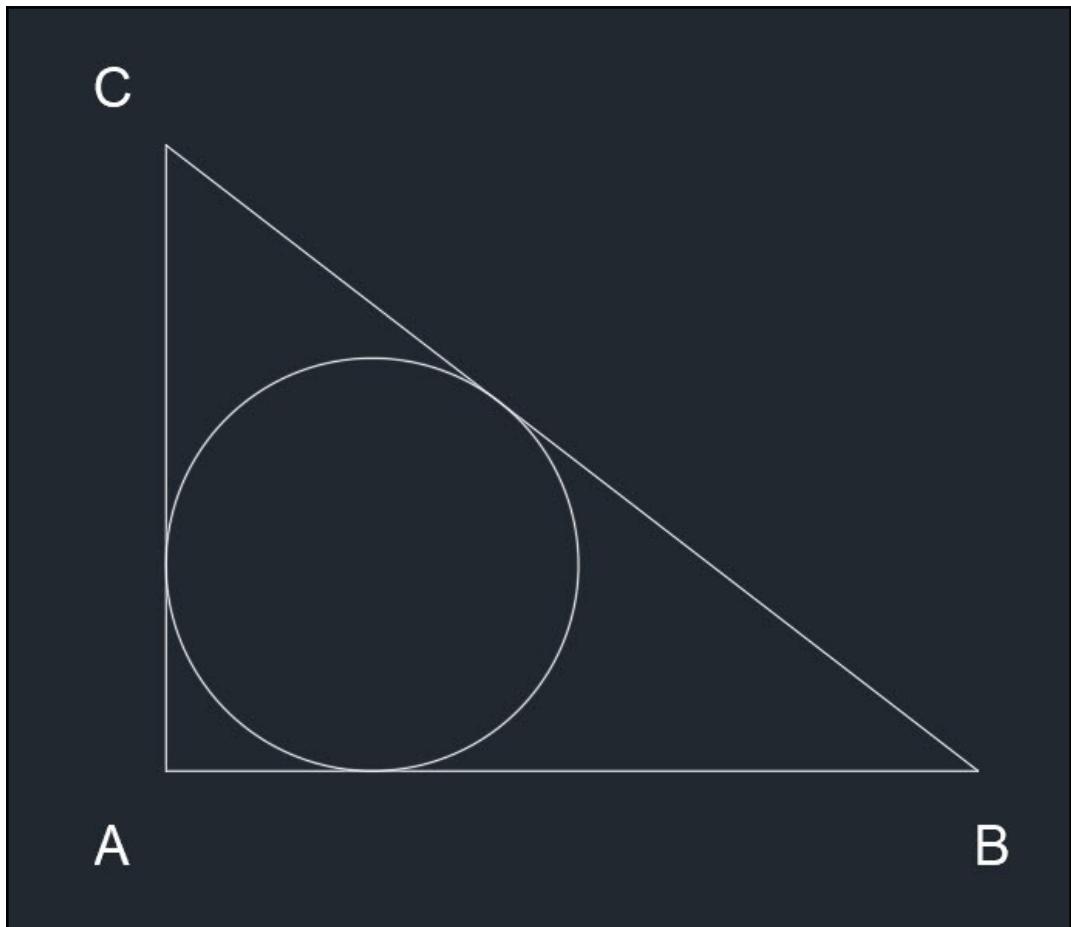
✖ ✎ CIRCLE Specify diameter of circle:

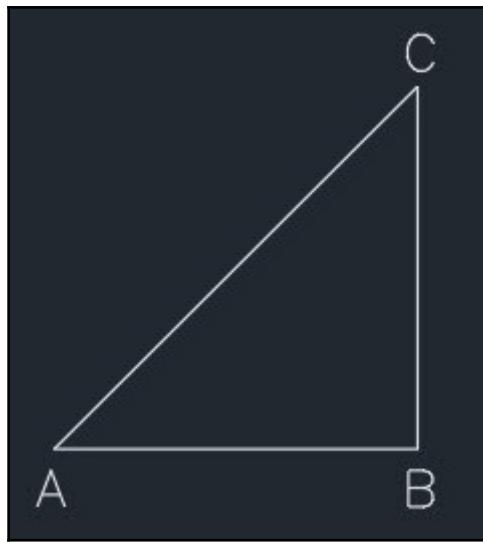




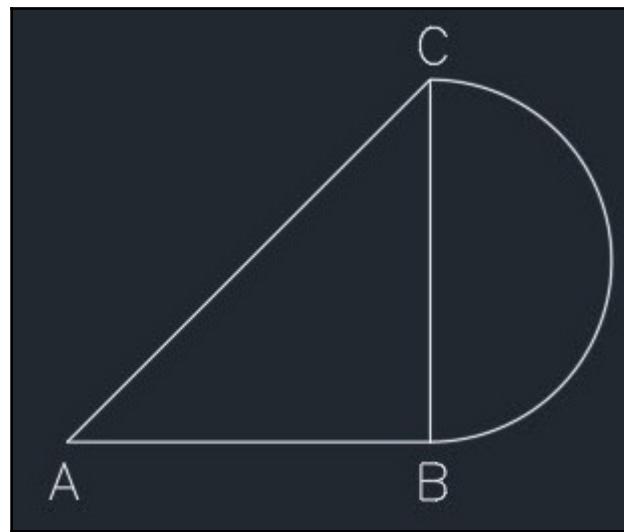
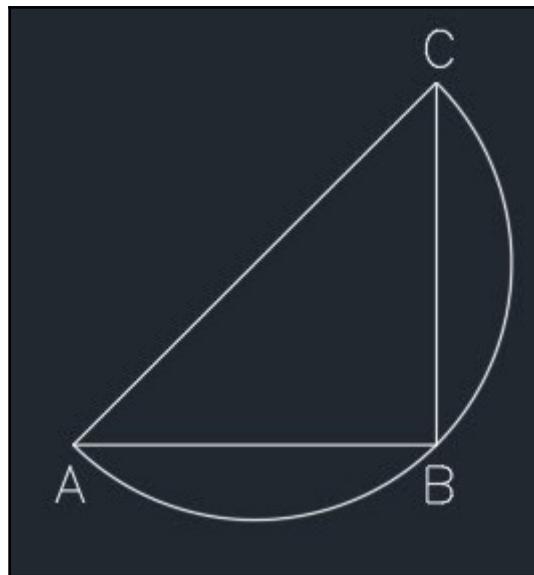


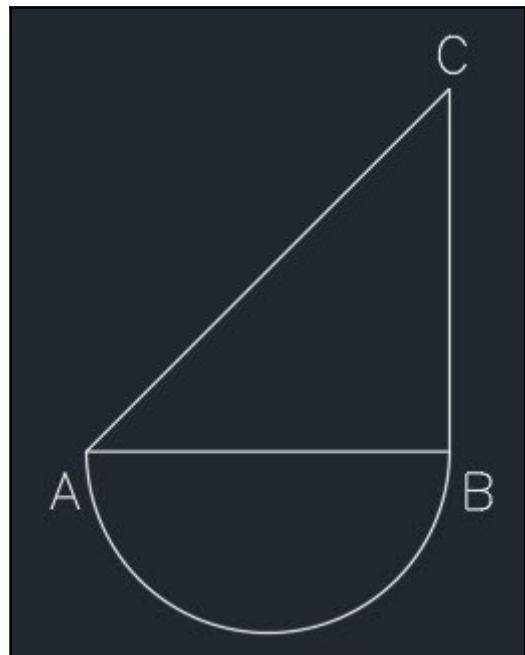
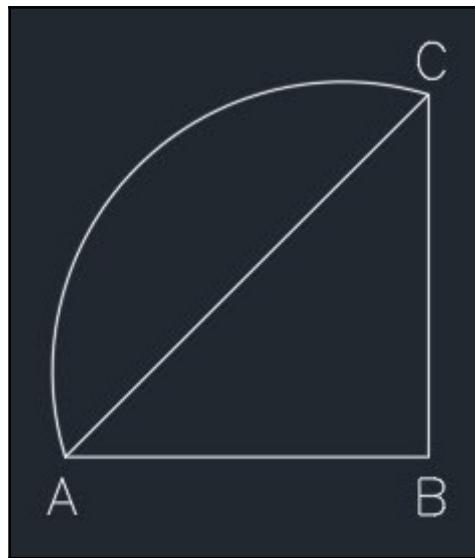


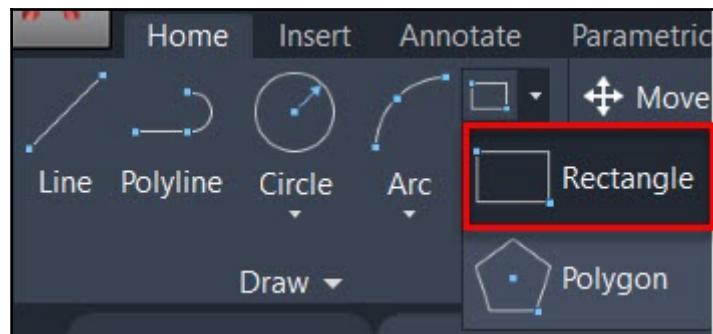
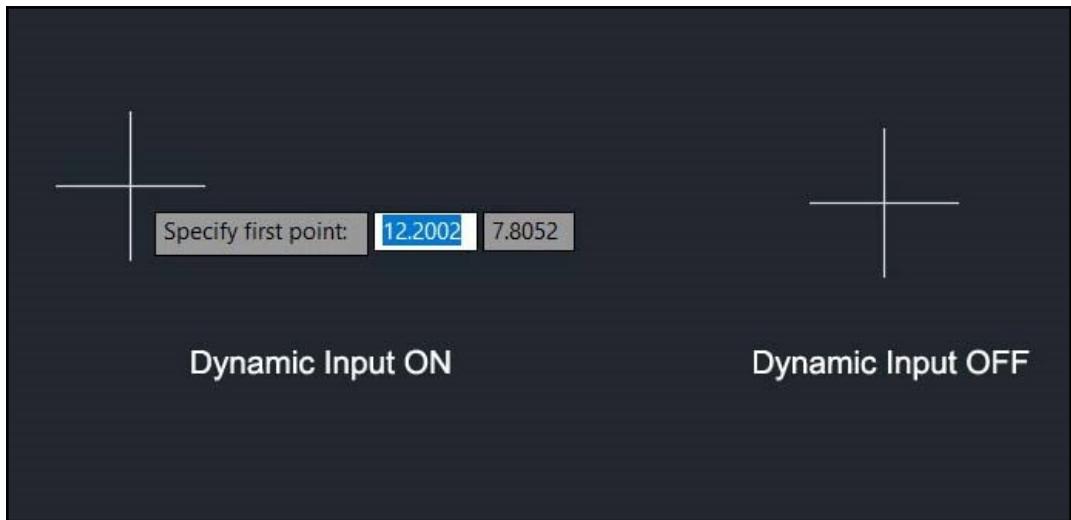


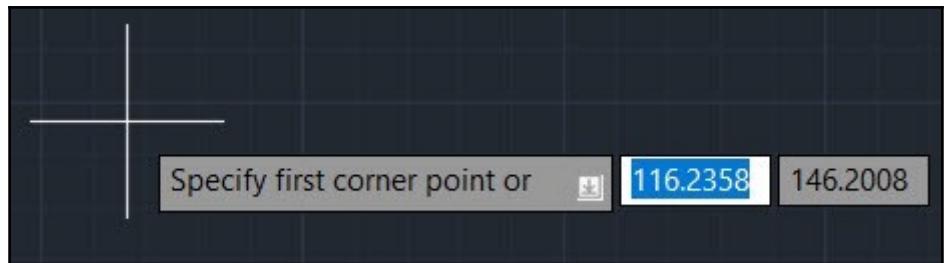


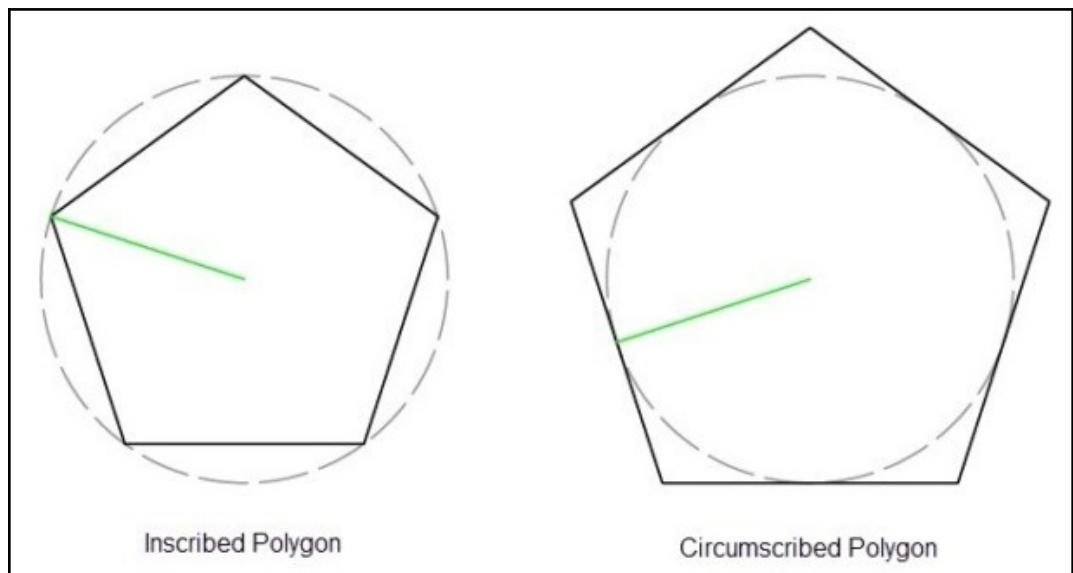
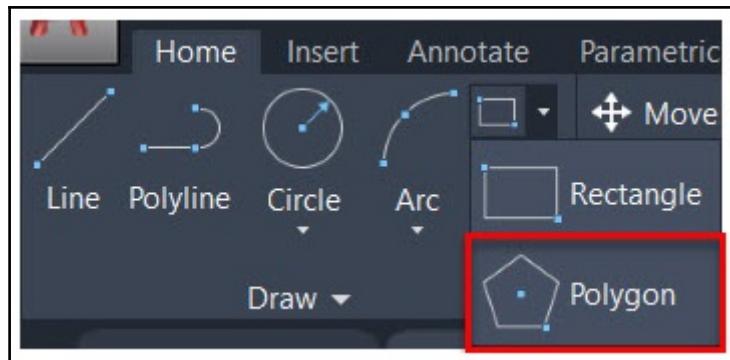






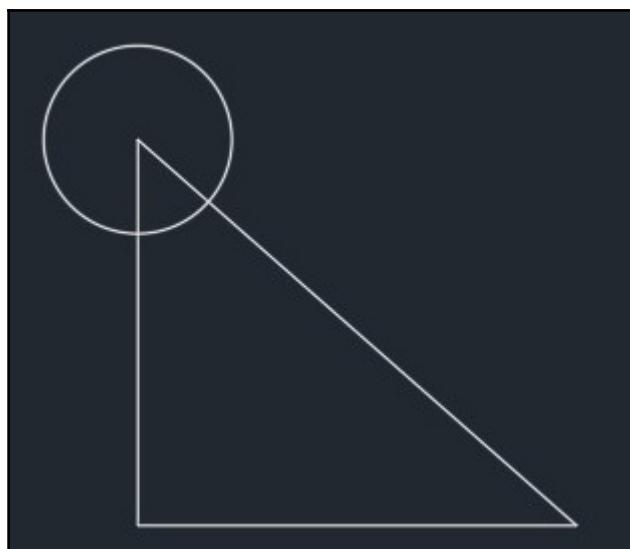
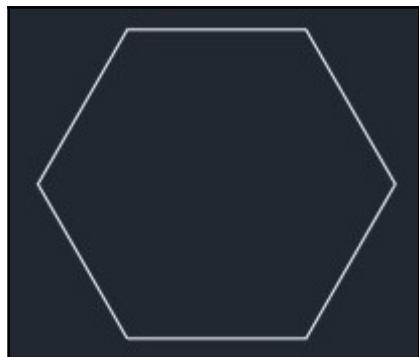


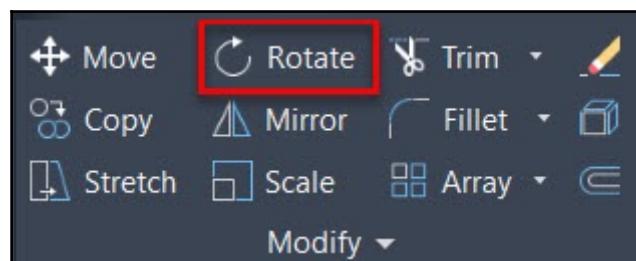
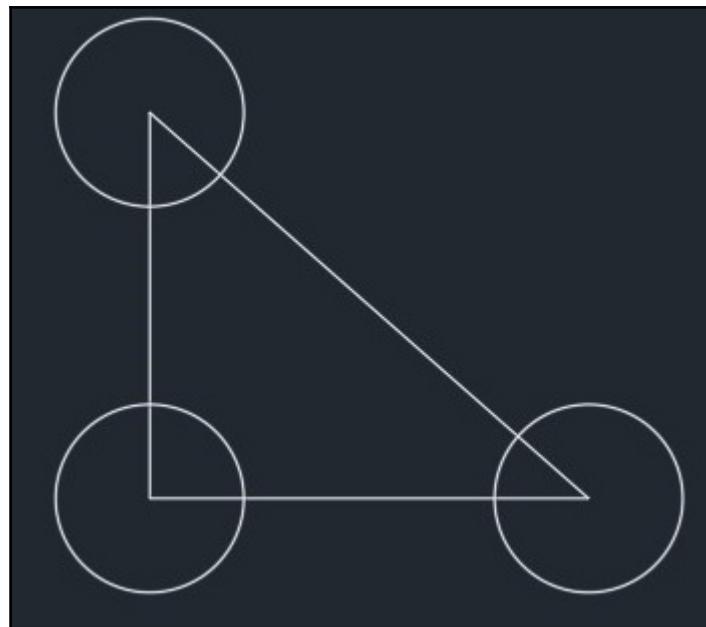


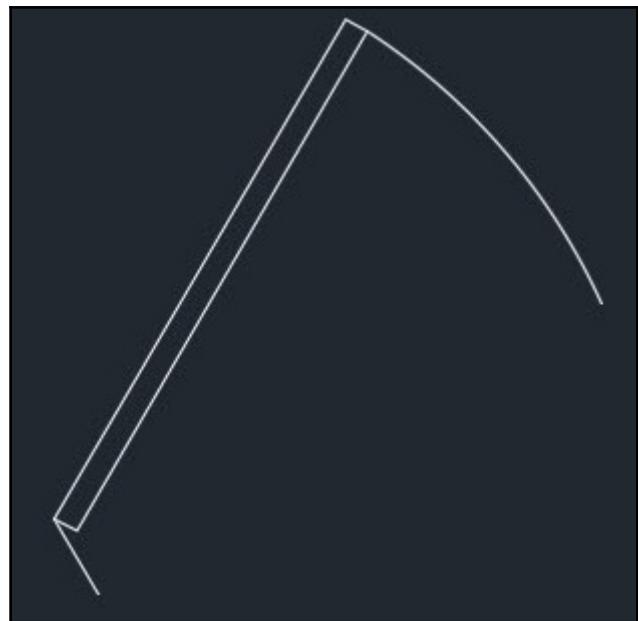


⋮ × ⚙️ POLYGON Enter an option [Inscribed in circle Circumscribed about circle] <I>: ▾

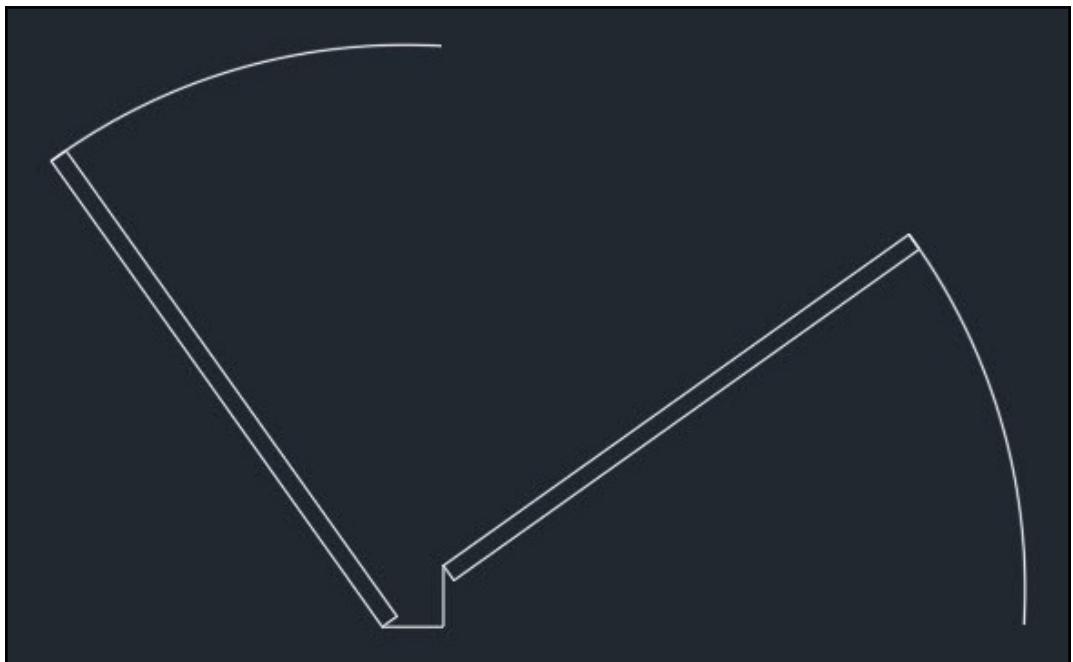
⋮ × ⚙️ POLYGON Specify center of polygon or [Edge]: ▾

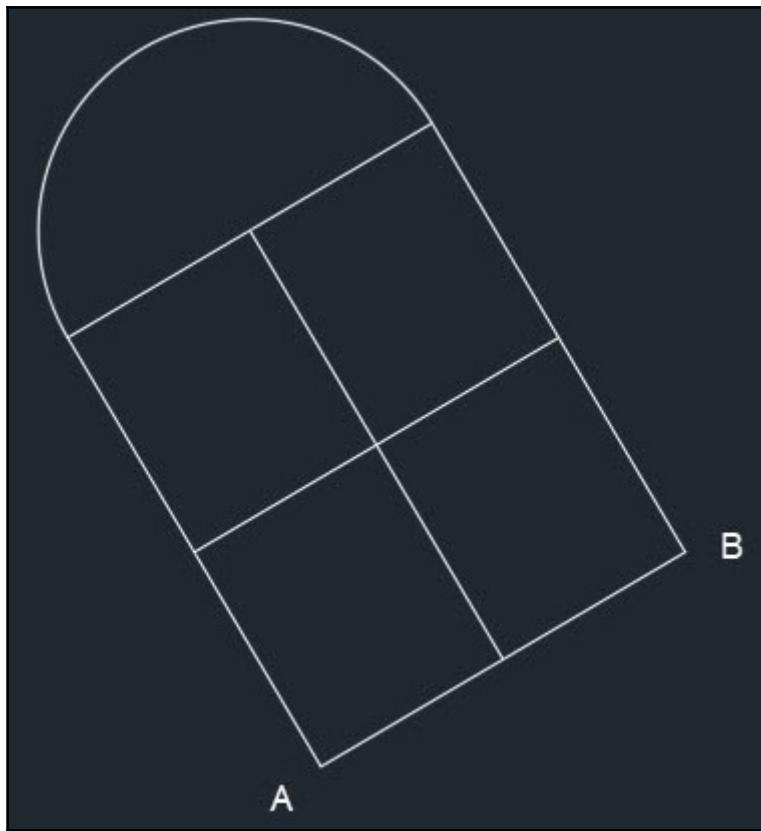


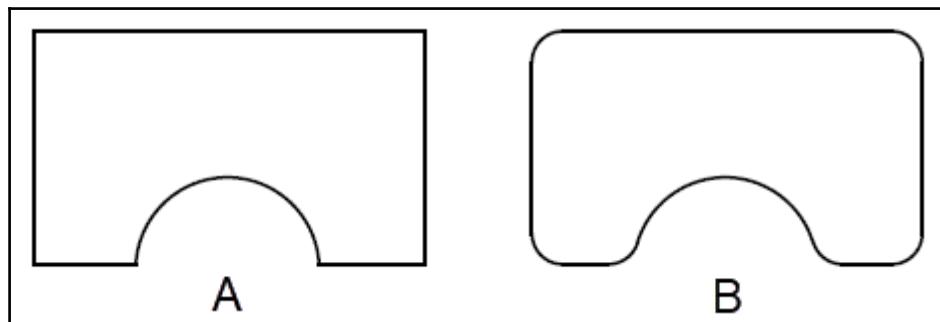
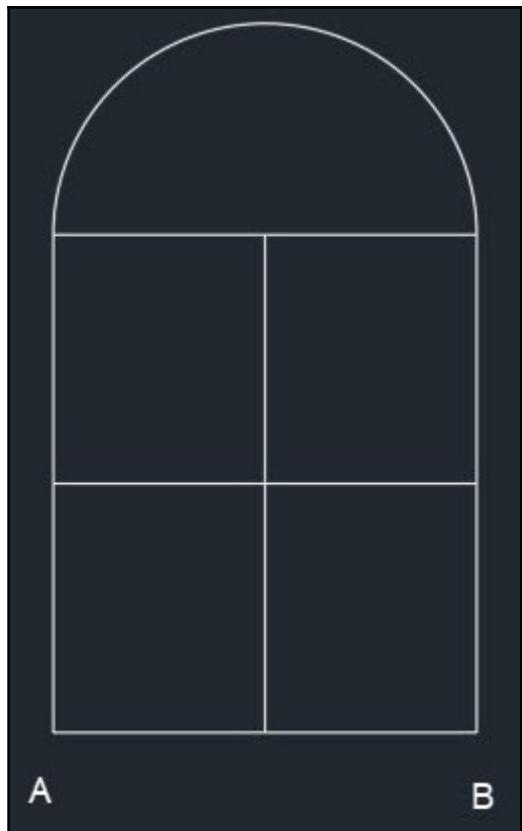


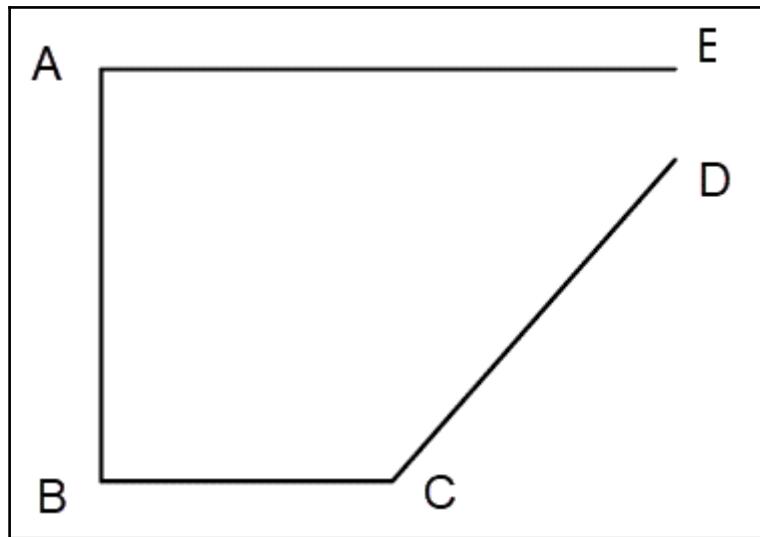
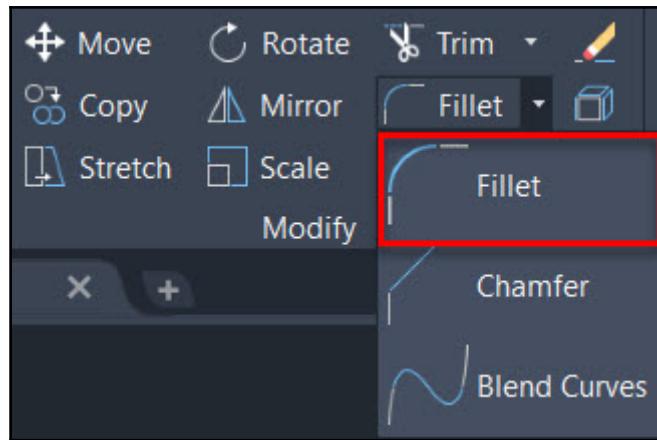


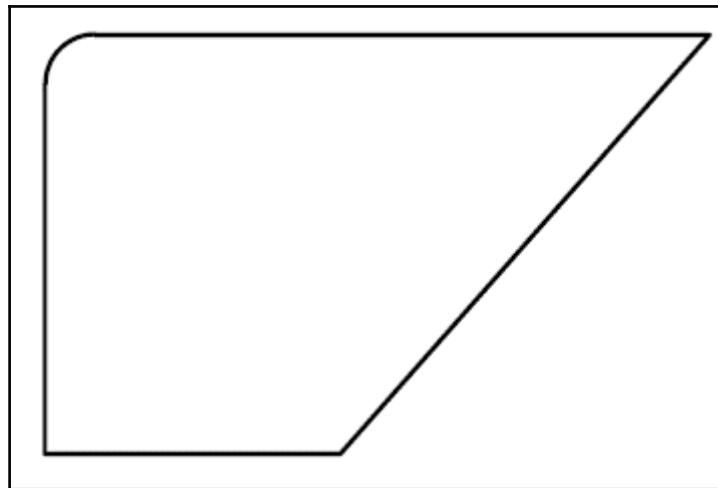
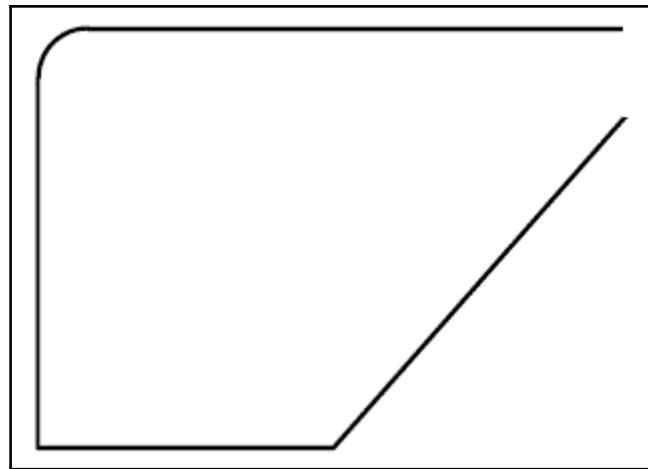
⋮ X ⚙️ 📁 ▾ **ROTATE** Specify rotation angle or [Copy Reference] <0>:



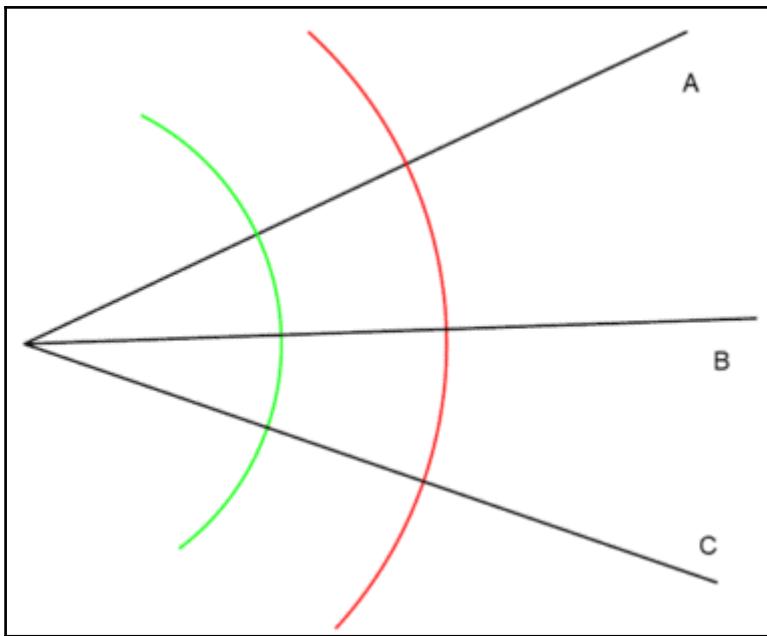




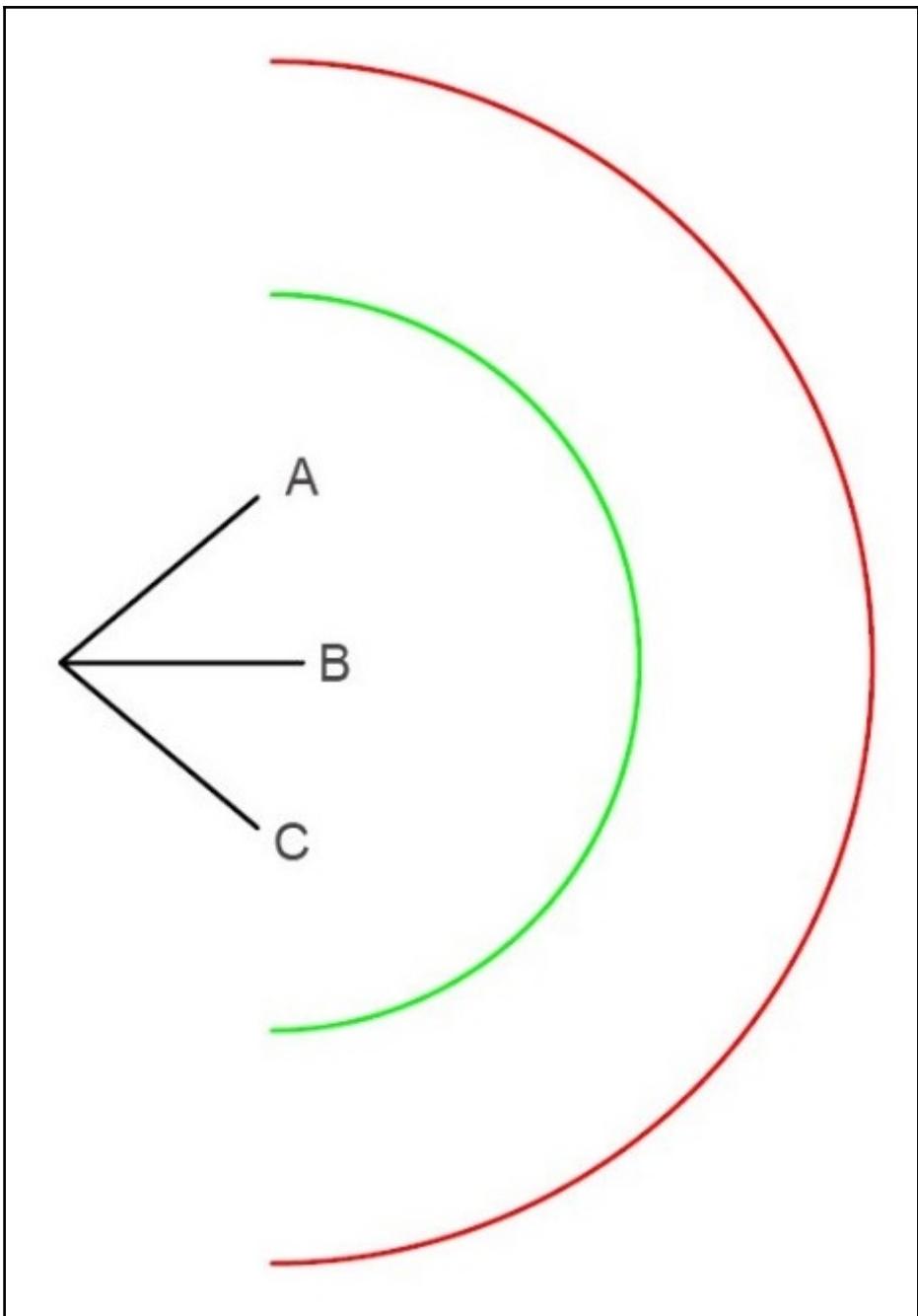




☰ × ↻ FILLET Select first object or [Undo Polyline Radius Trim Multiple]:

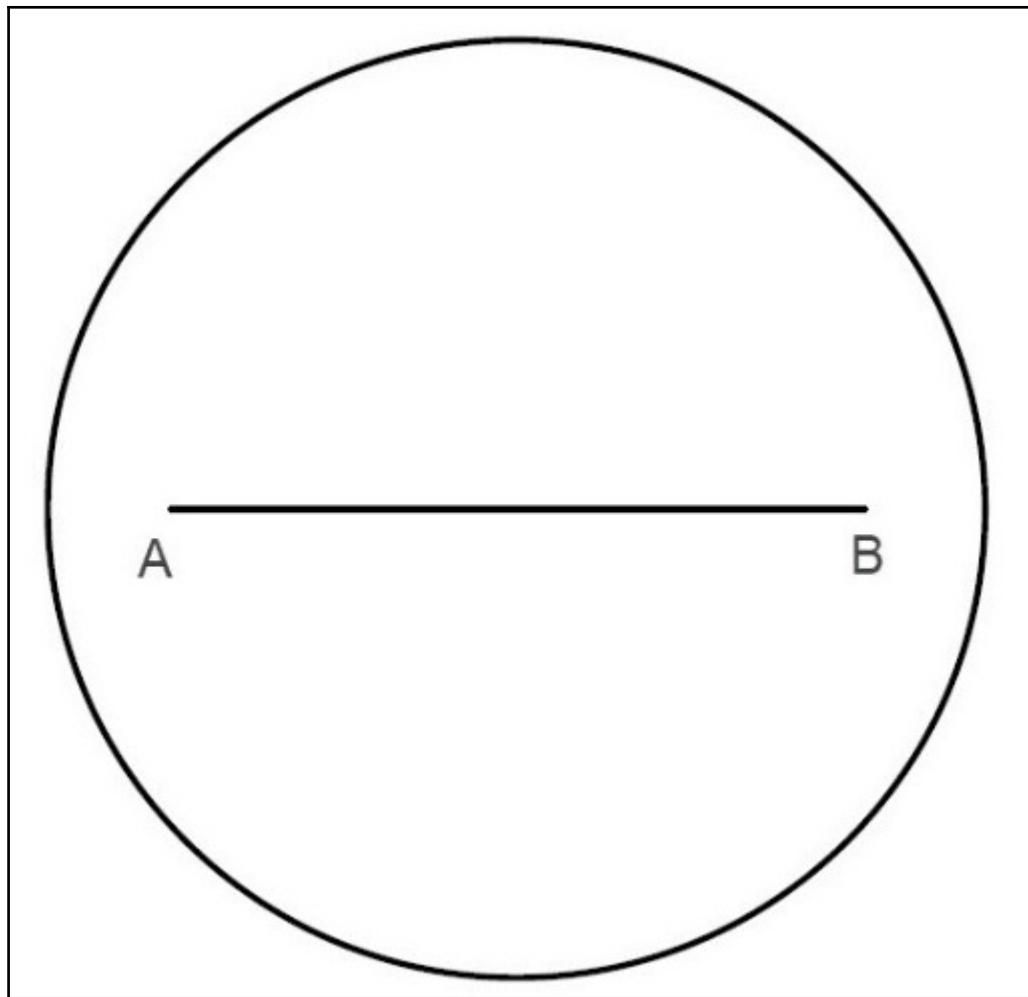


⋮ × 🔨 ▾ TRIM Select objects or <select all>: ▲

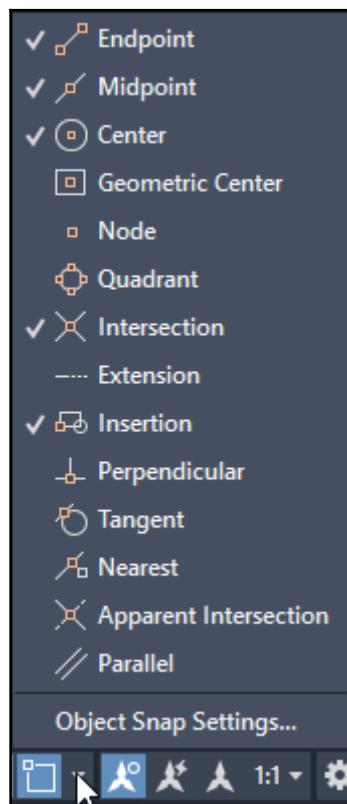


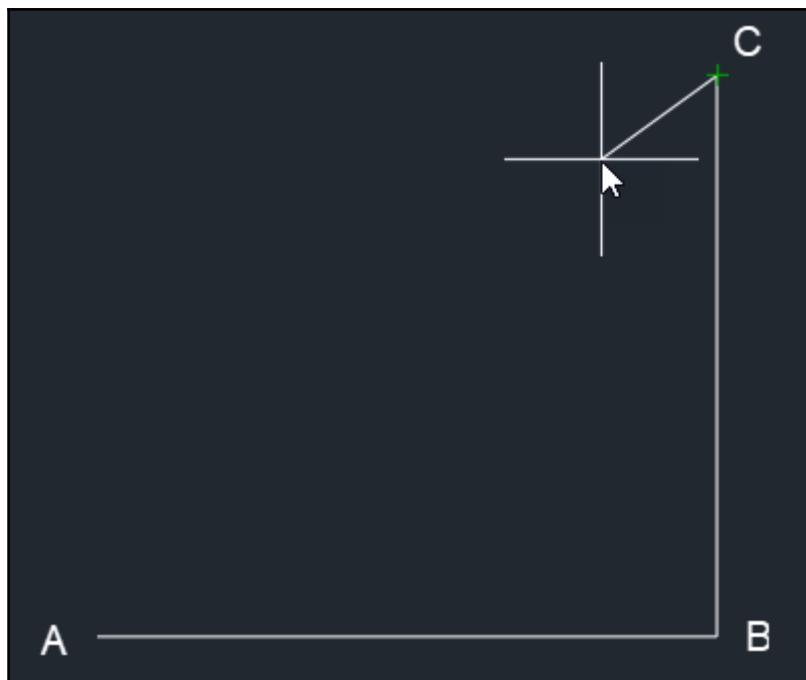


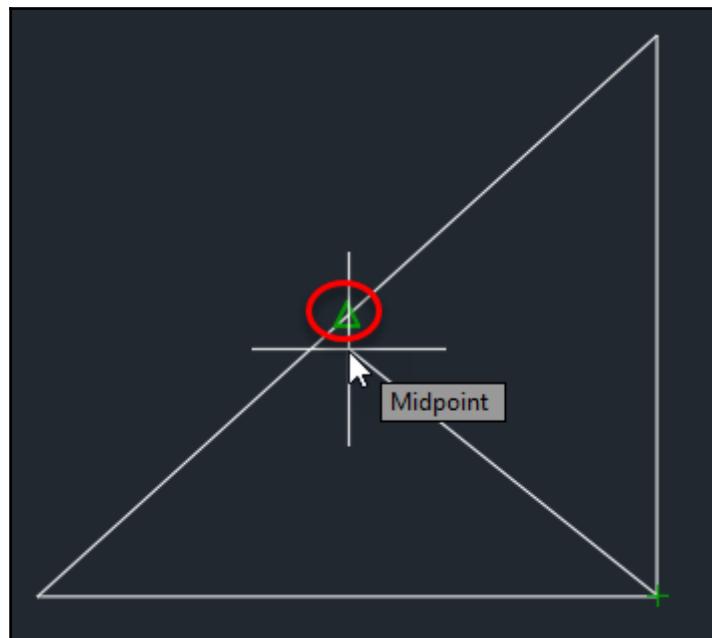
EXTEND Select objects or <select all>:

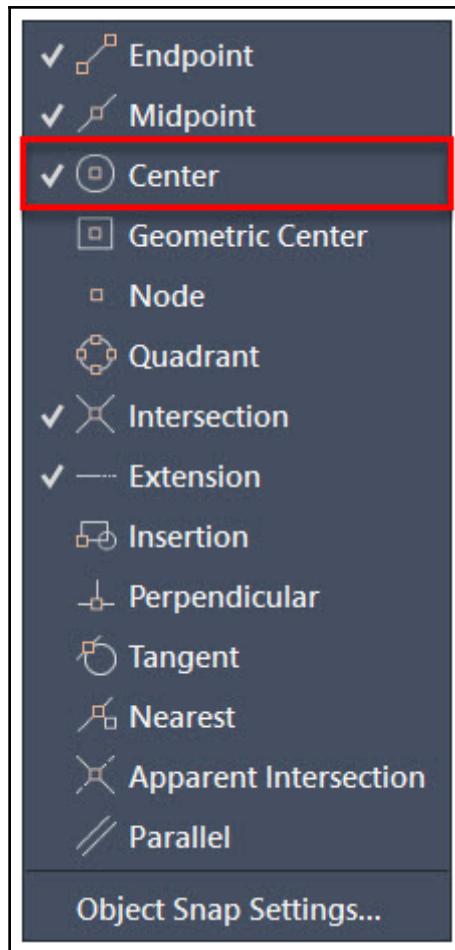


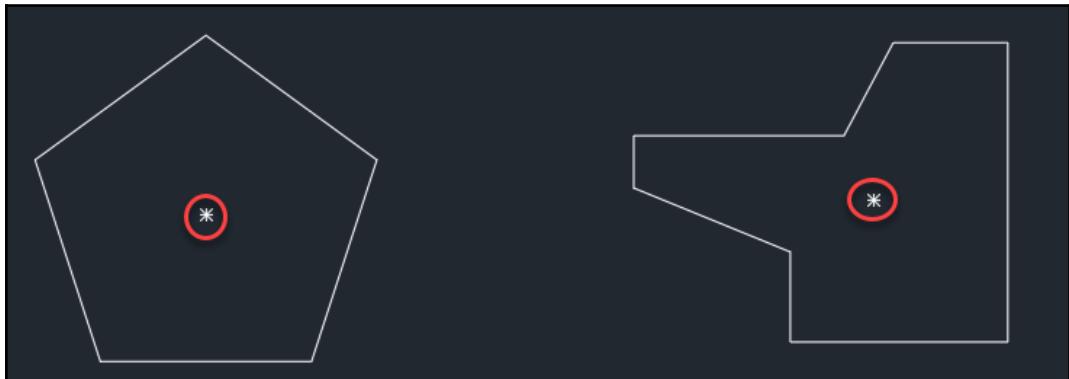
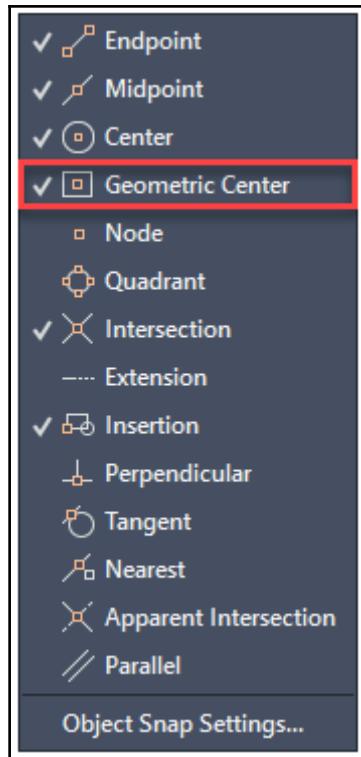
Chapter 3: Learning about Modify Commands

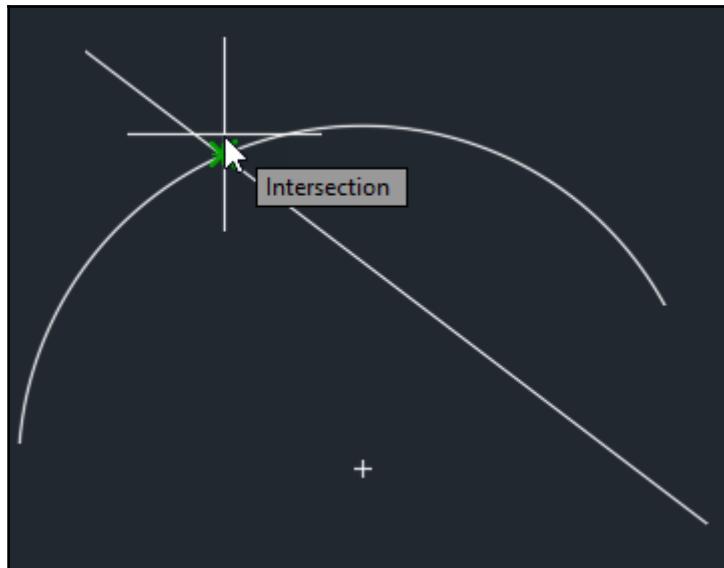
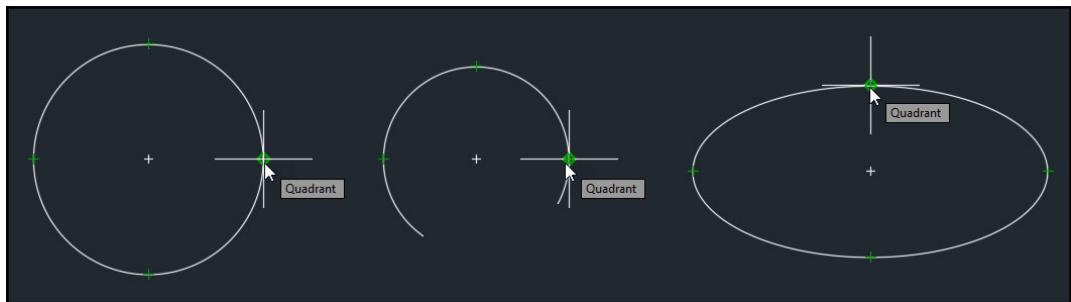


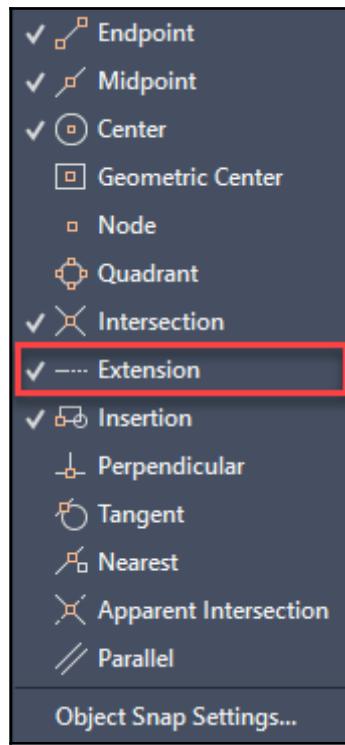
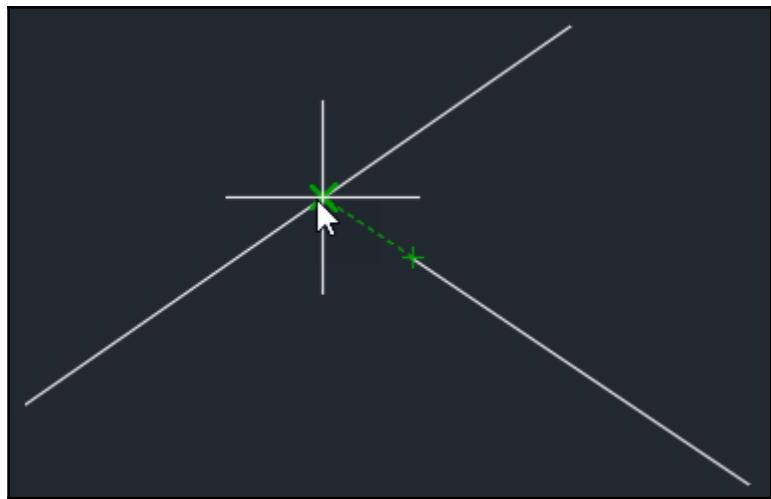


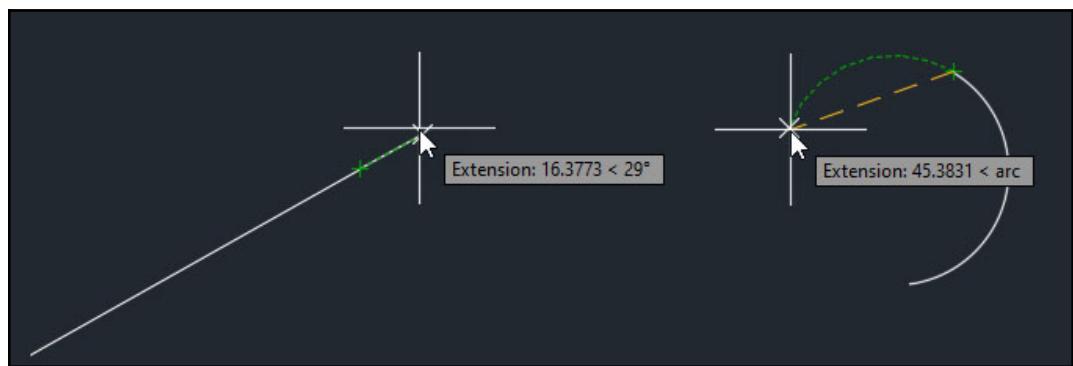


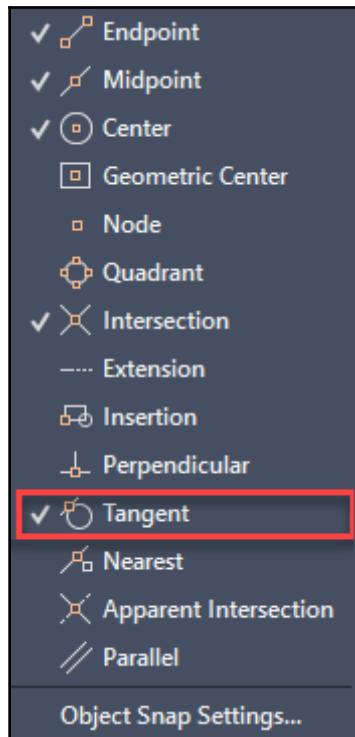
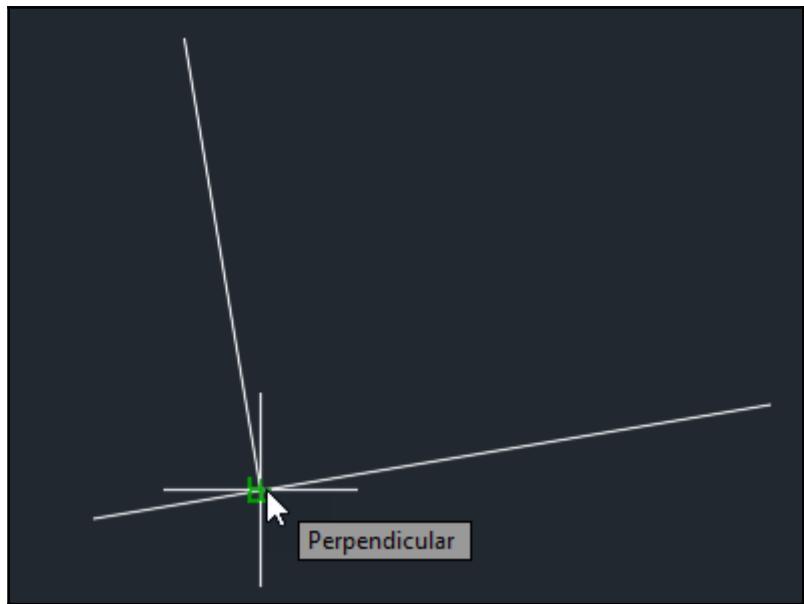


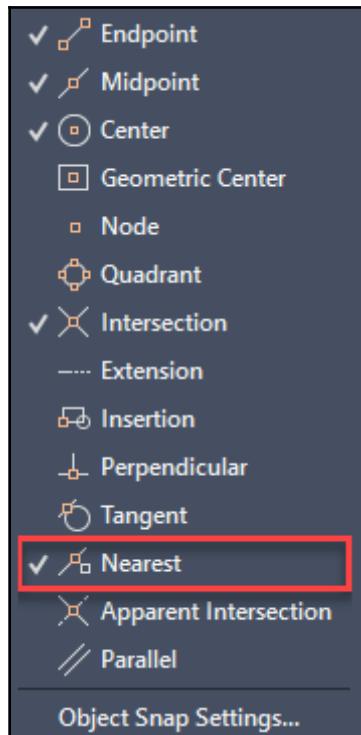
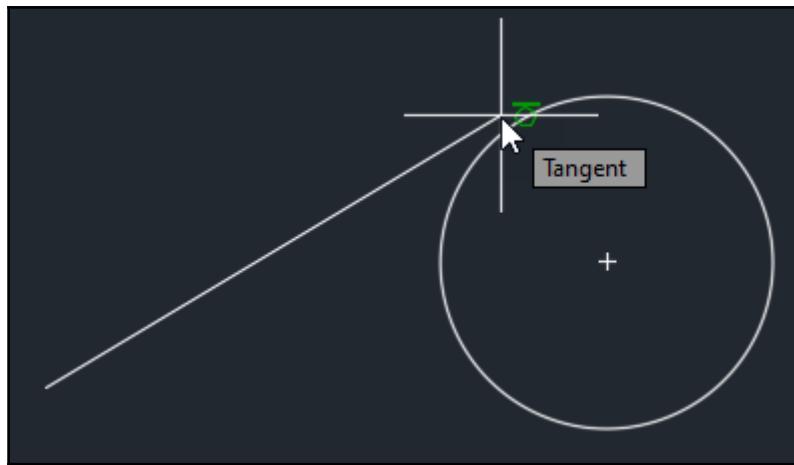


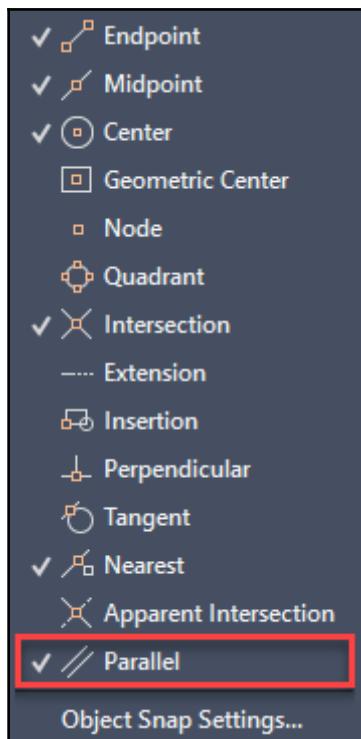
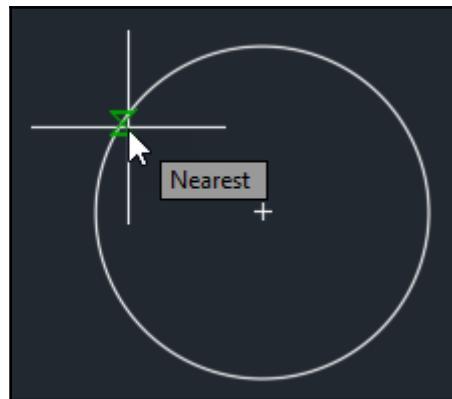


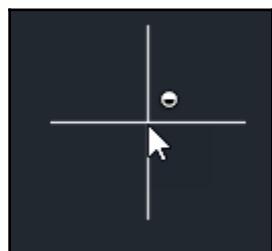
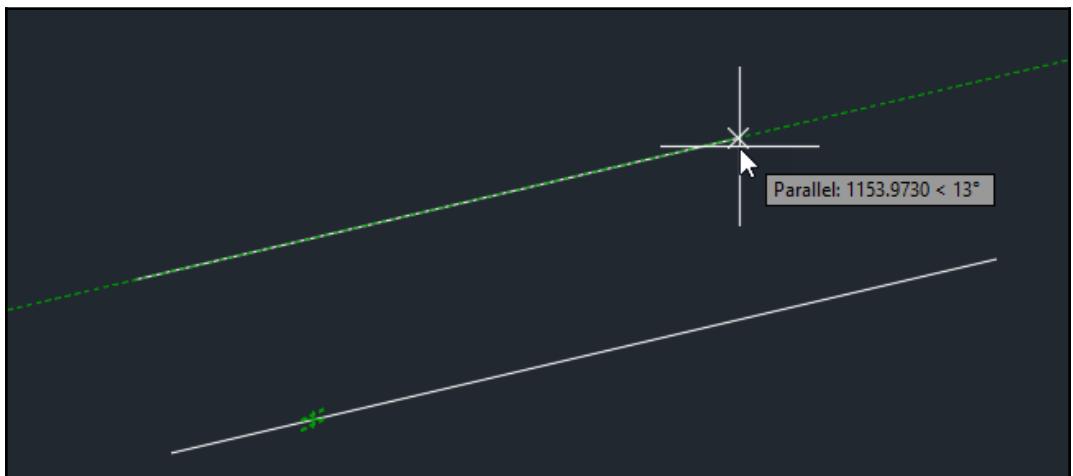
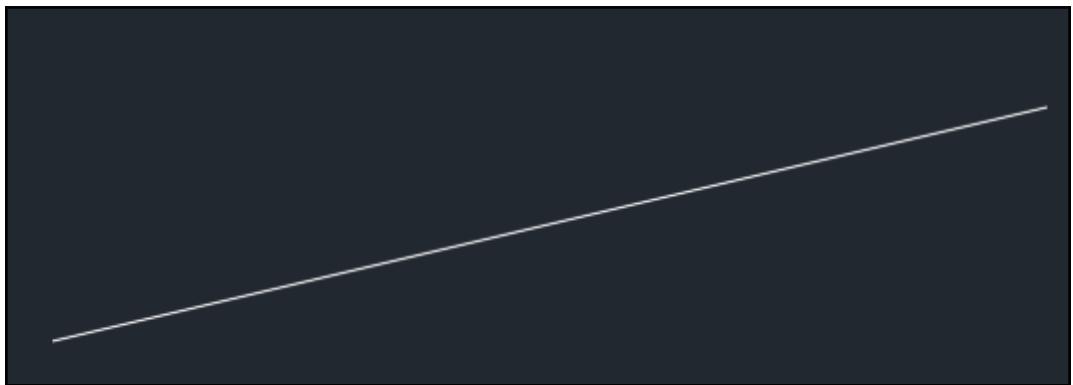


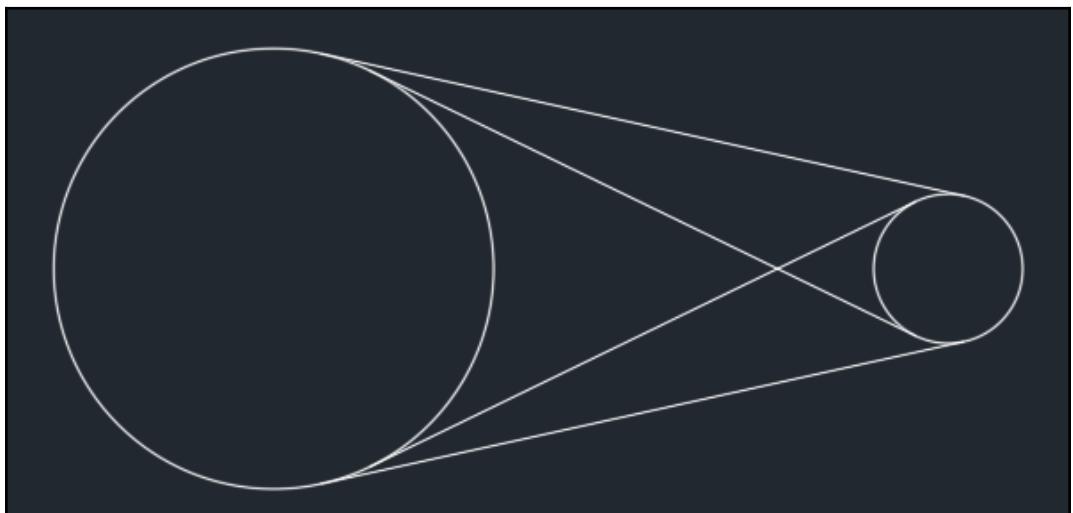


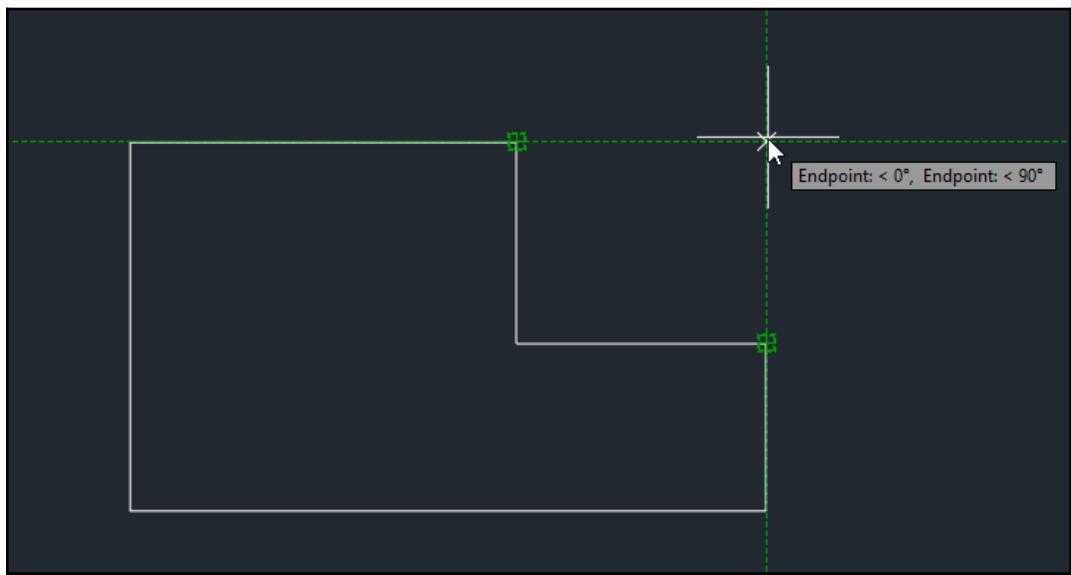
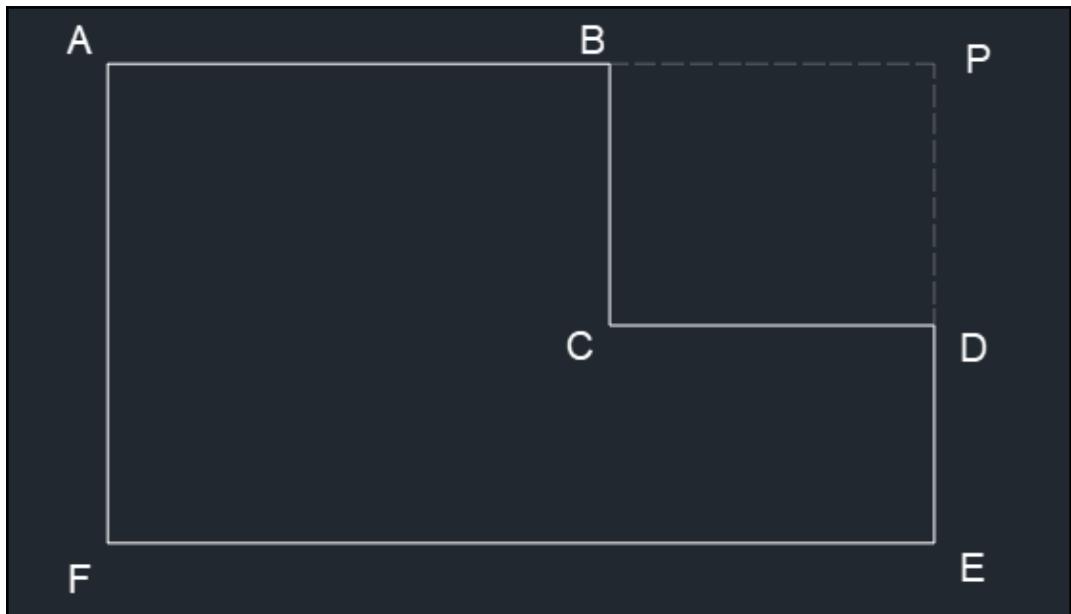


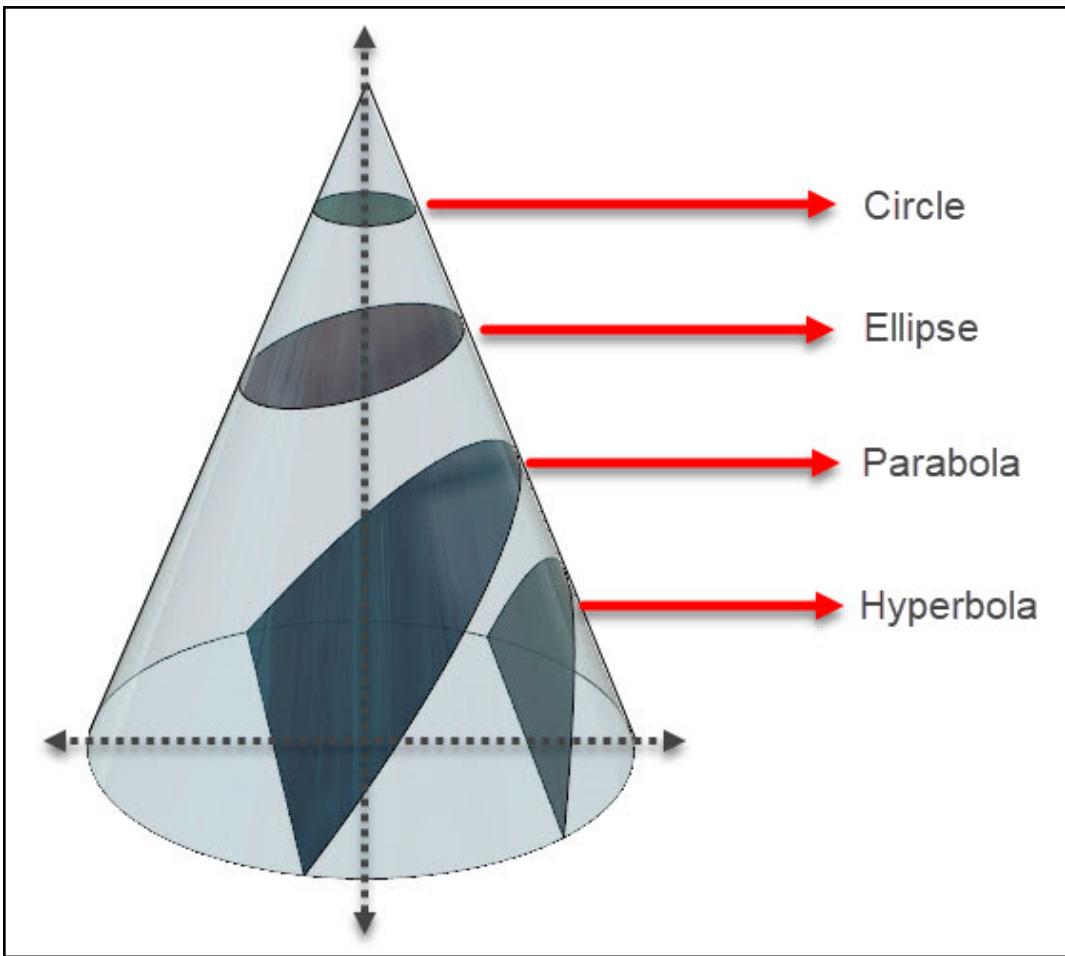


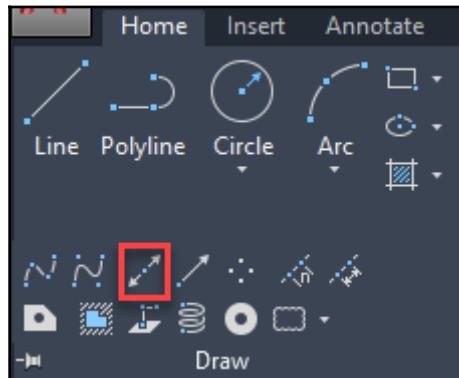
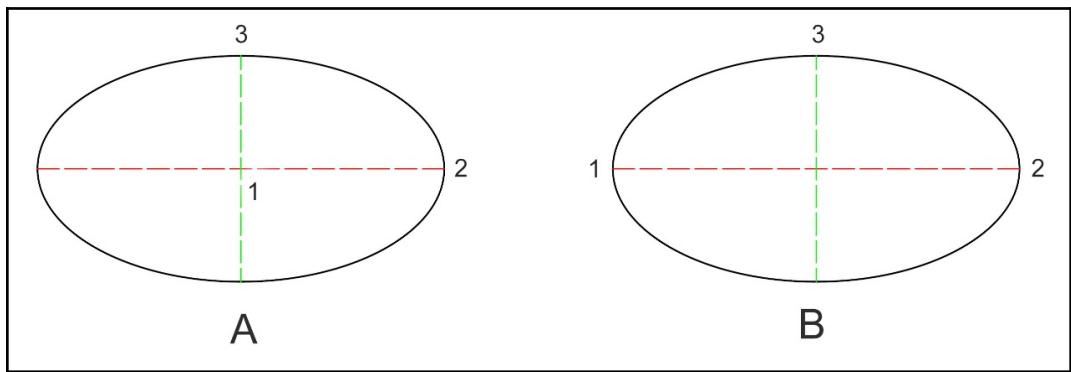
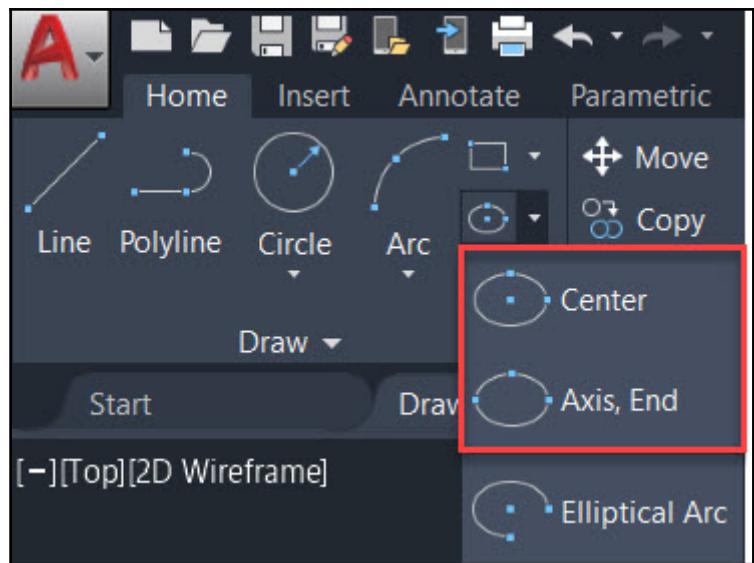


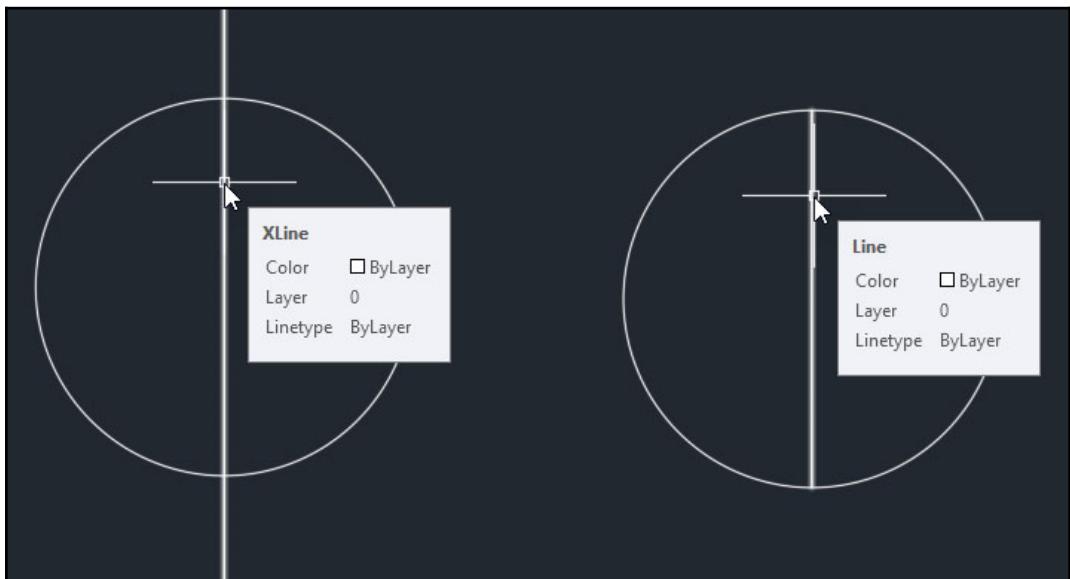
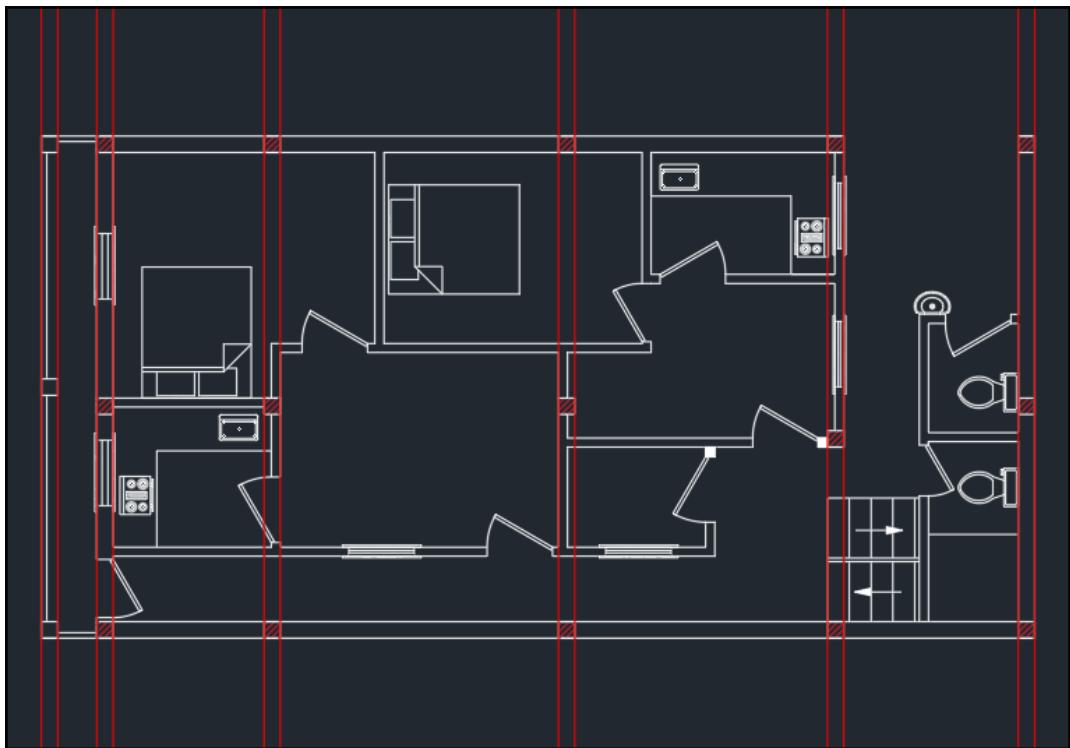


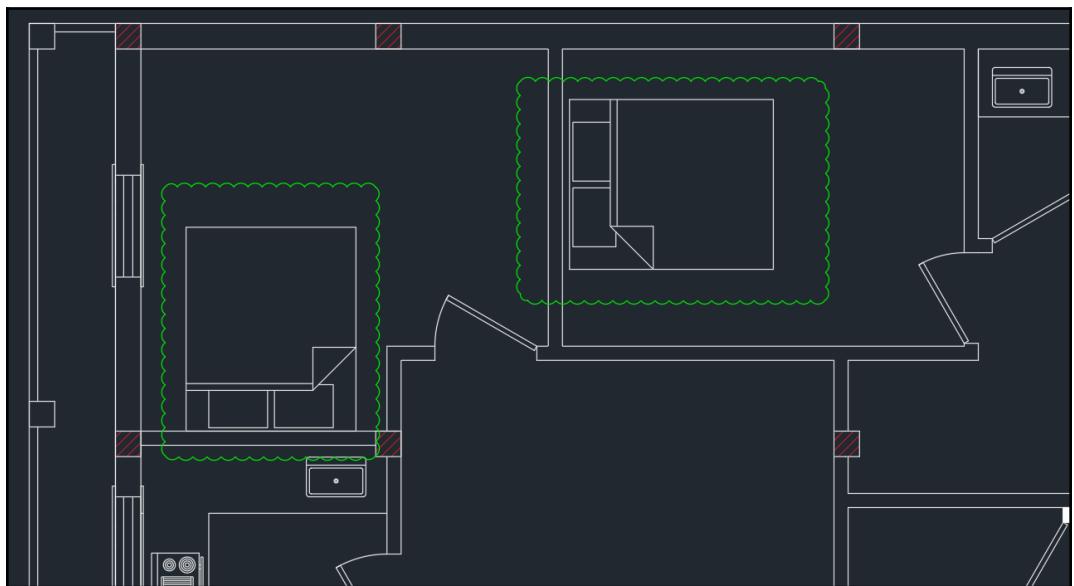
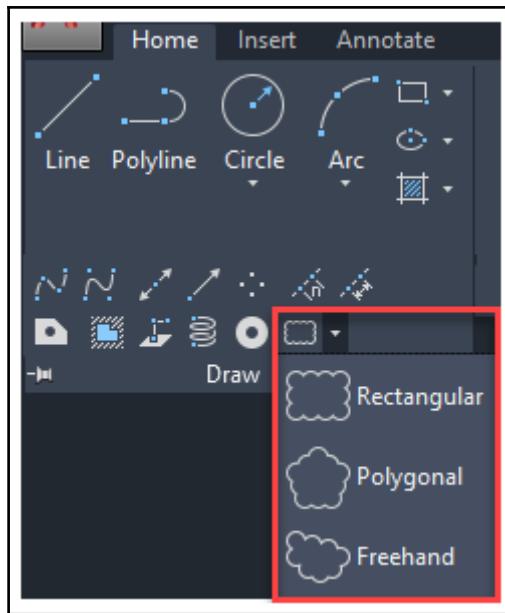


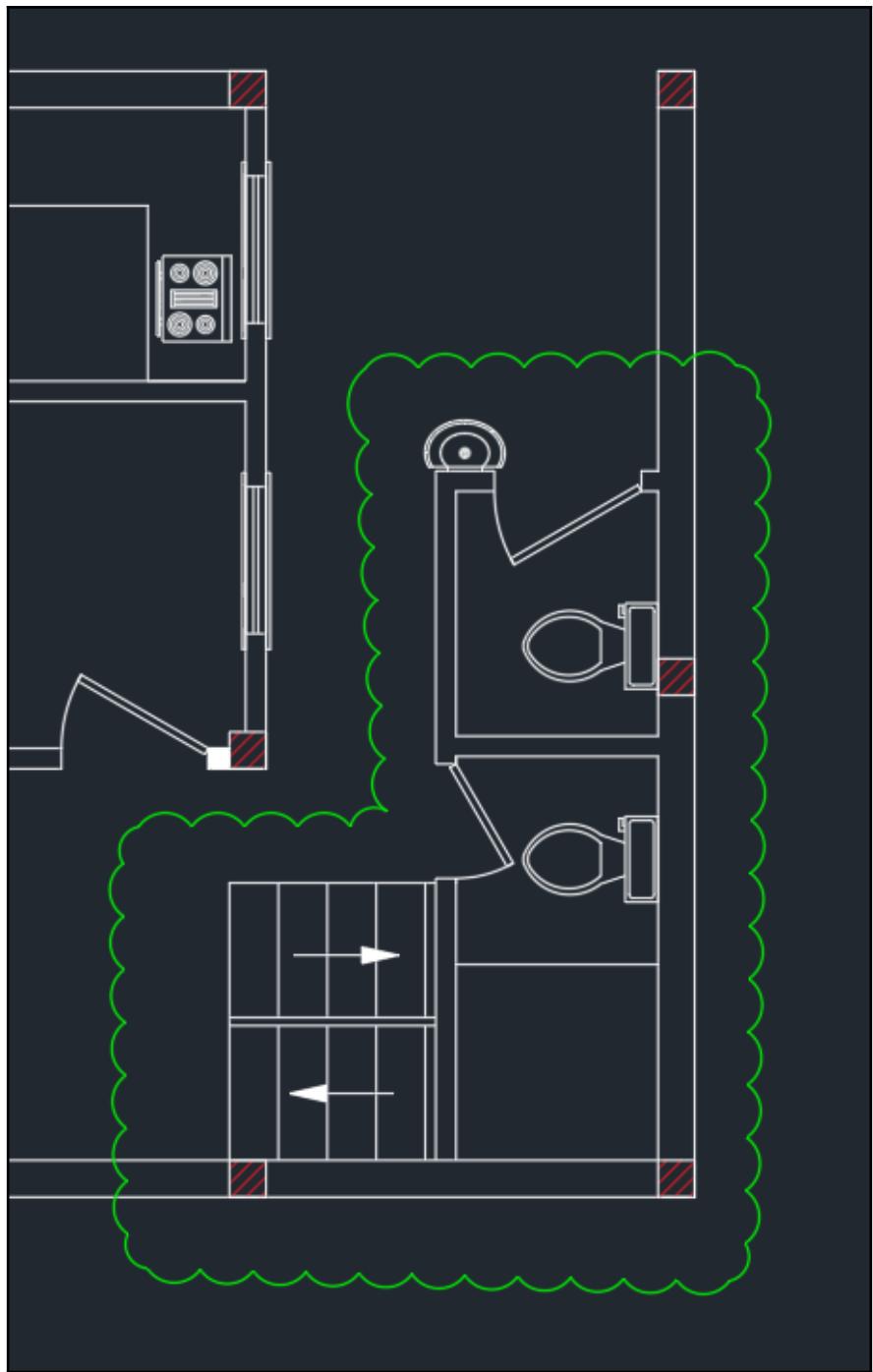


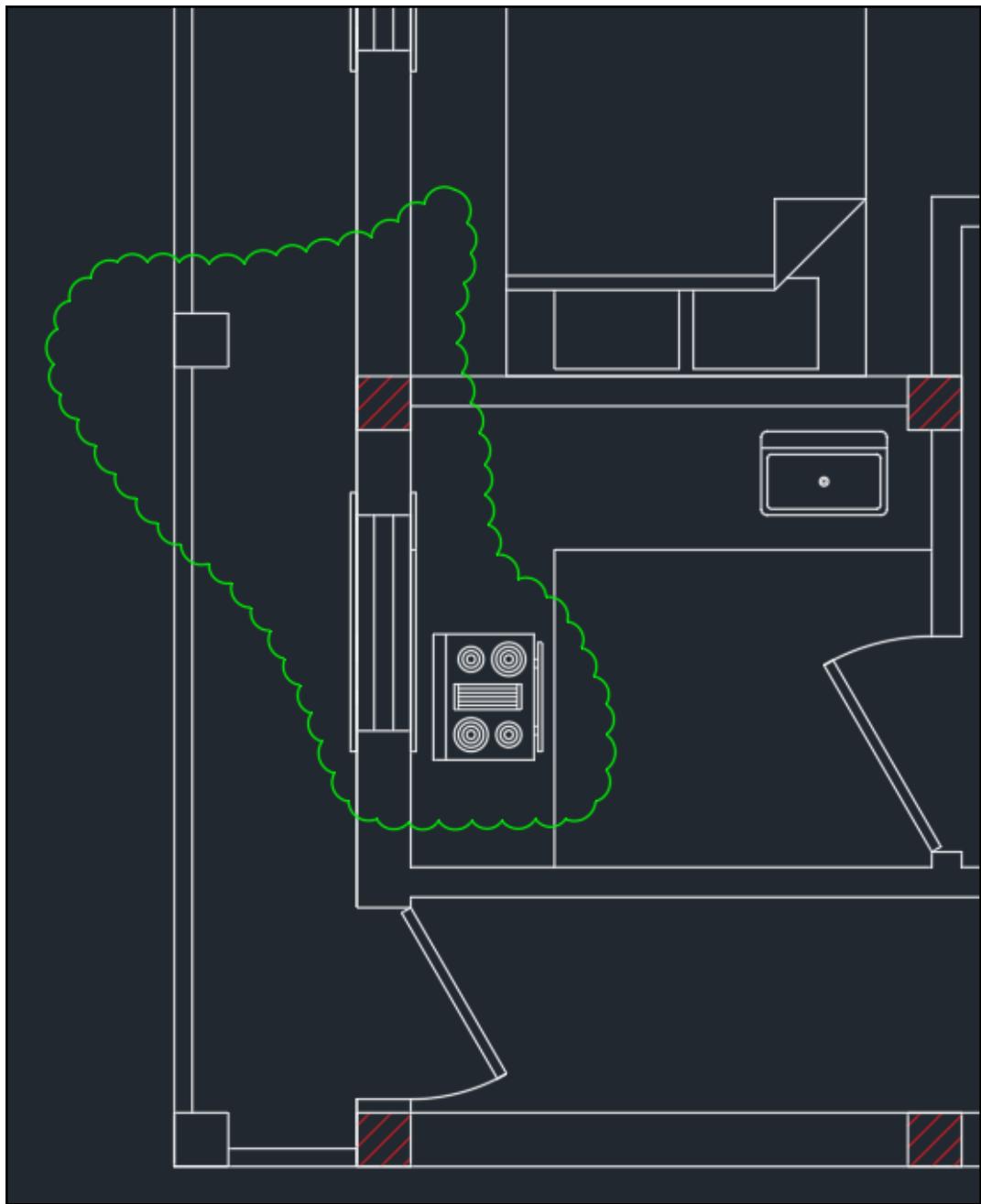


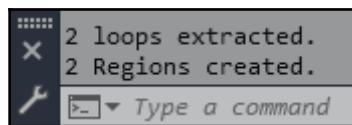
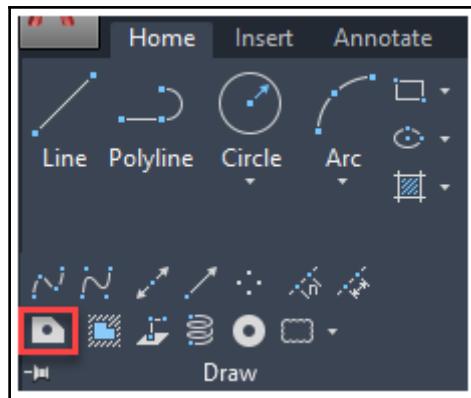


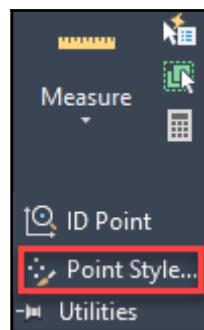
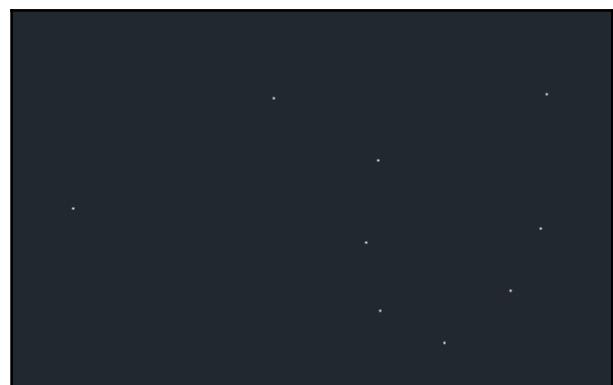
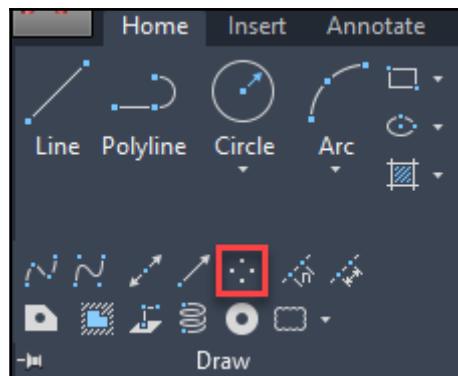


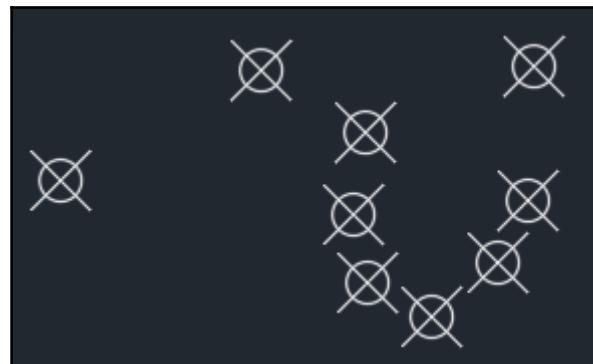
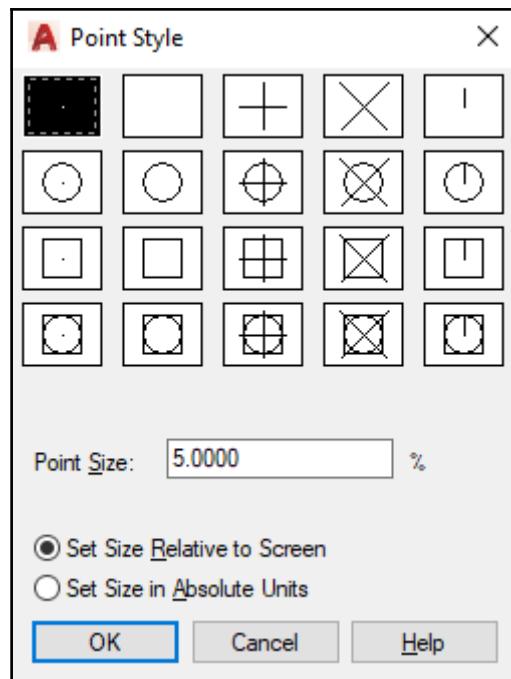


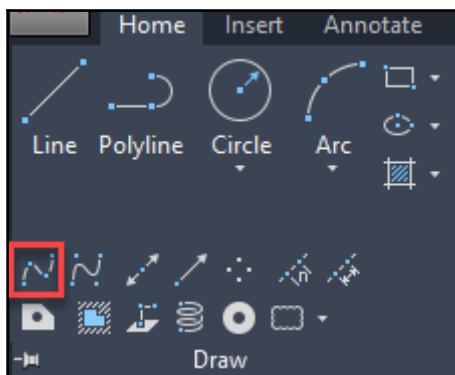
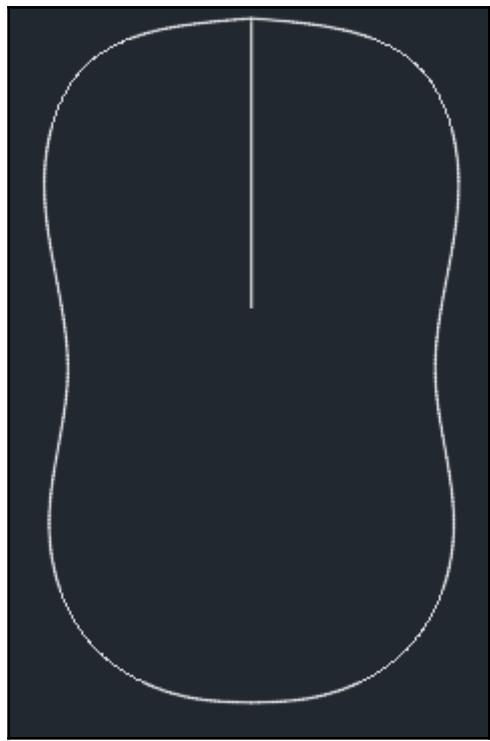


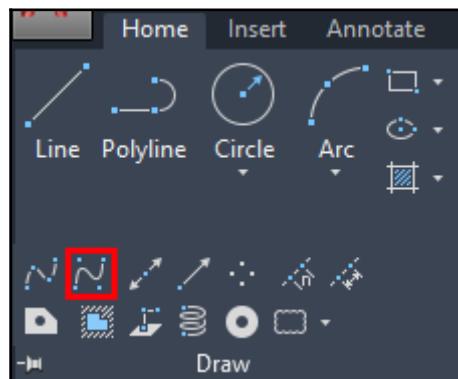
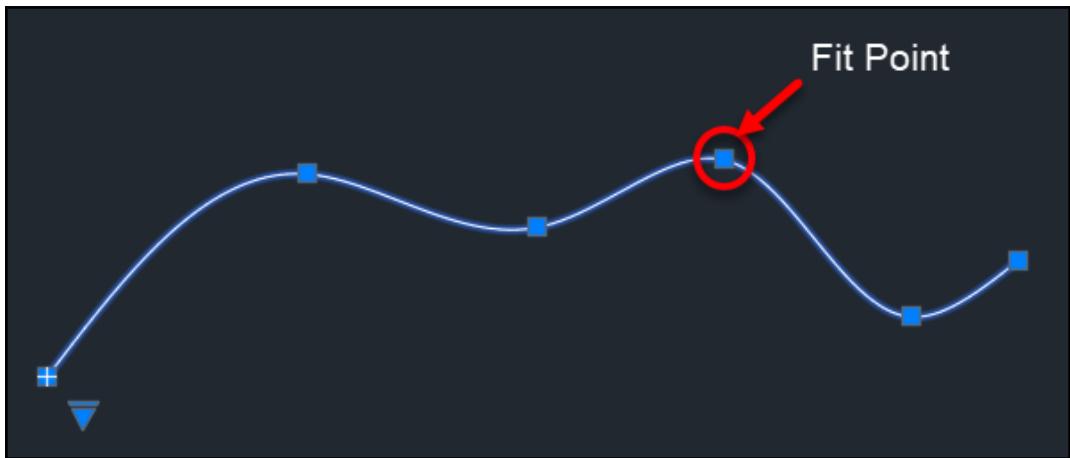


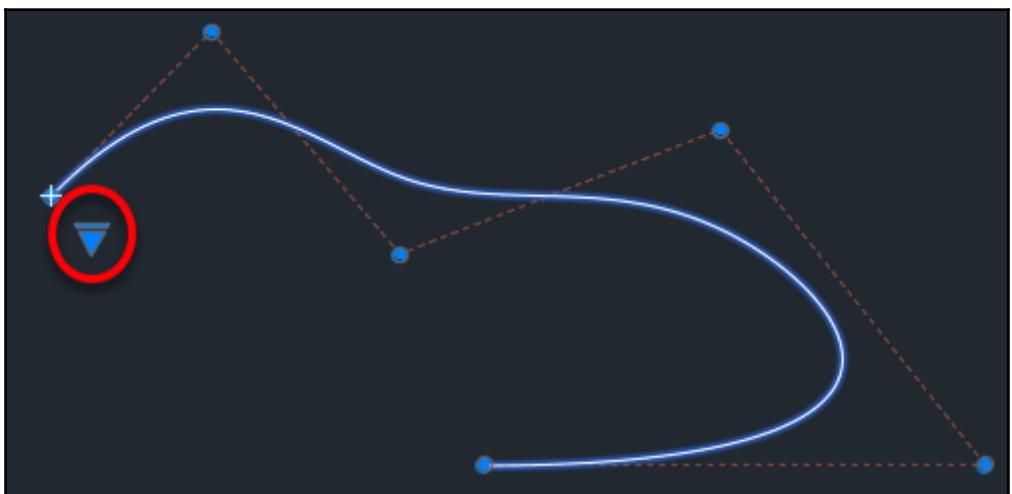
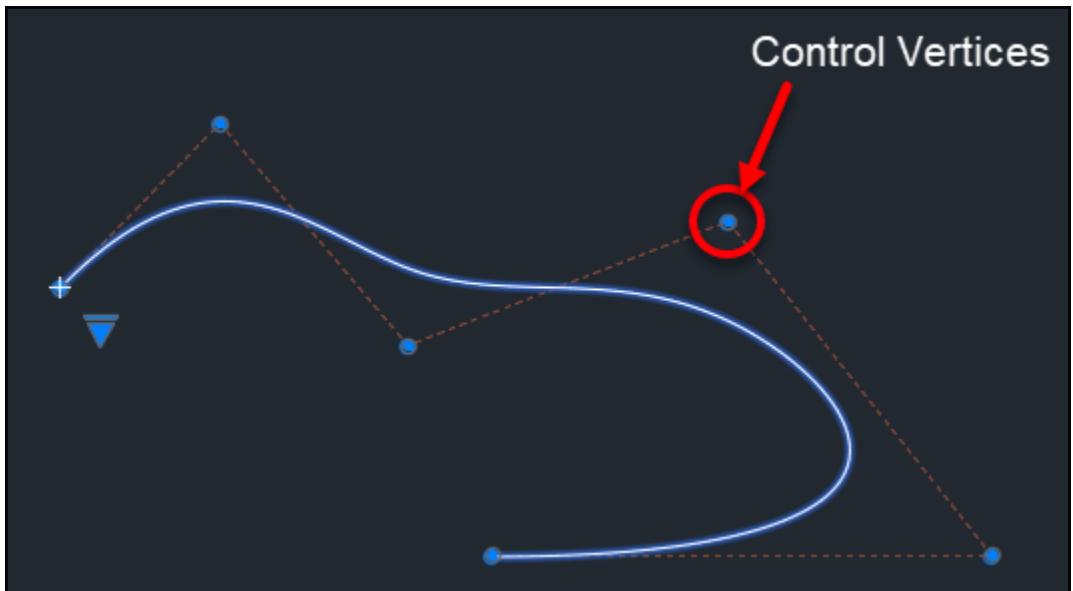


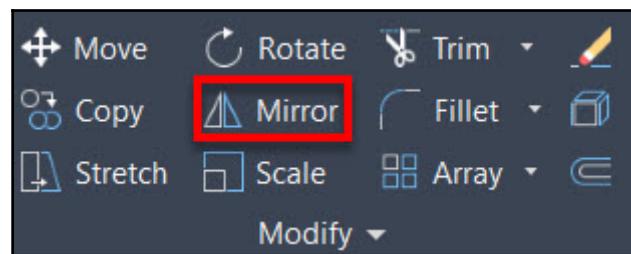
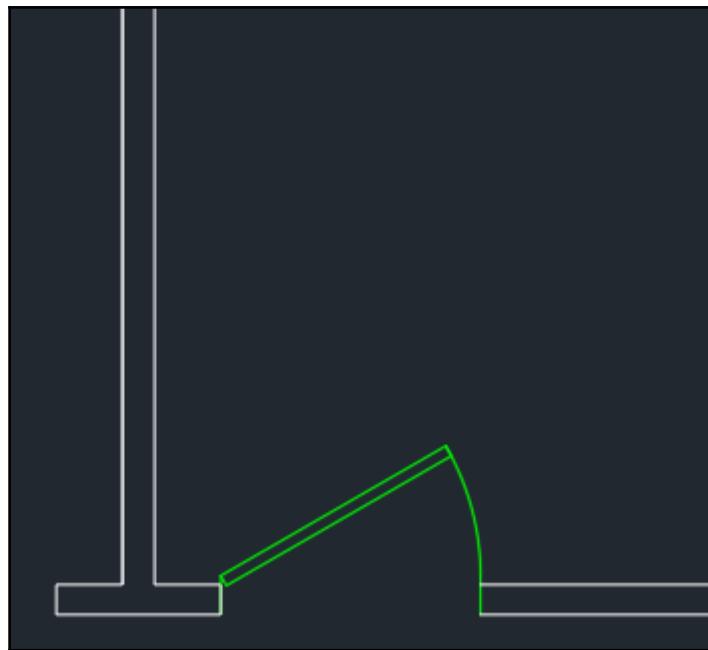


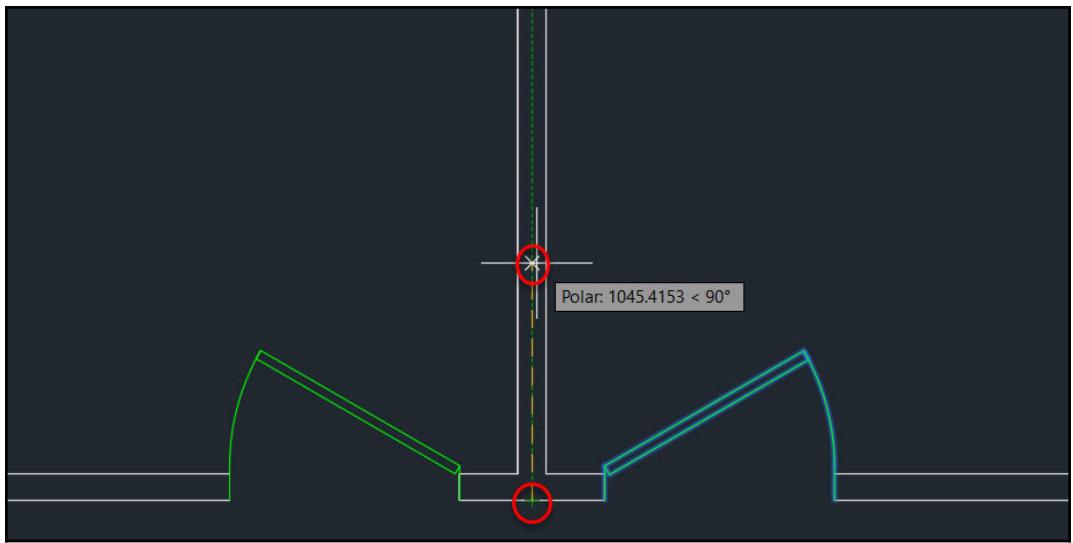






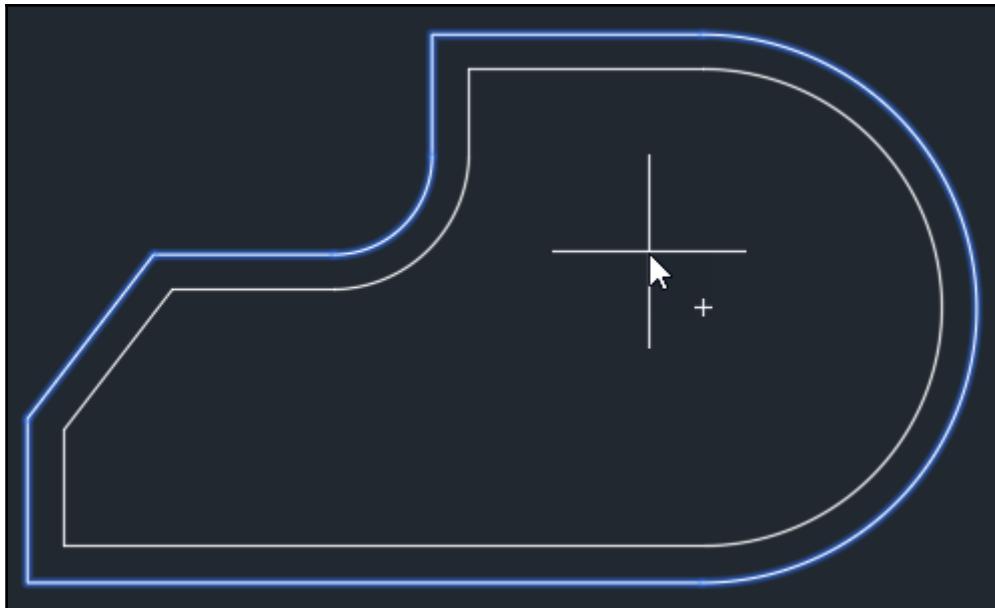
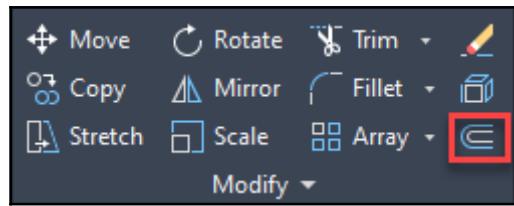


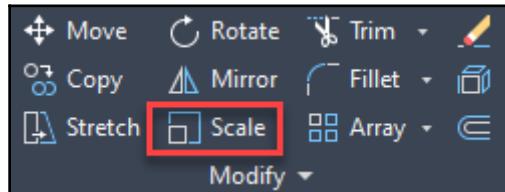
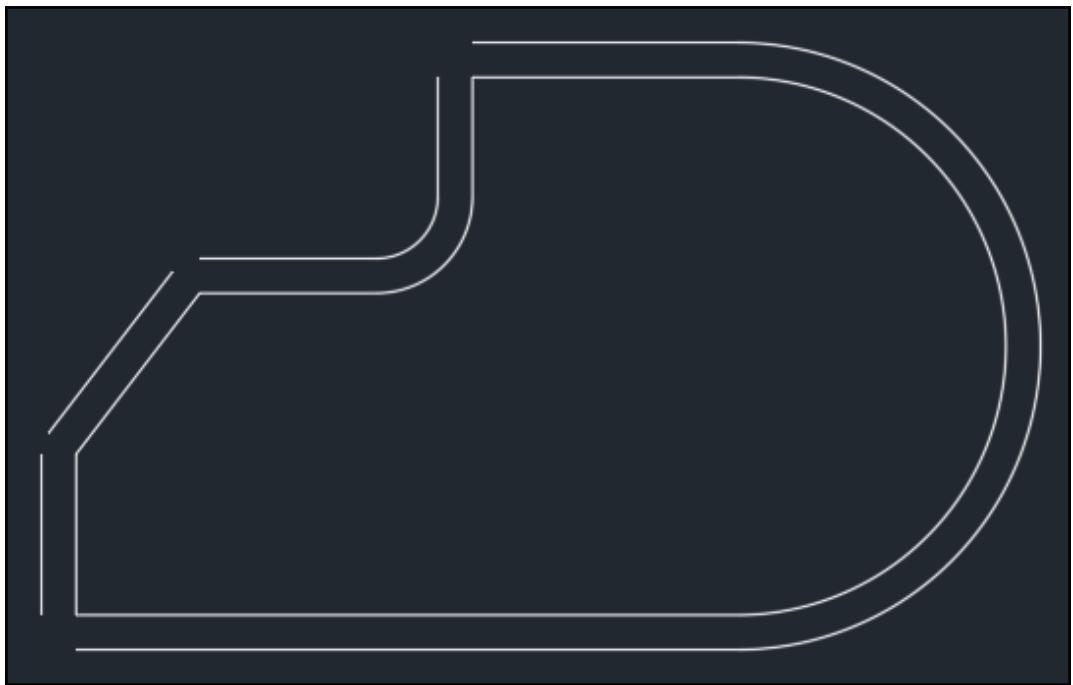


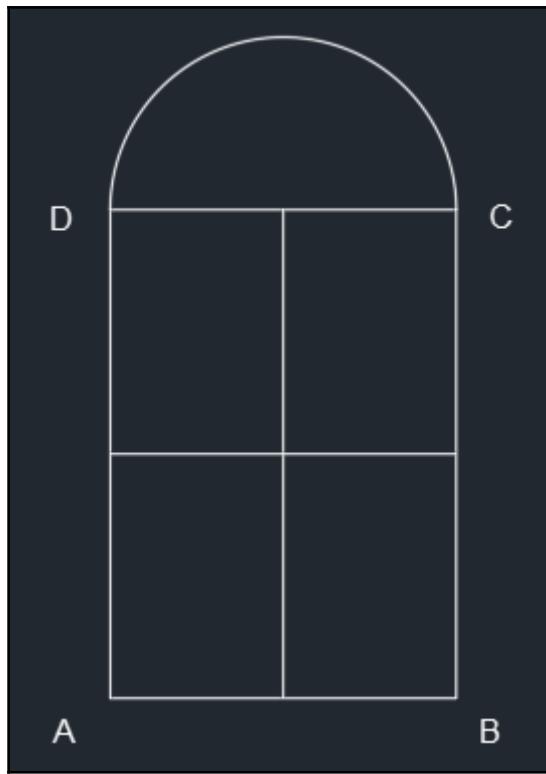


⋮ × ⌂ MIRROR Erase source objects? [Yes No] <No>:

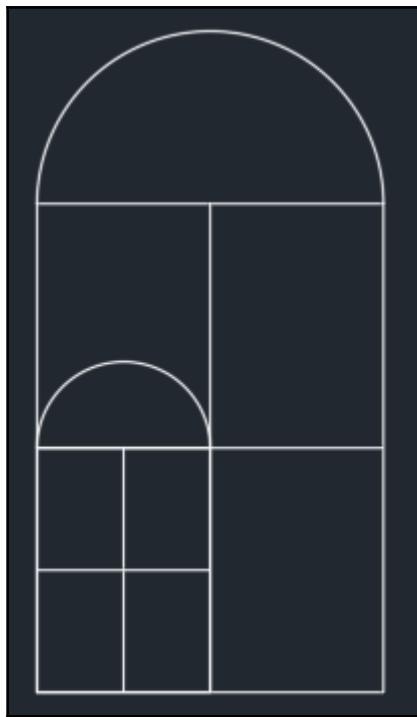




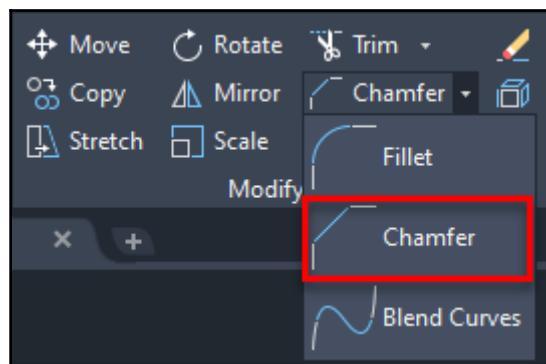




SCALE Specify scale factor or [Copy Reference]:



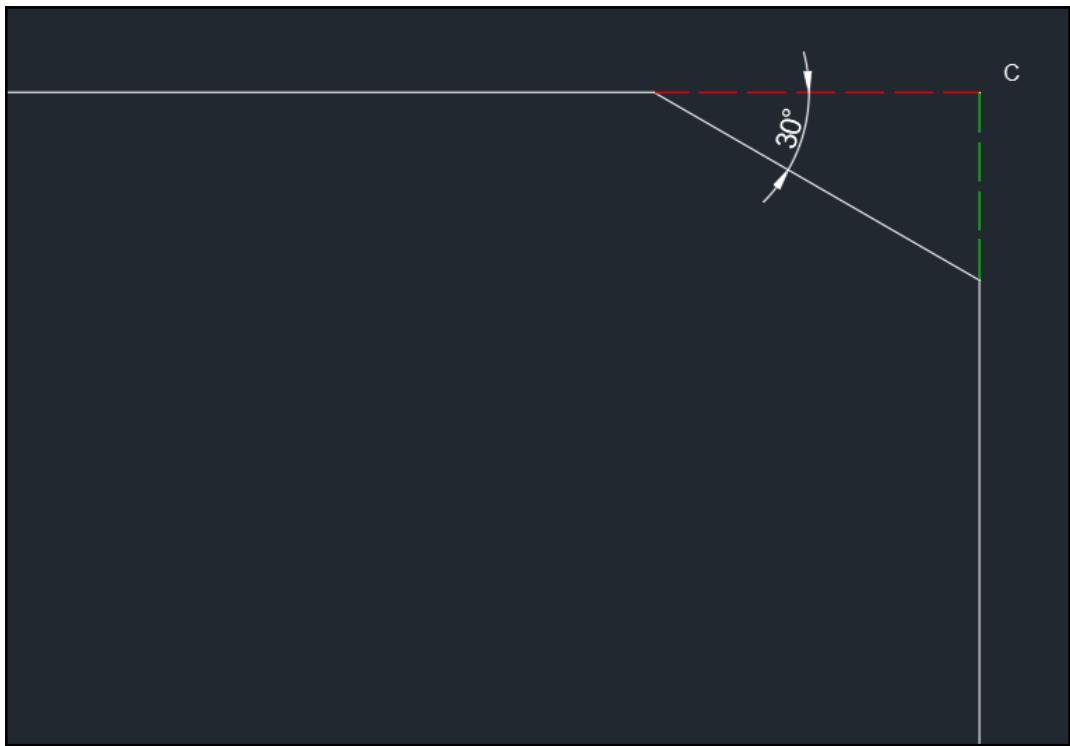
SCALE Specify scale factor or [Copy **Reference**] Reference



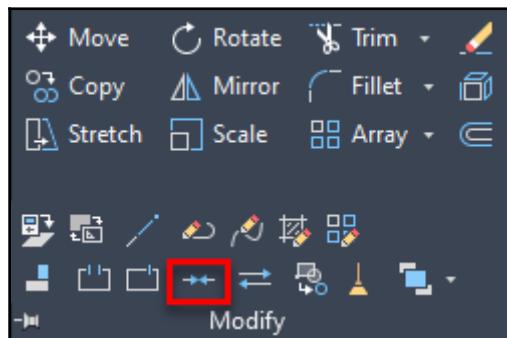
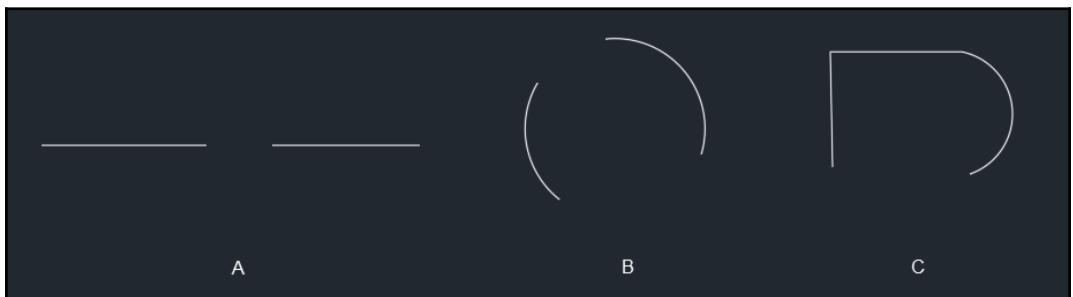
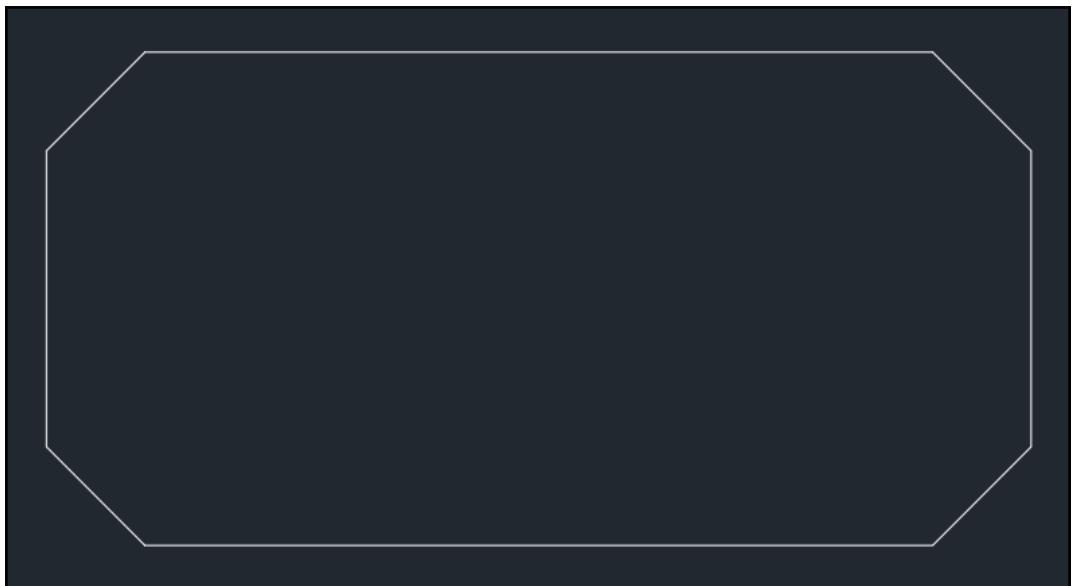
CHAMFER Select first line or [Undo Polyline Distance Angle Trim mETHOD Multiple]:

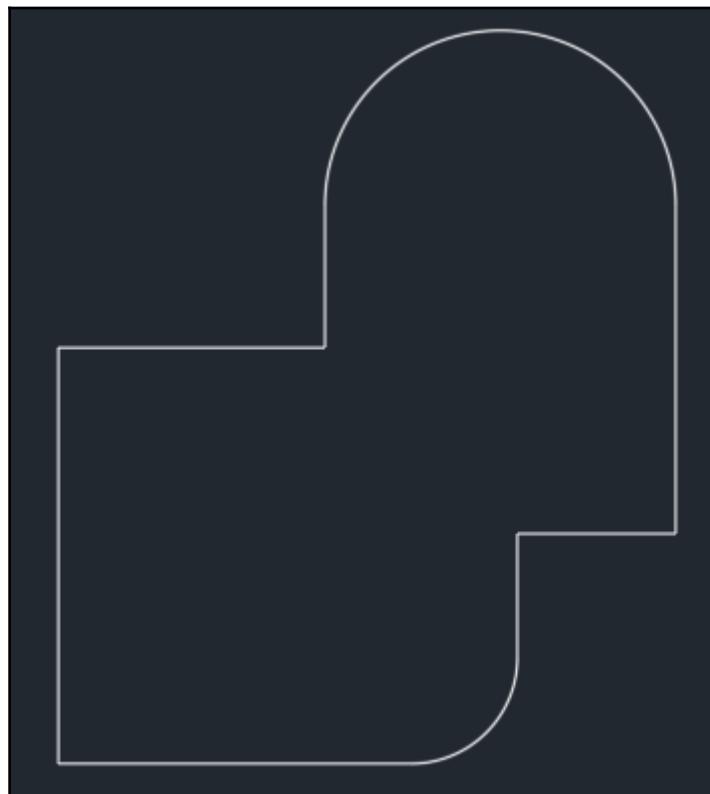
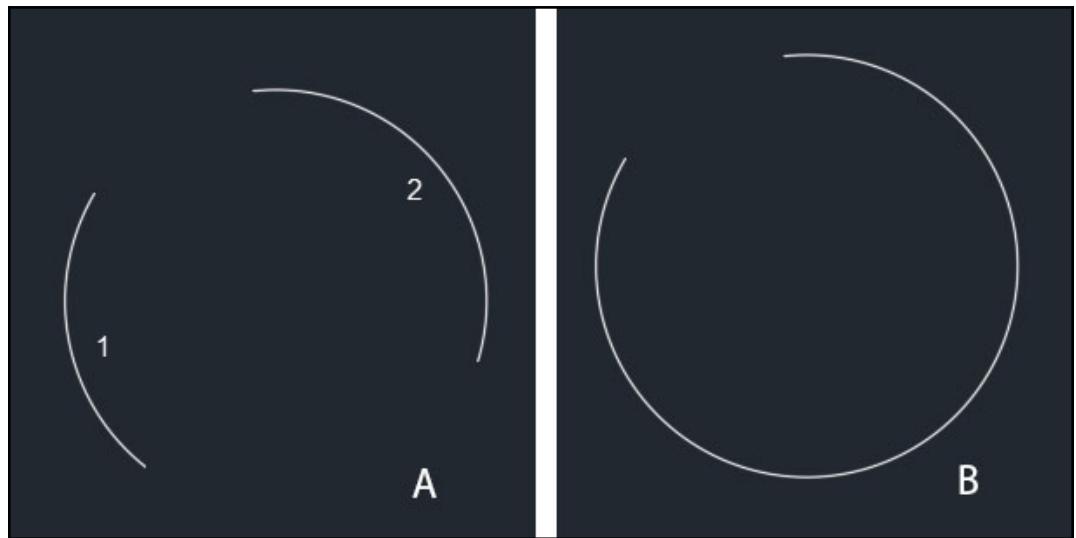


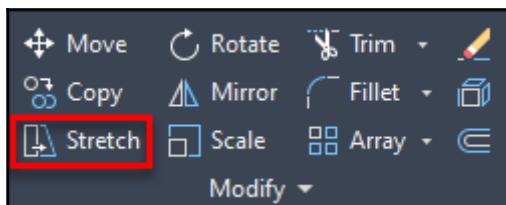
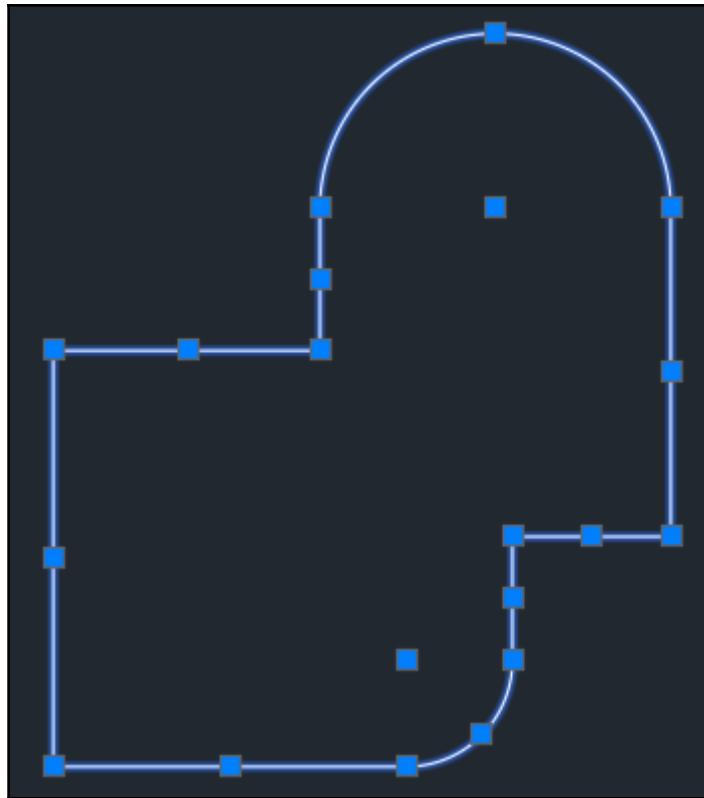
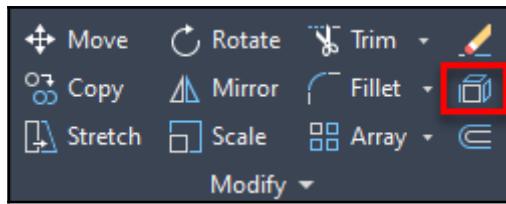
CHAMFER Select first line or [Undo Polyline Distance **Angle** Trim mETHOD Multiple]:

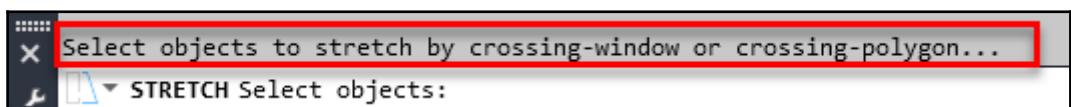
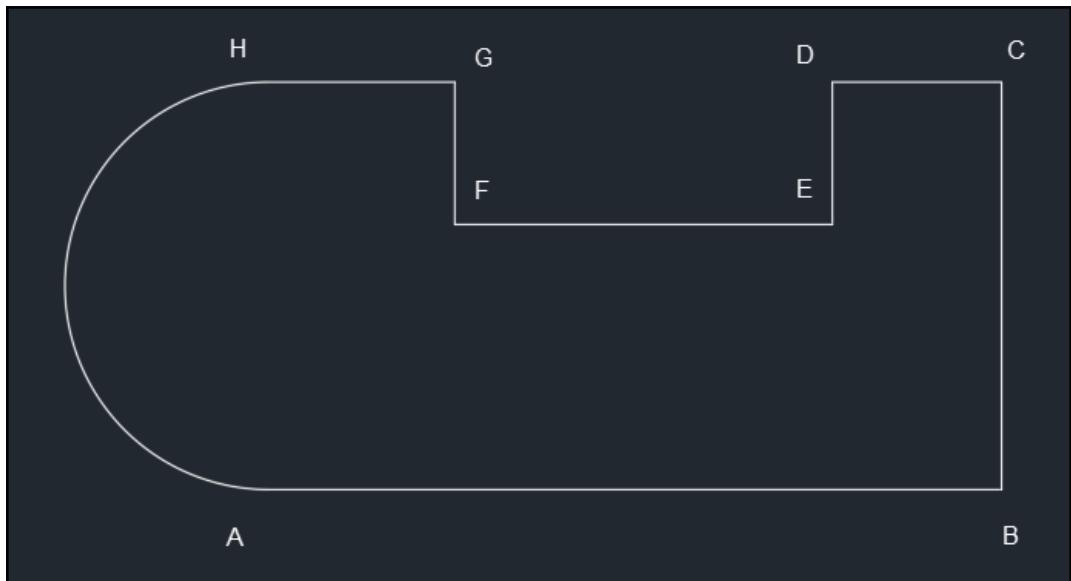


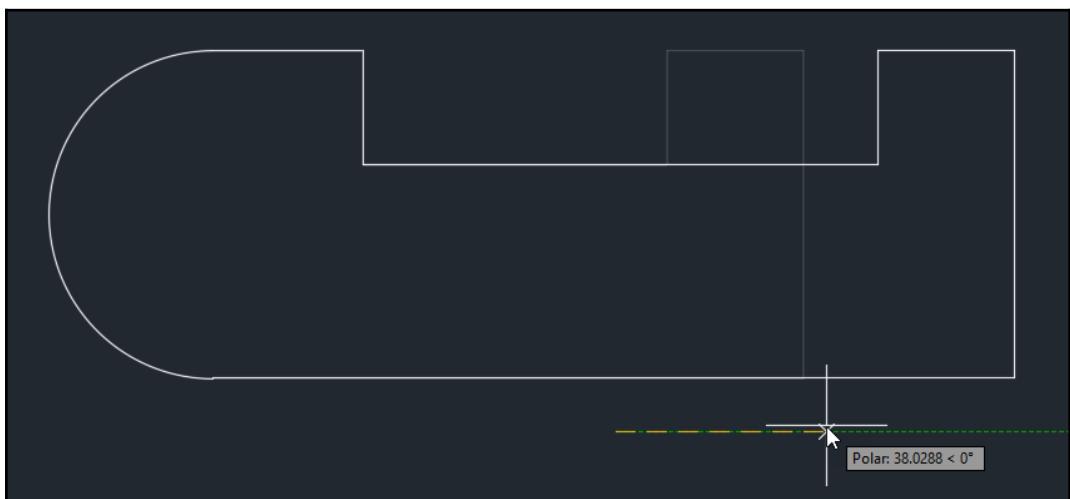
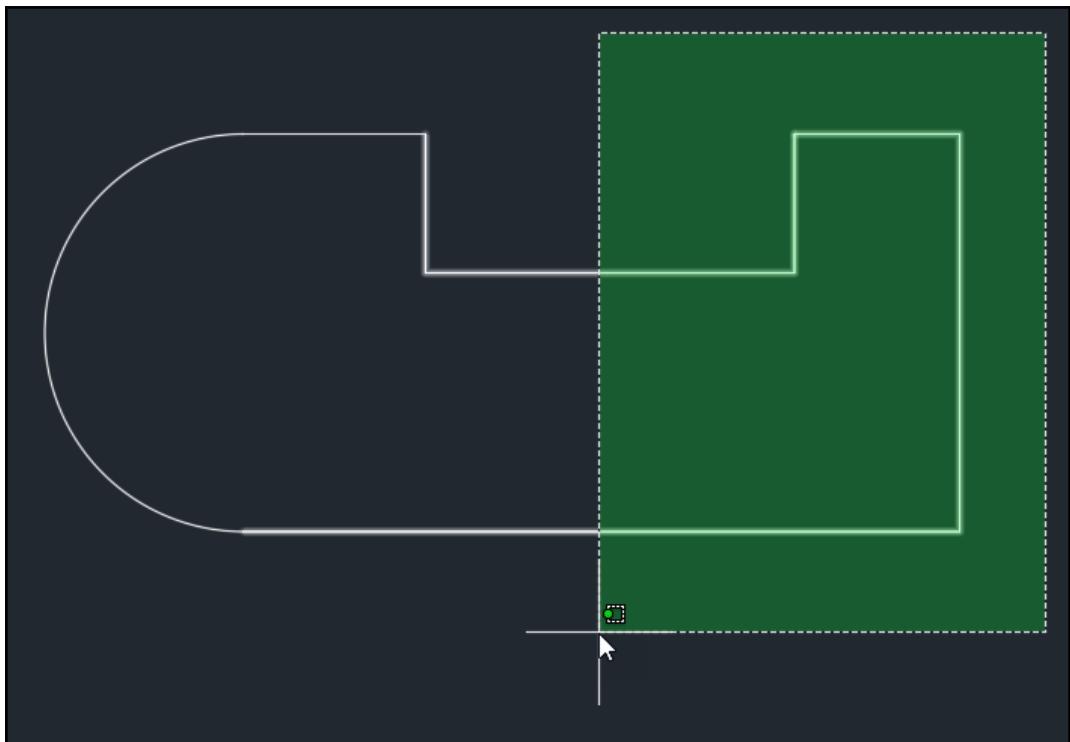
⌘ × ↗ CHAMFER Select first line or [Undo Polyline Distance Angle Trim mETHOD Multiple]: |

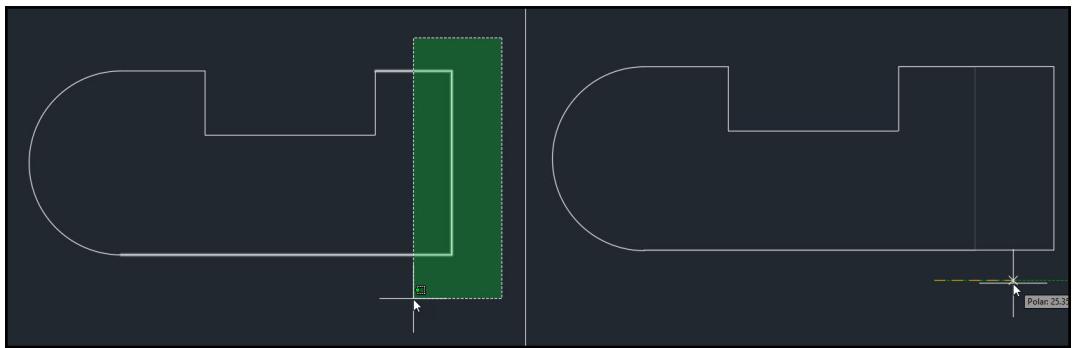






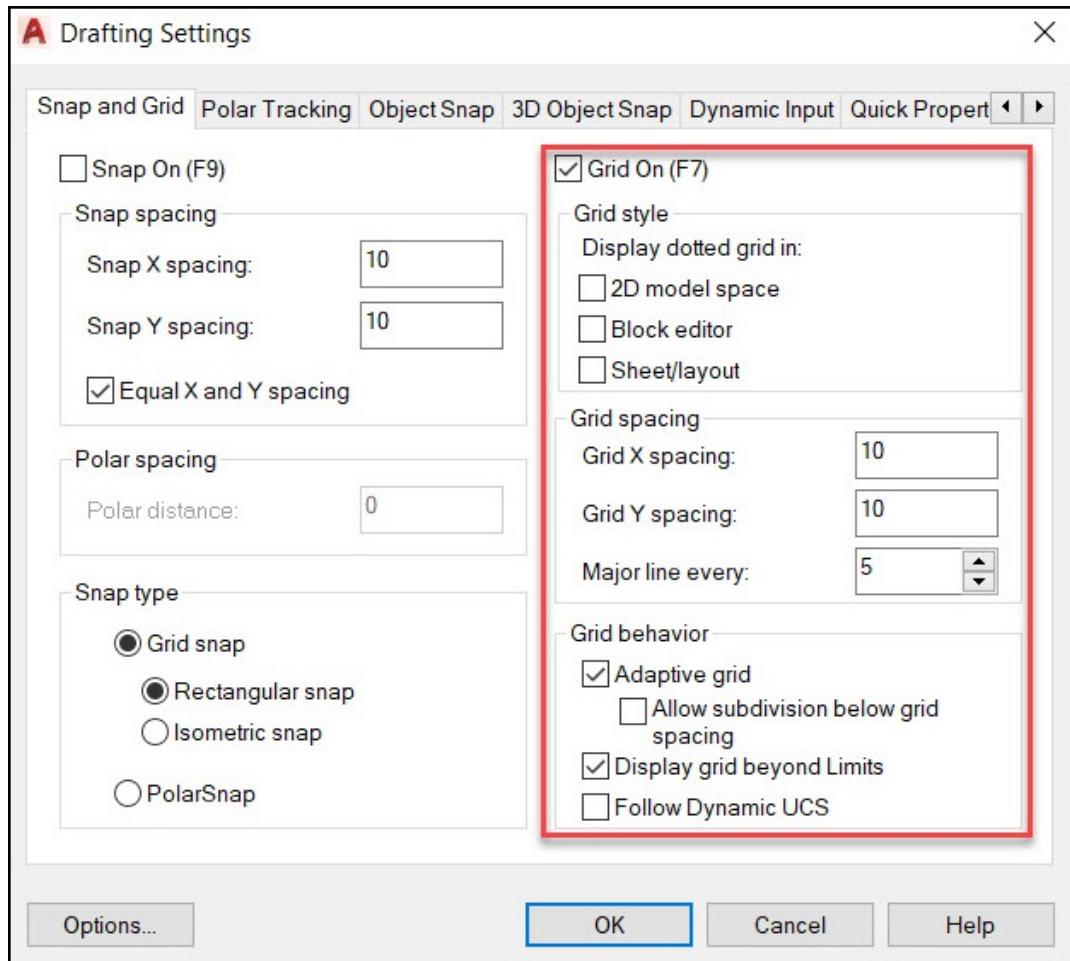


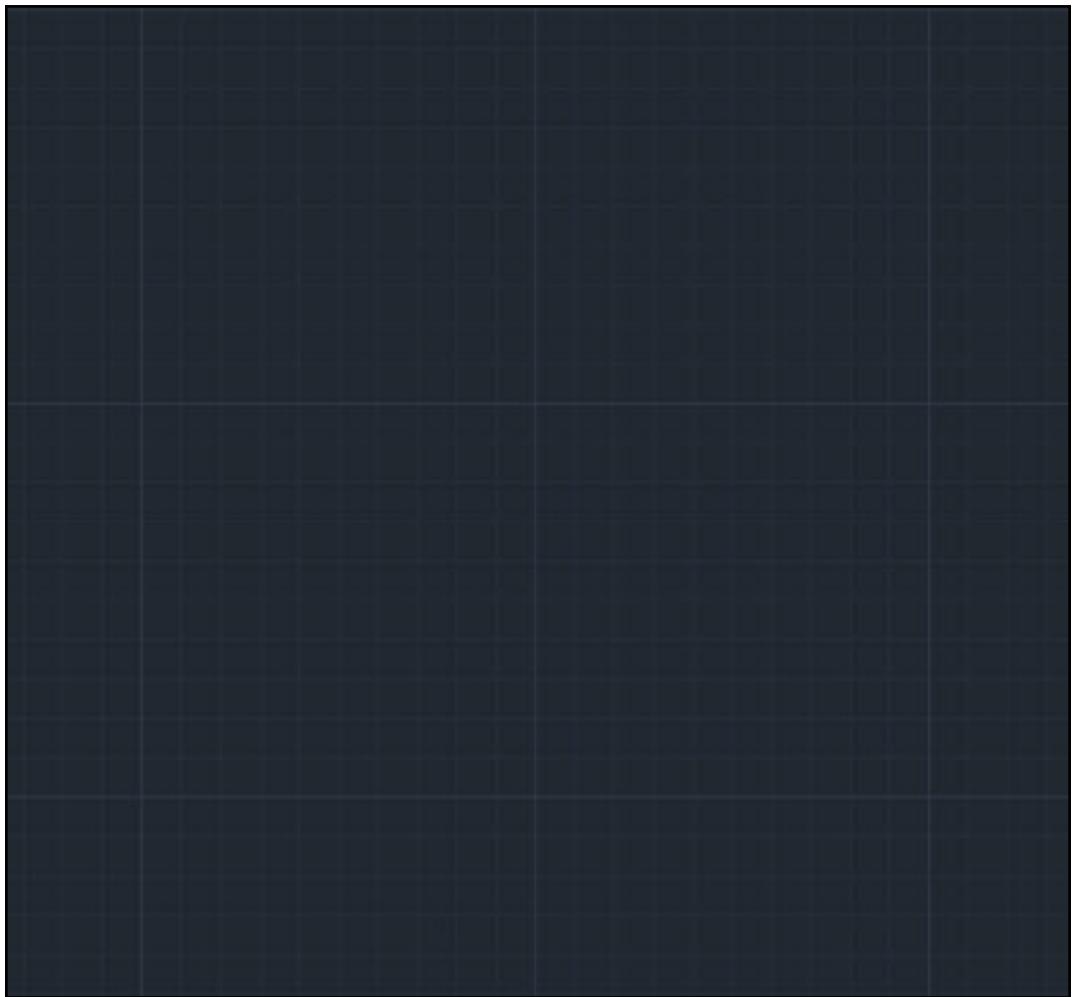


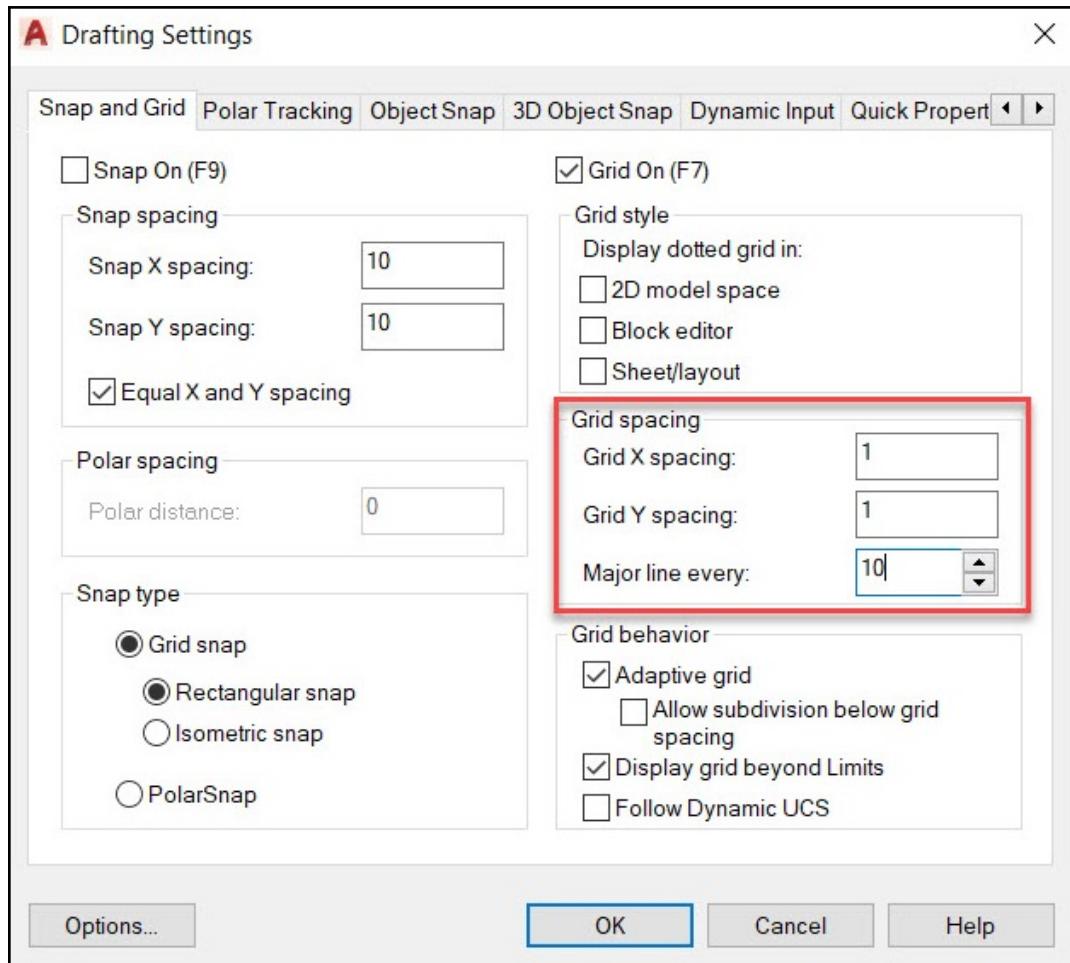


Chapter 4: Working with Arrays and Reusable Objects

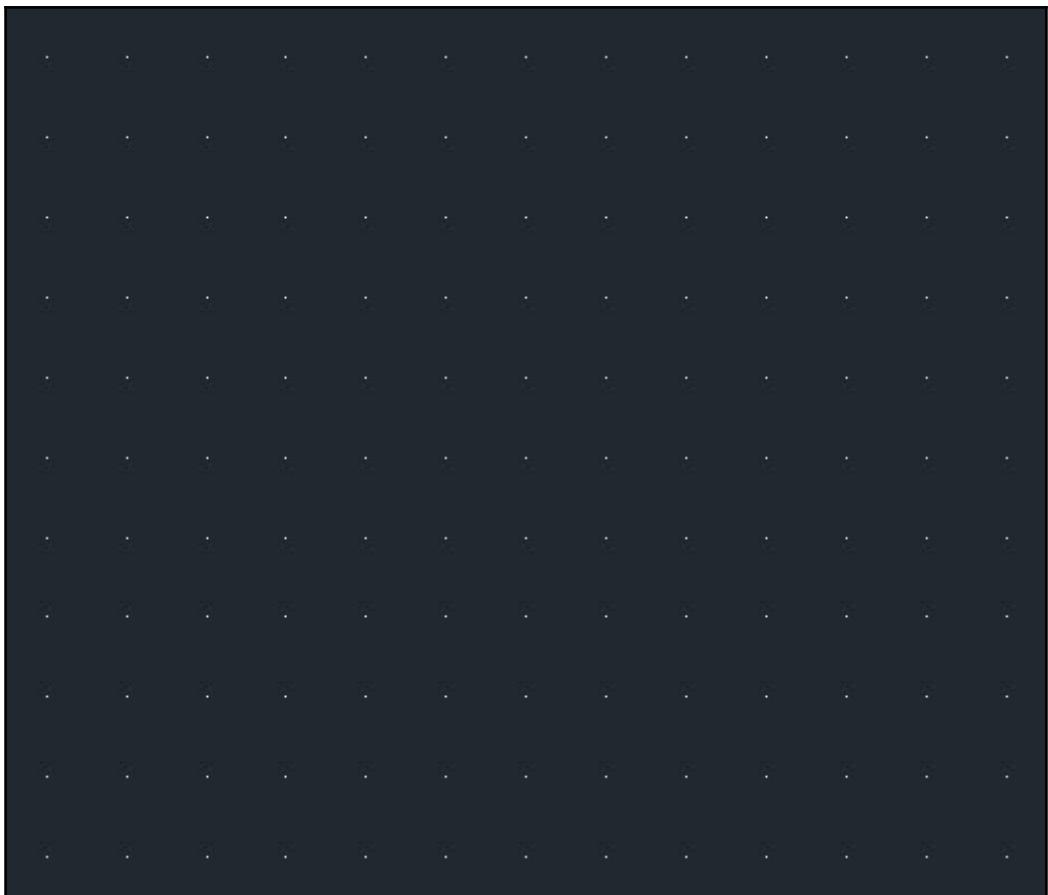


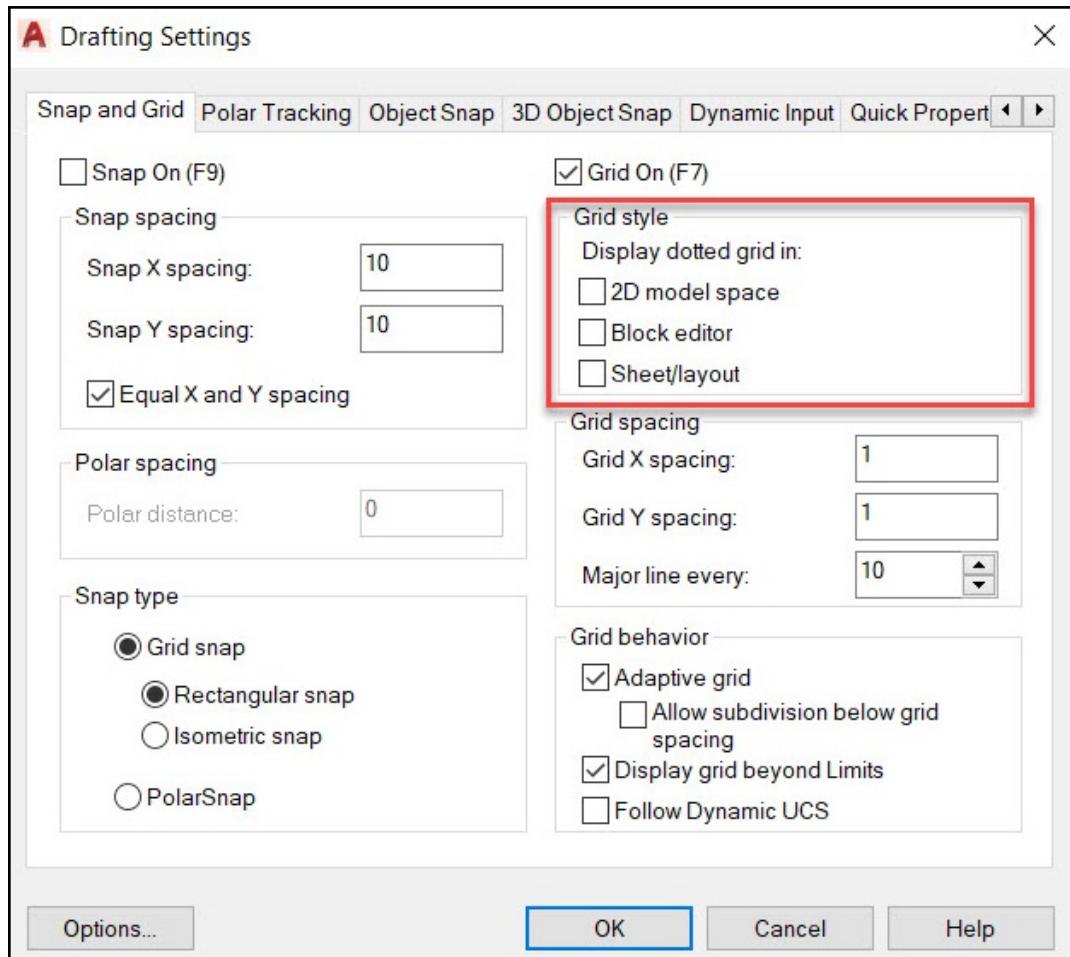


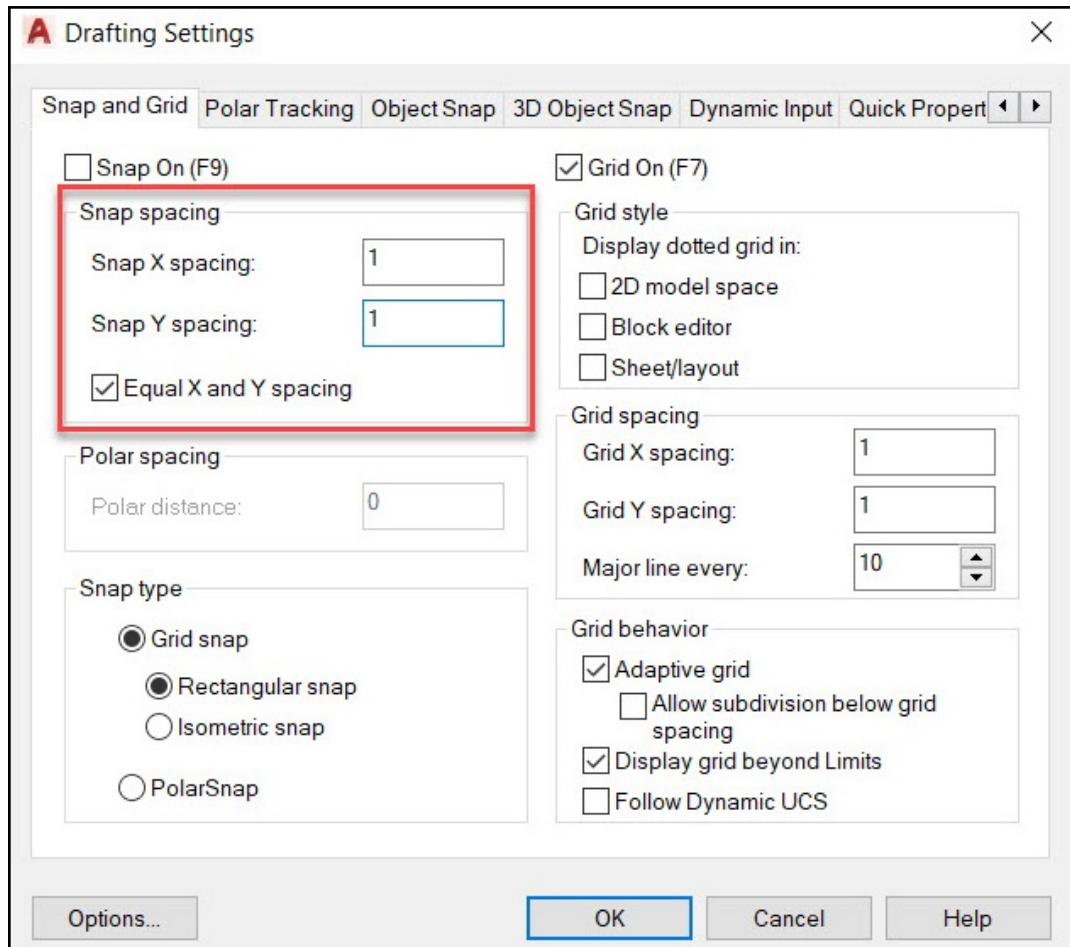


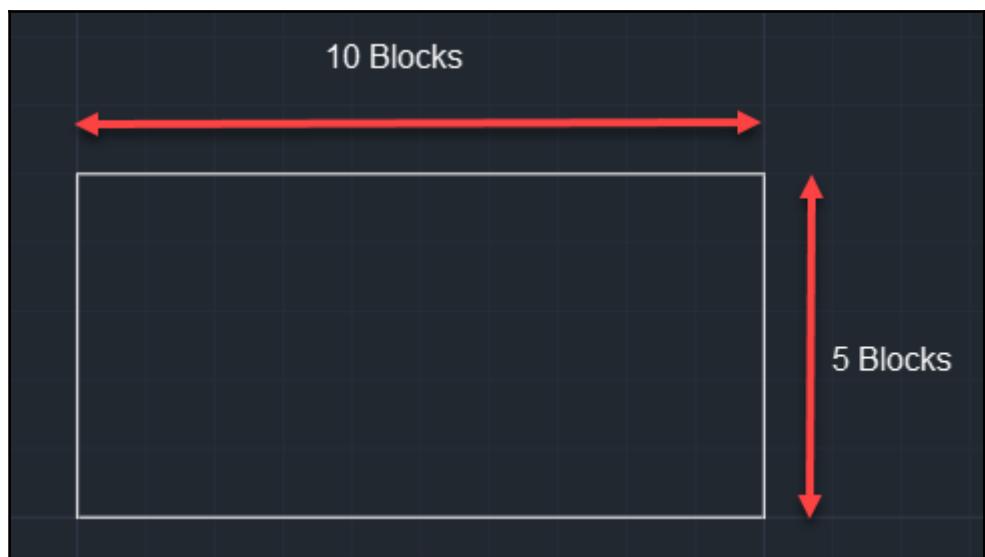
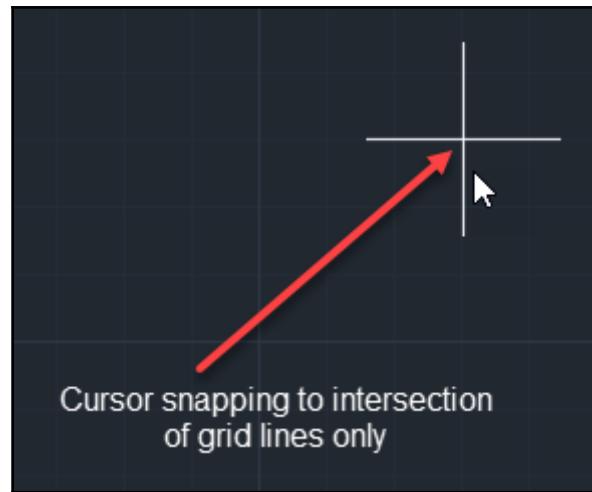


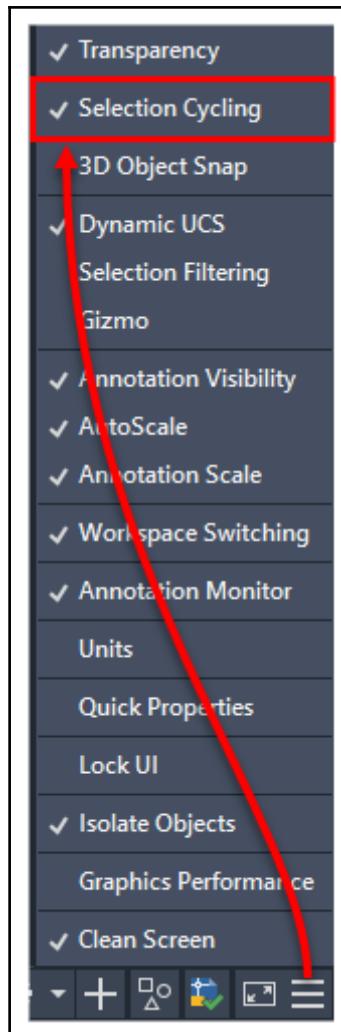


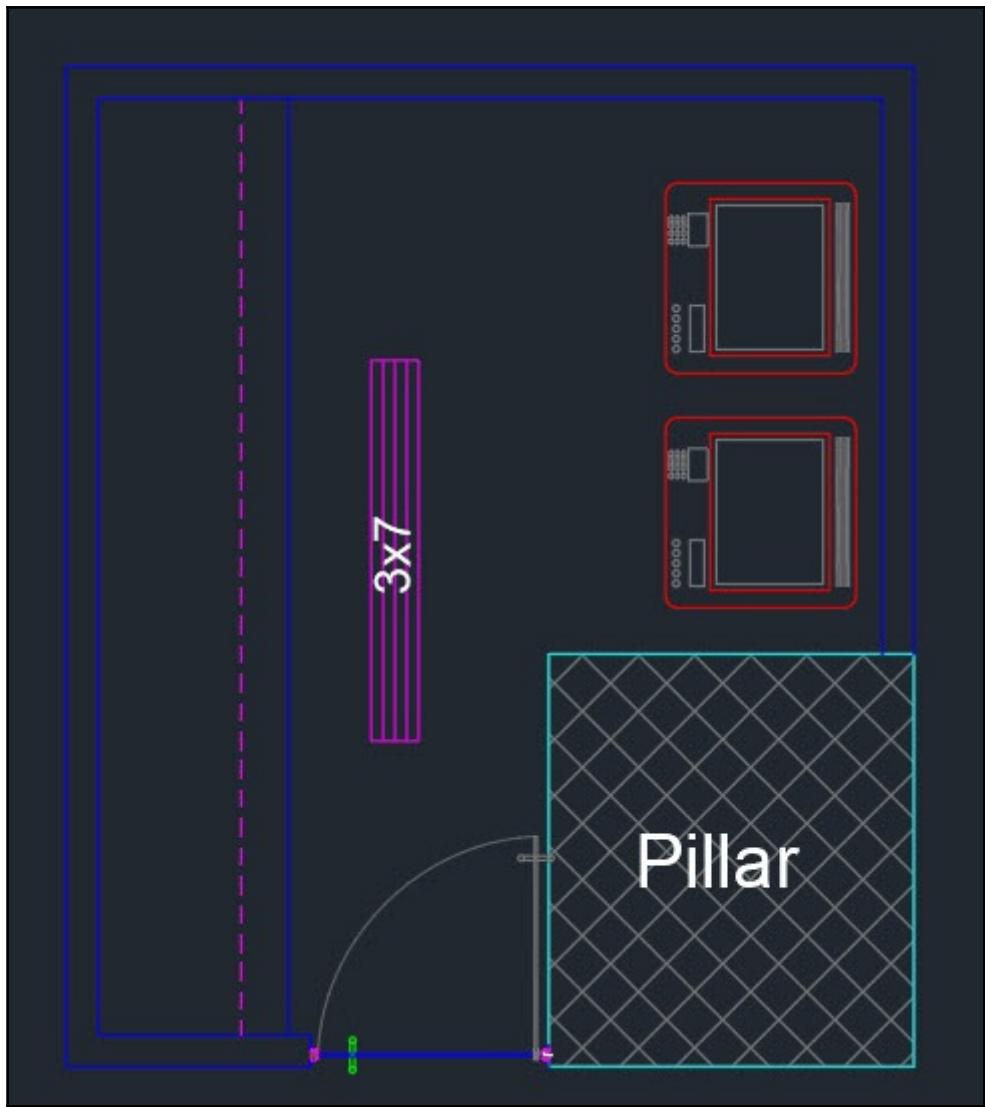


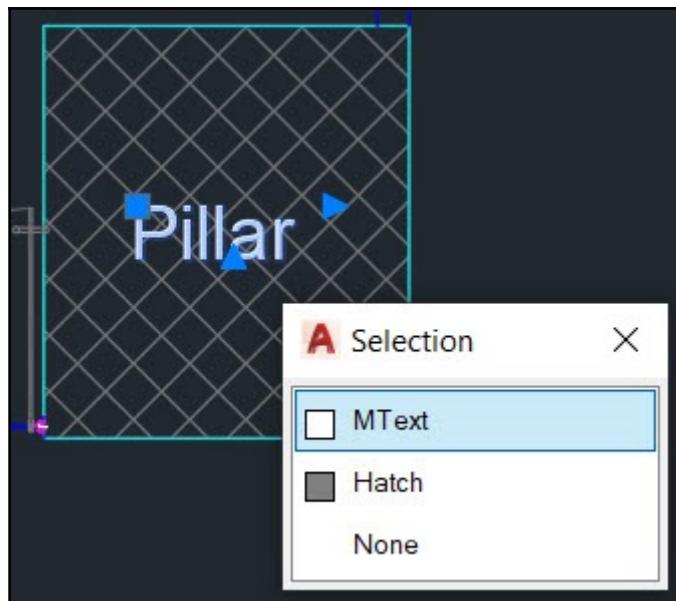


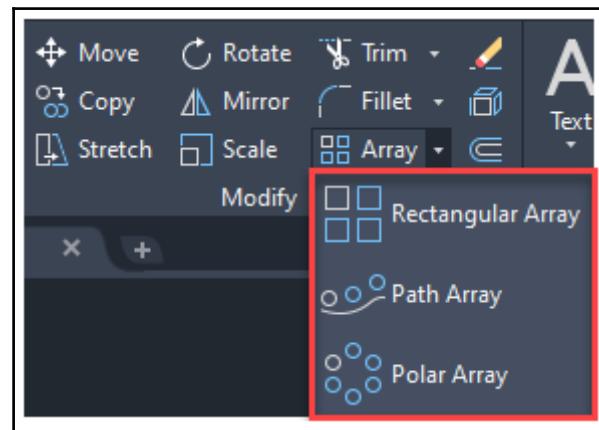
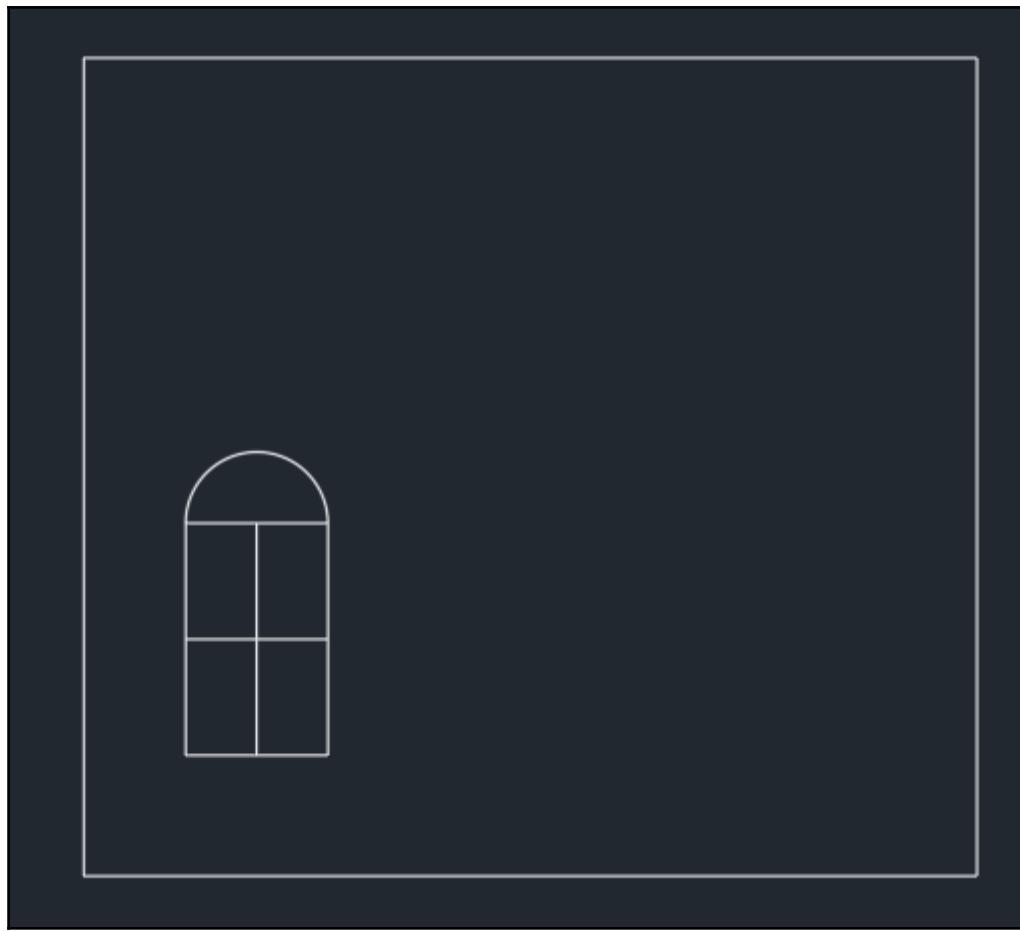


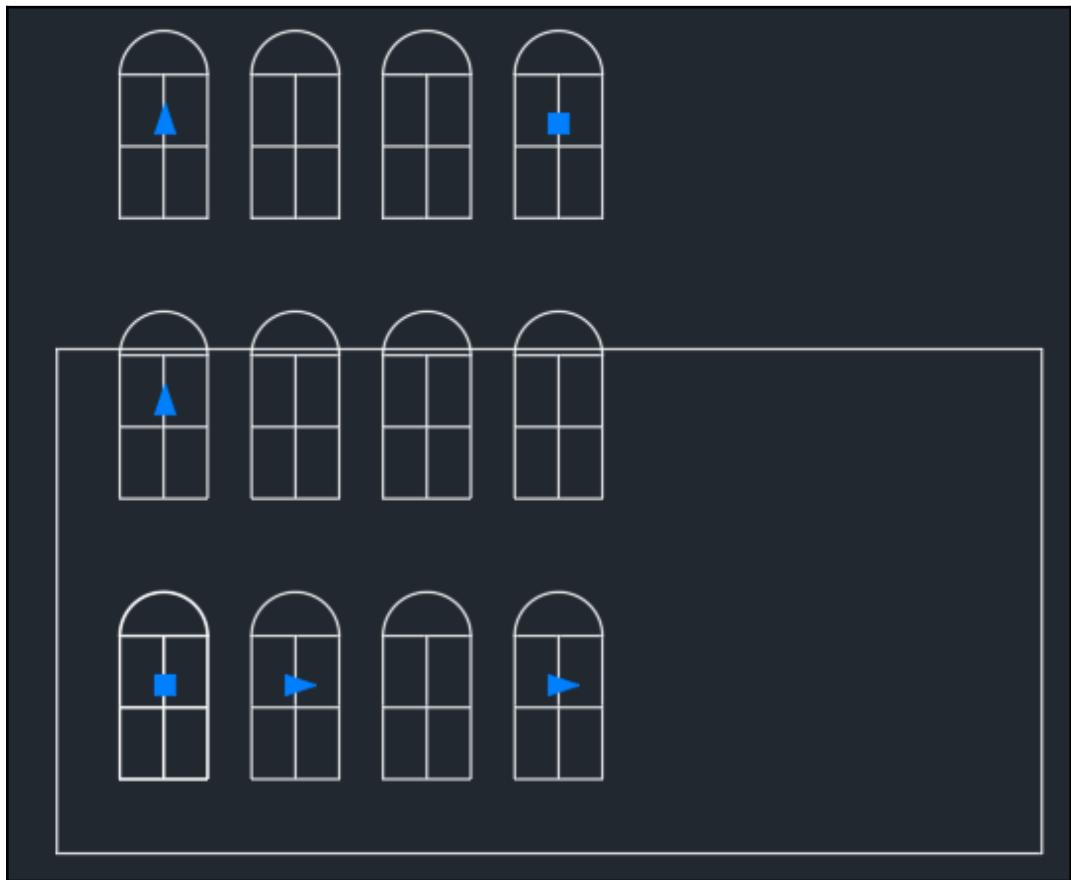


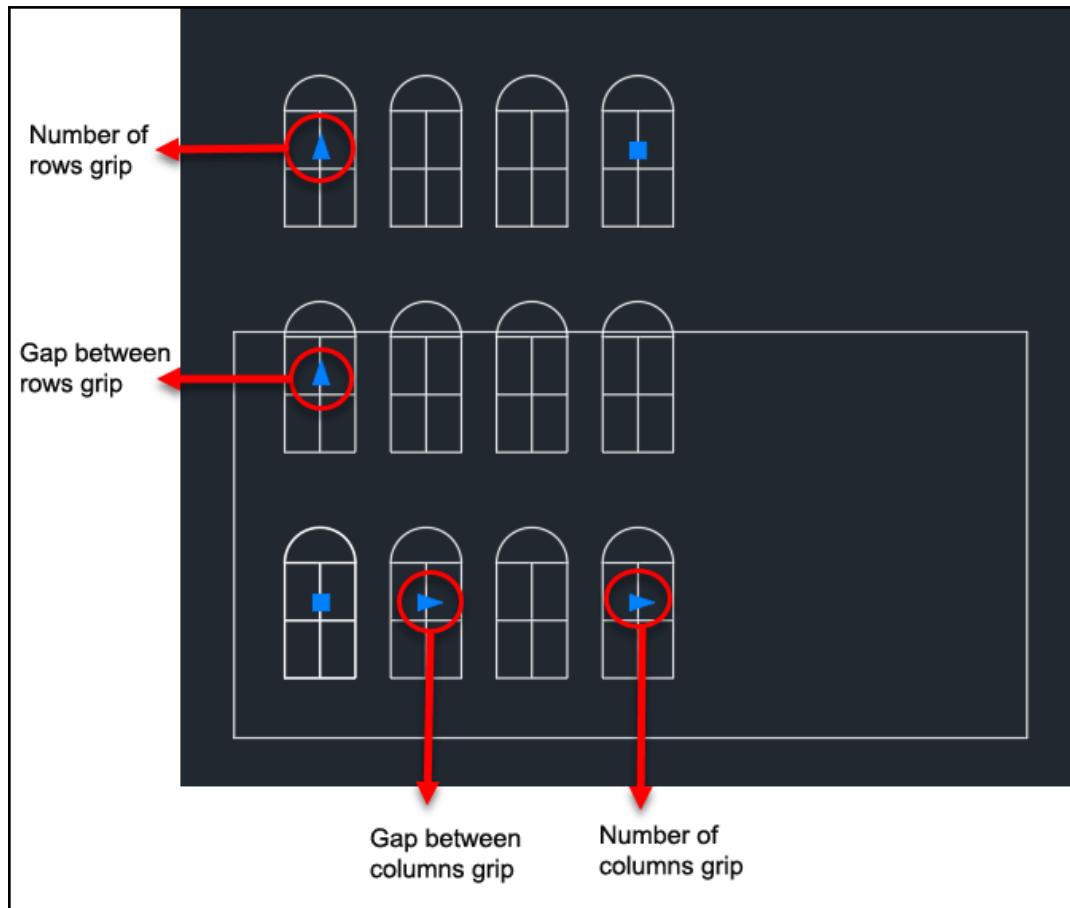






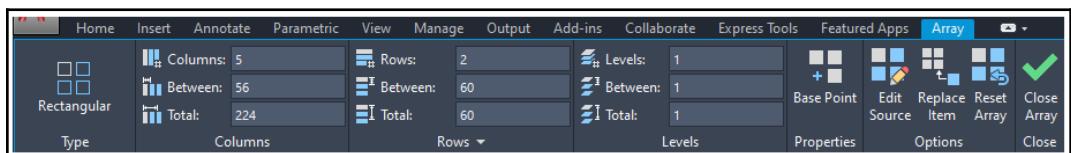
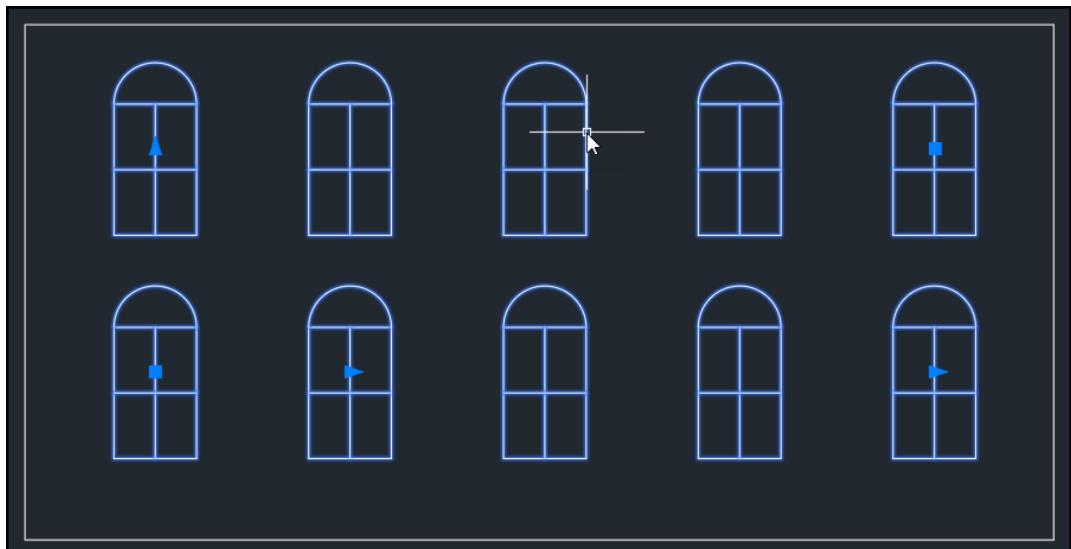
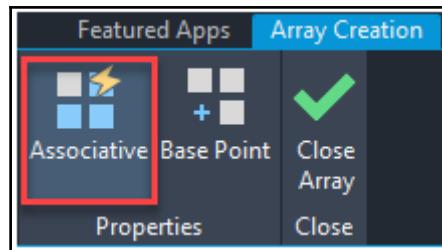


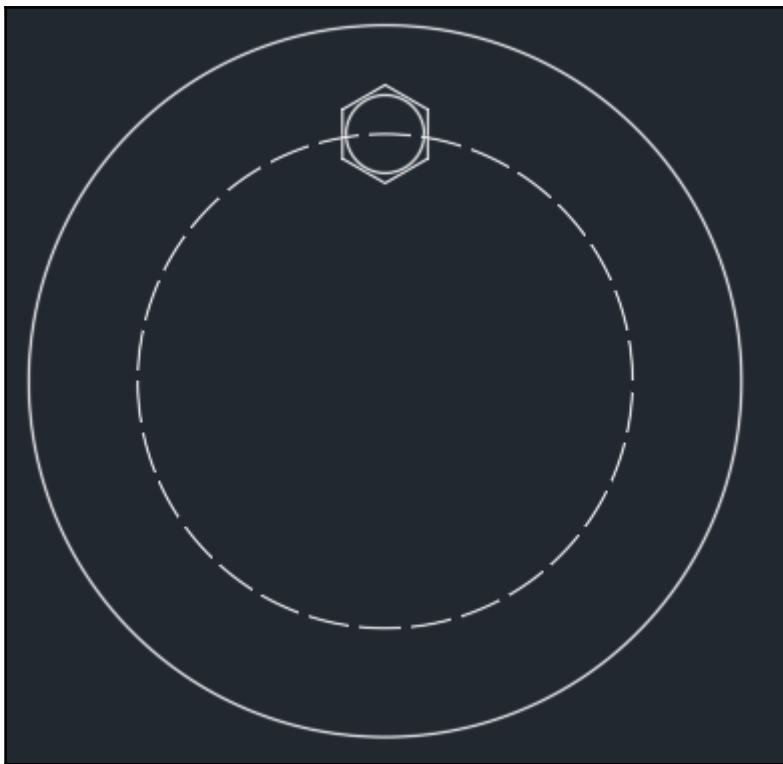


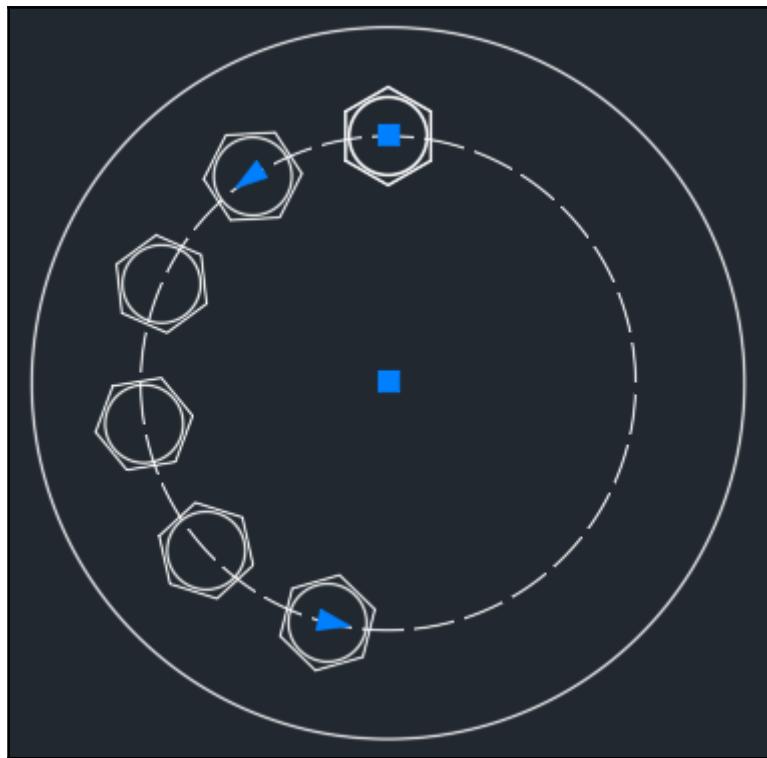


Columns:	5
Between:	56
Total:	224
Columns	

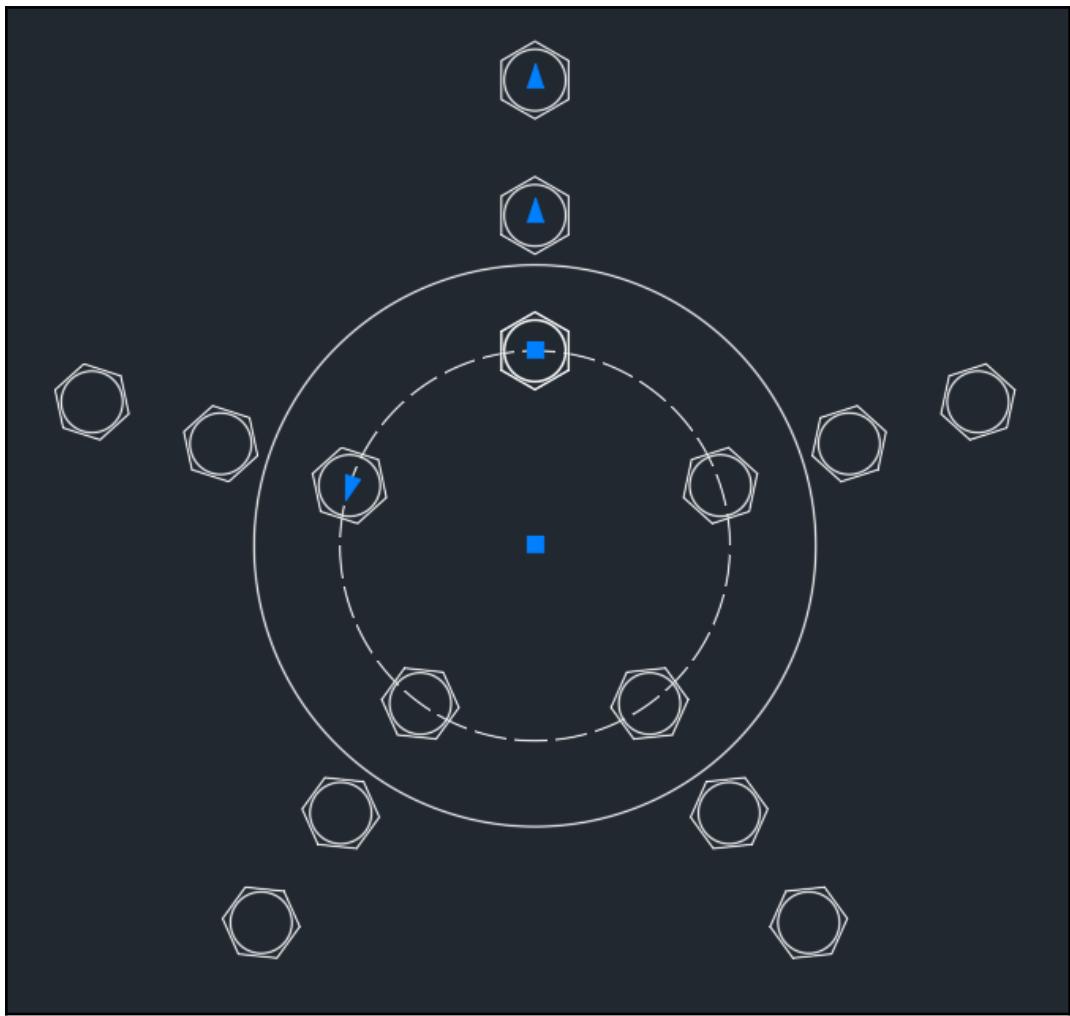
 Rectangular Type	Columns: 5 Between: 56 Total: 224	Rows: 2 Between: 60 Total: 60	Levels: 1 Between: 1 Total: 1
	Columns	Rows ▾	Levels

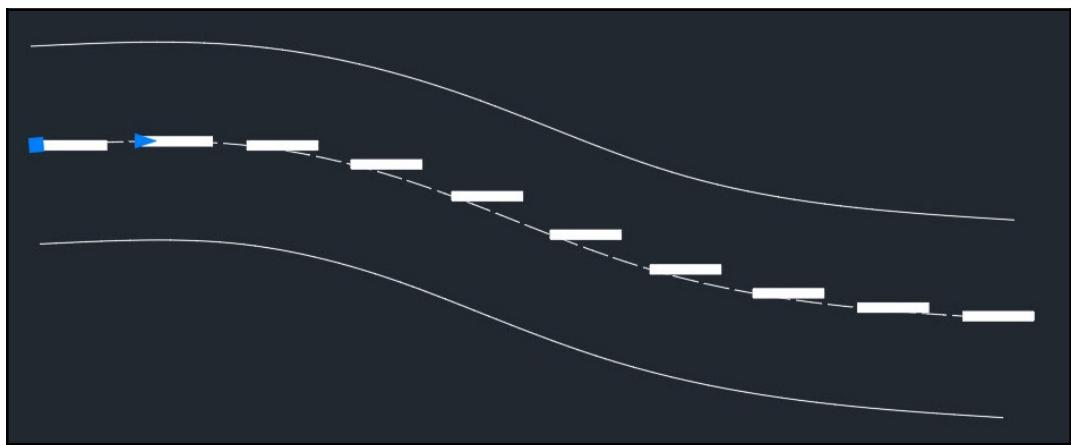
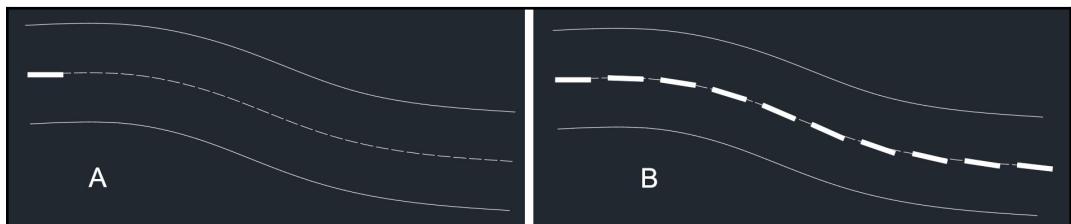
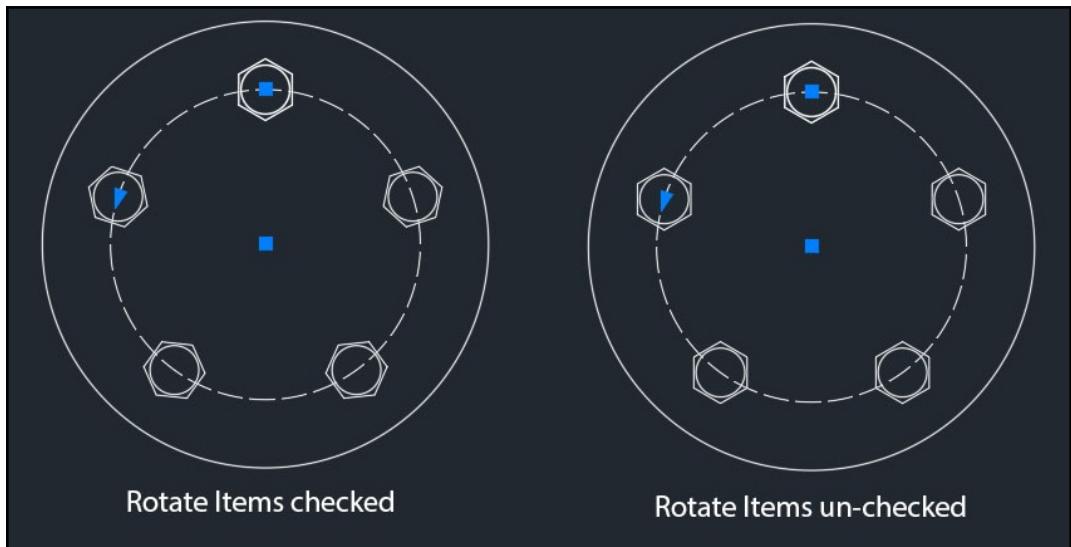






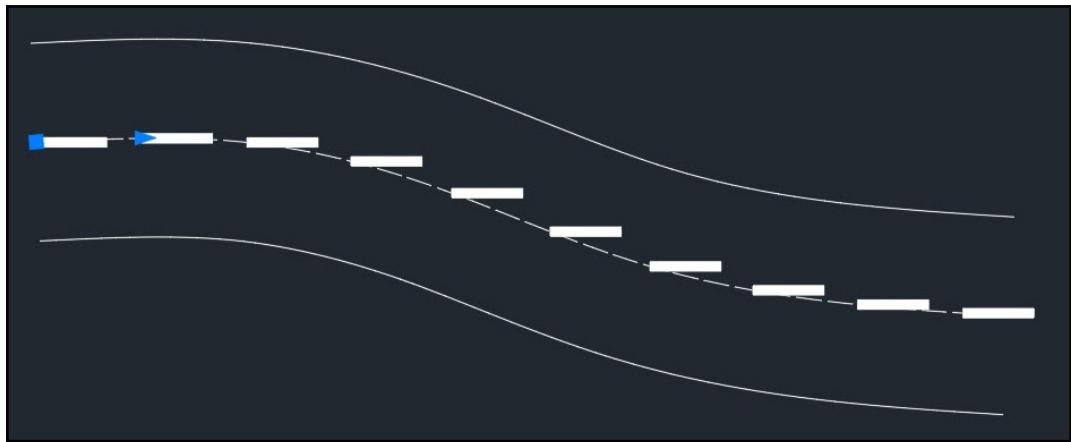
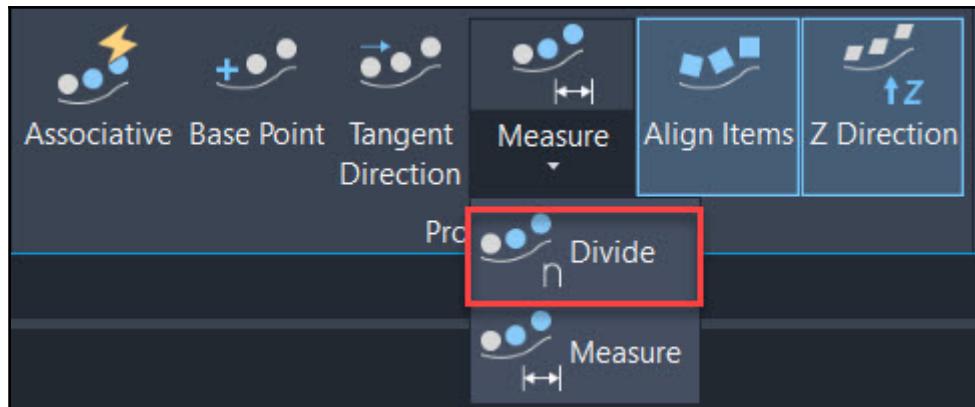
 Polar	 Items: 5
Type	 Between: 72
	 Fill: 360
	Items

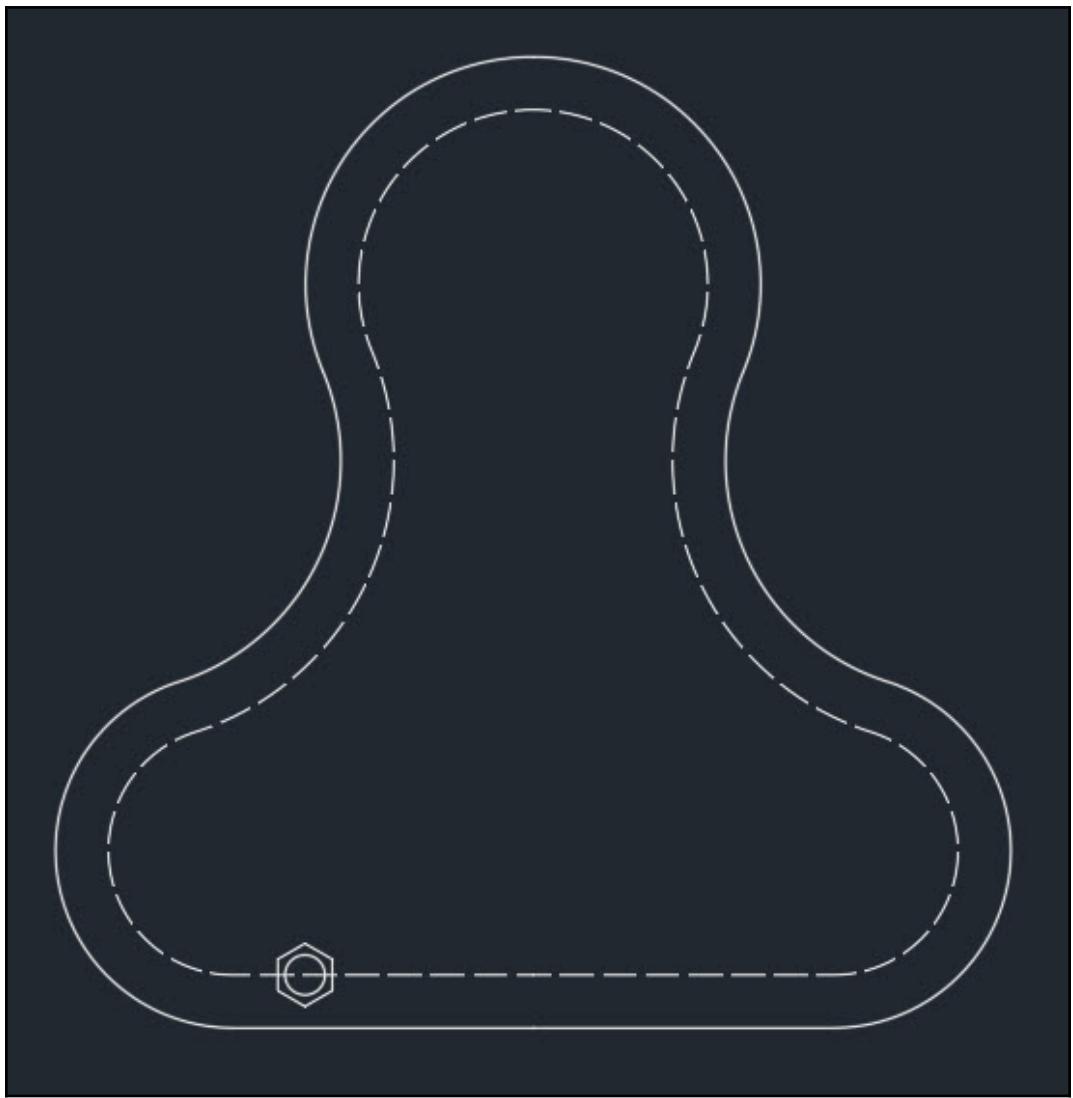


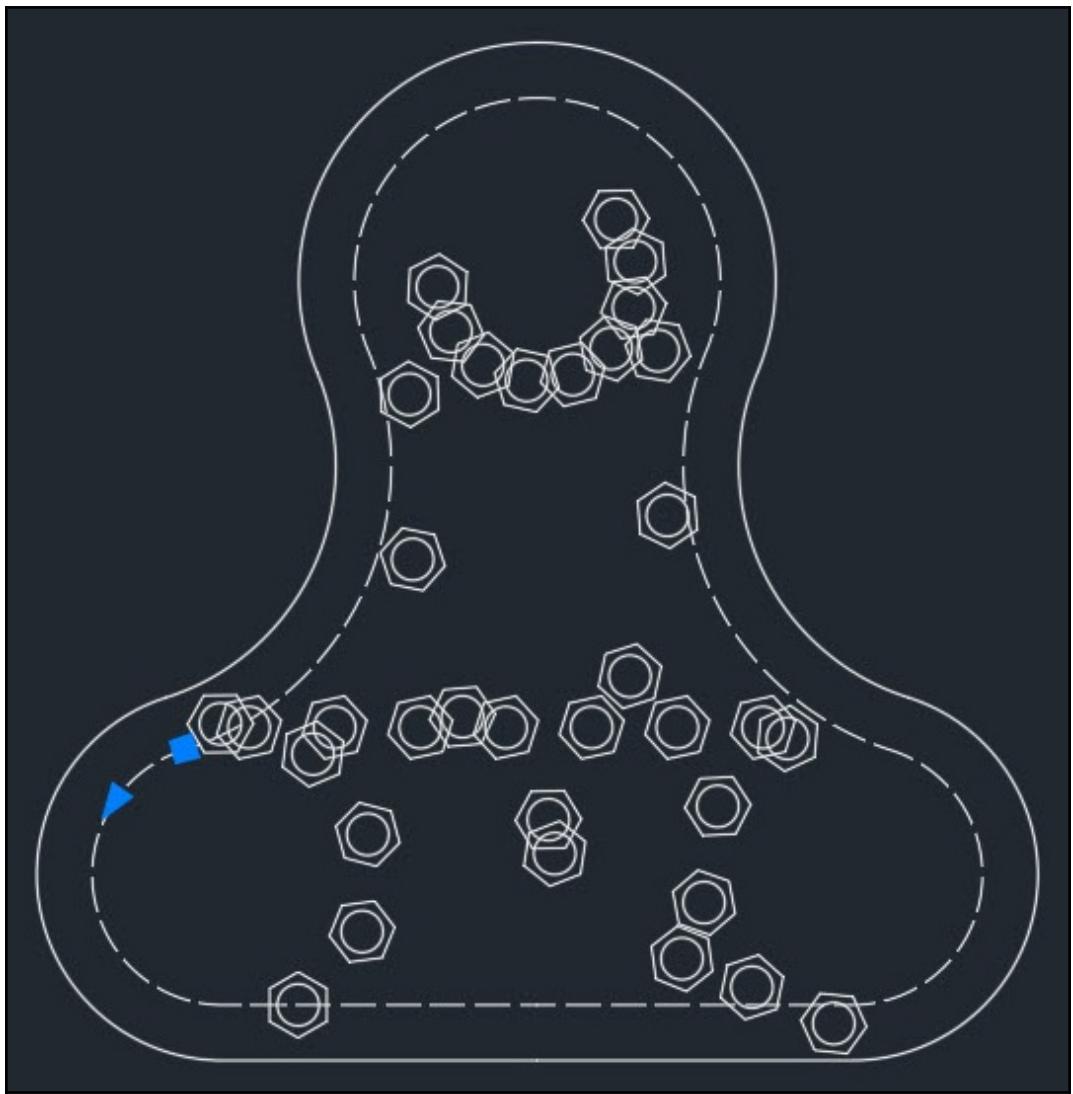


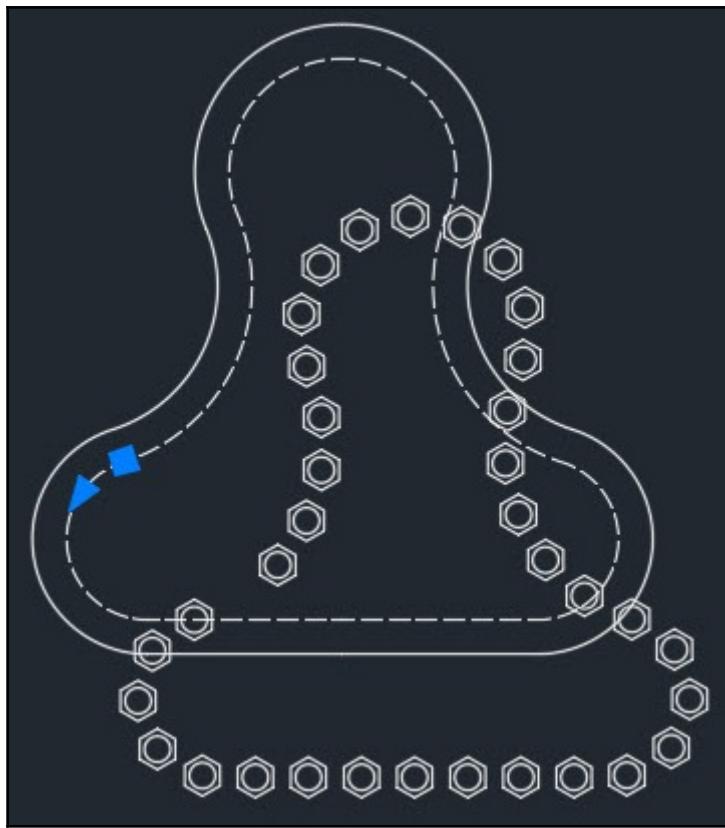
	Items:	10
	Between:	105.7378
	Total:	951.6406

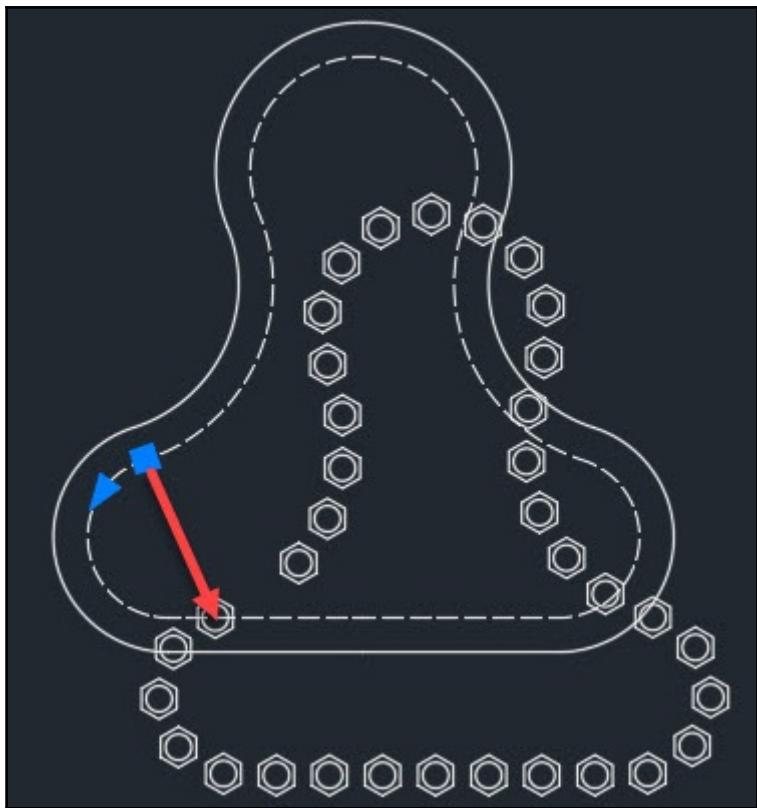
Items

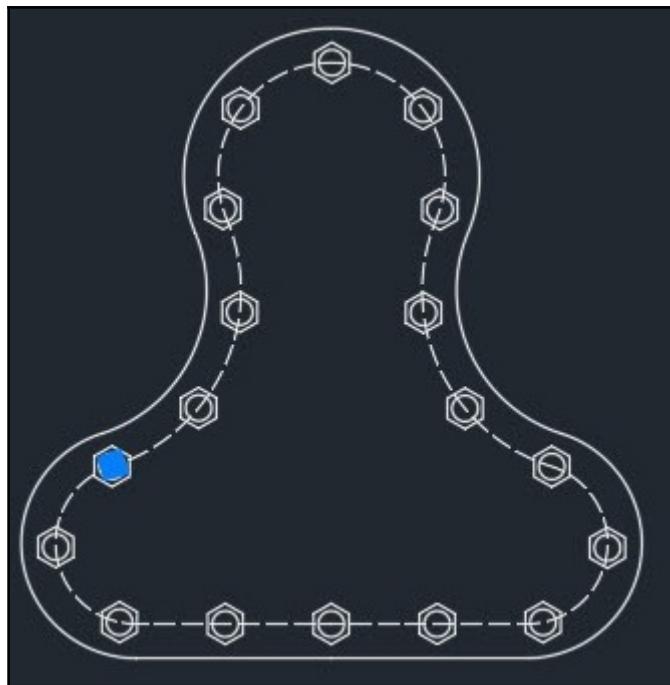


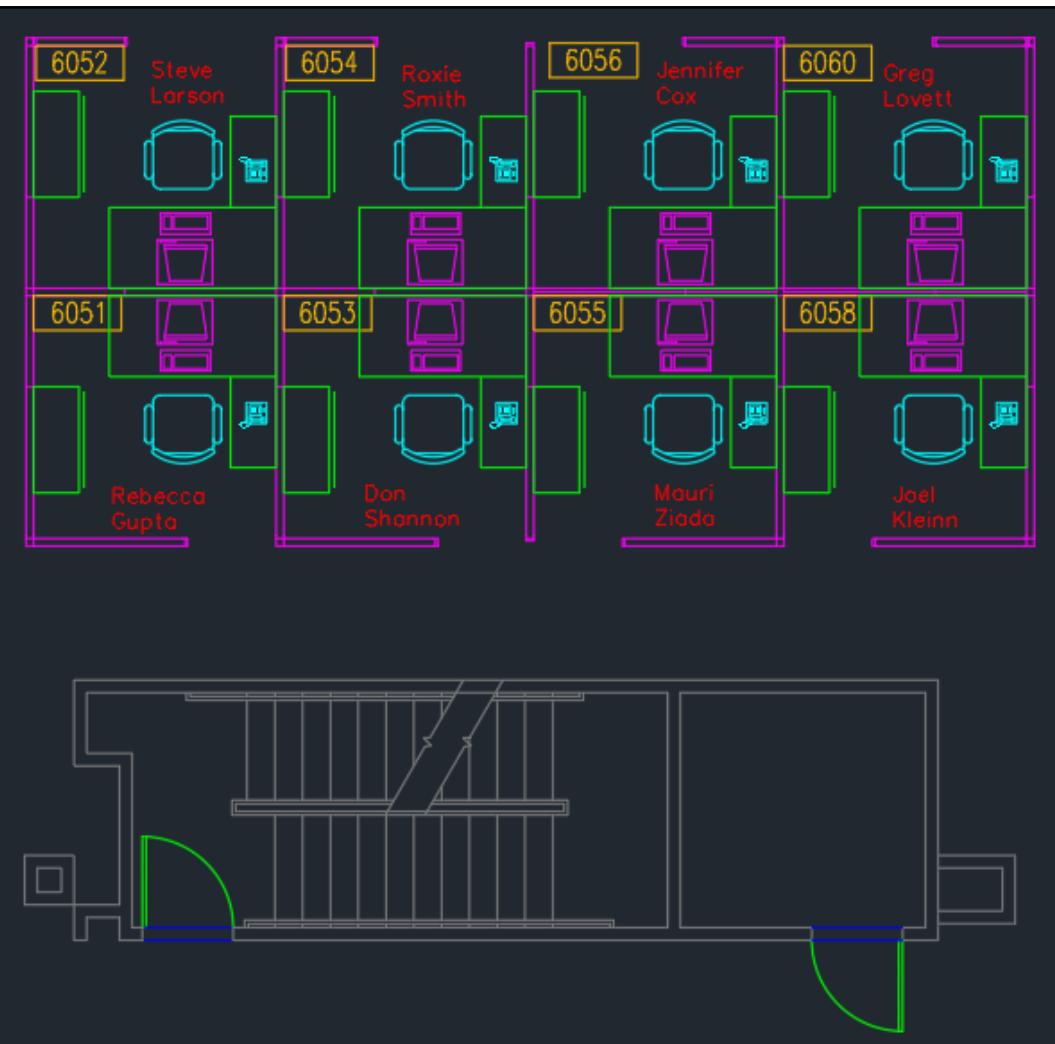


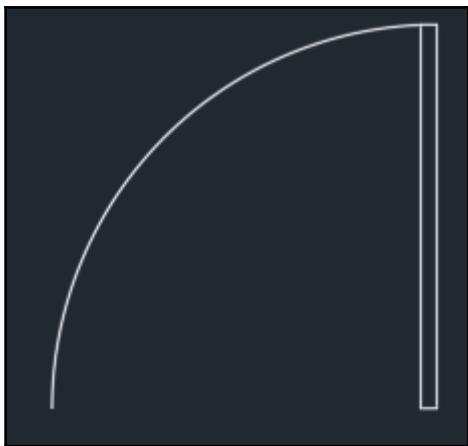


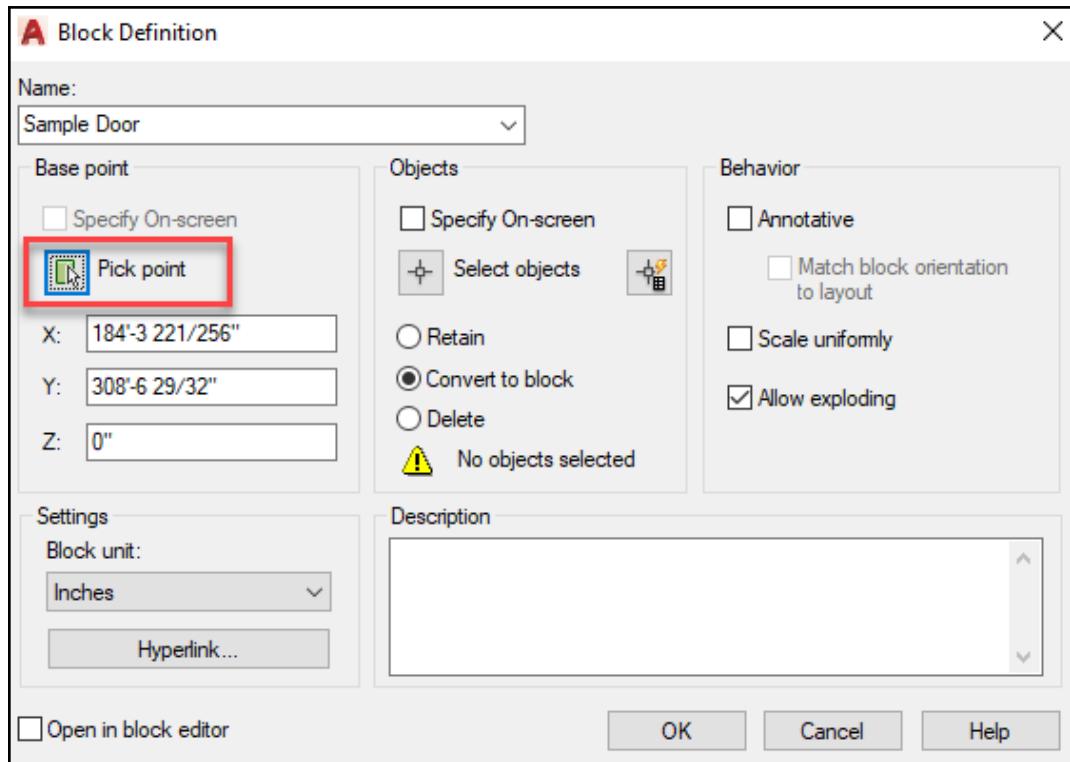


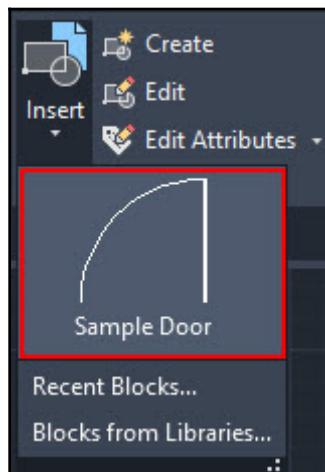
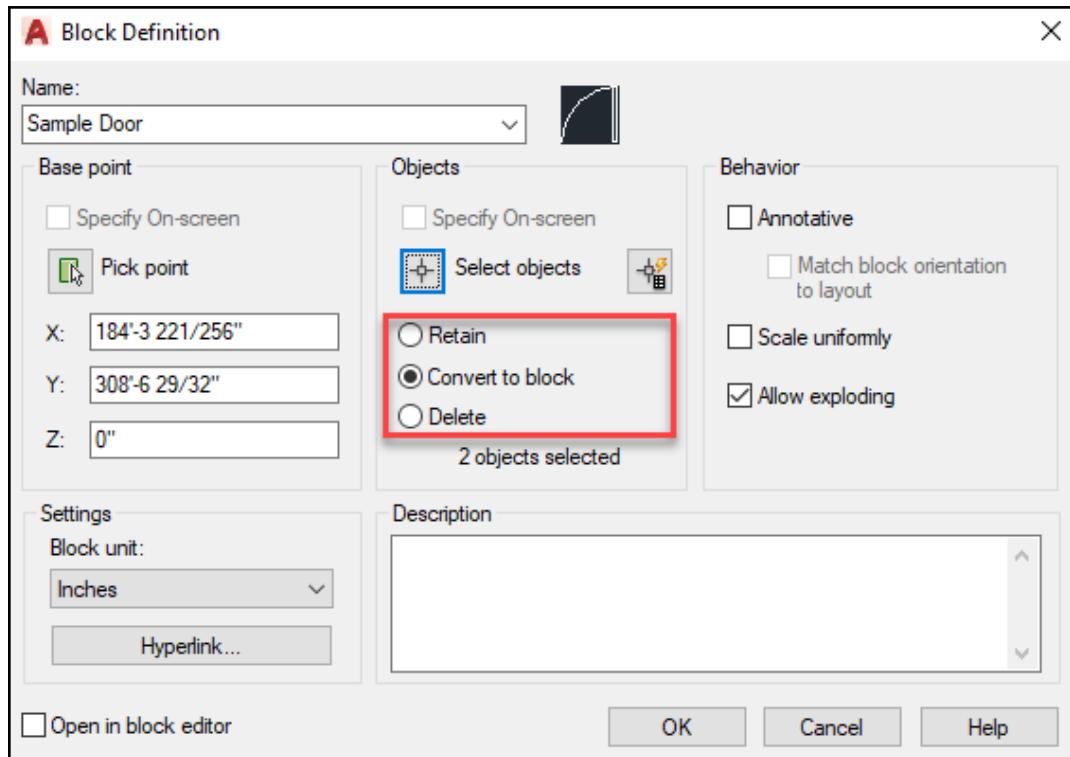


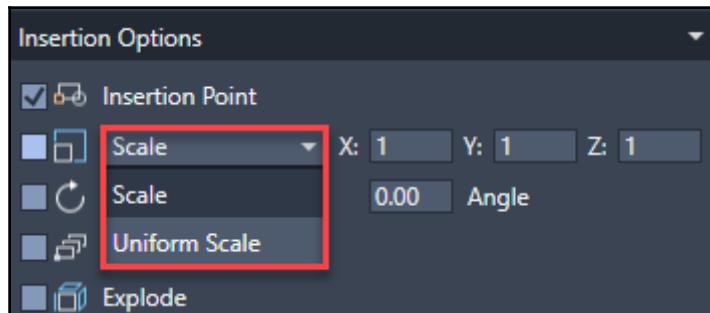
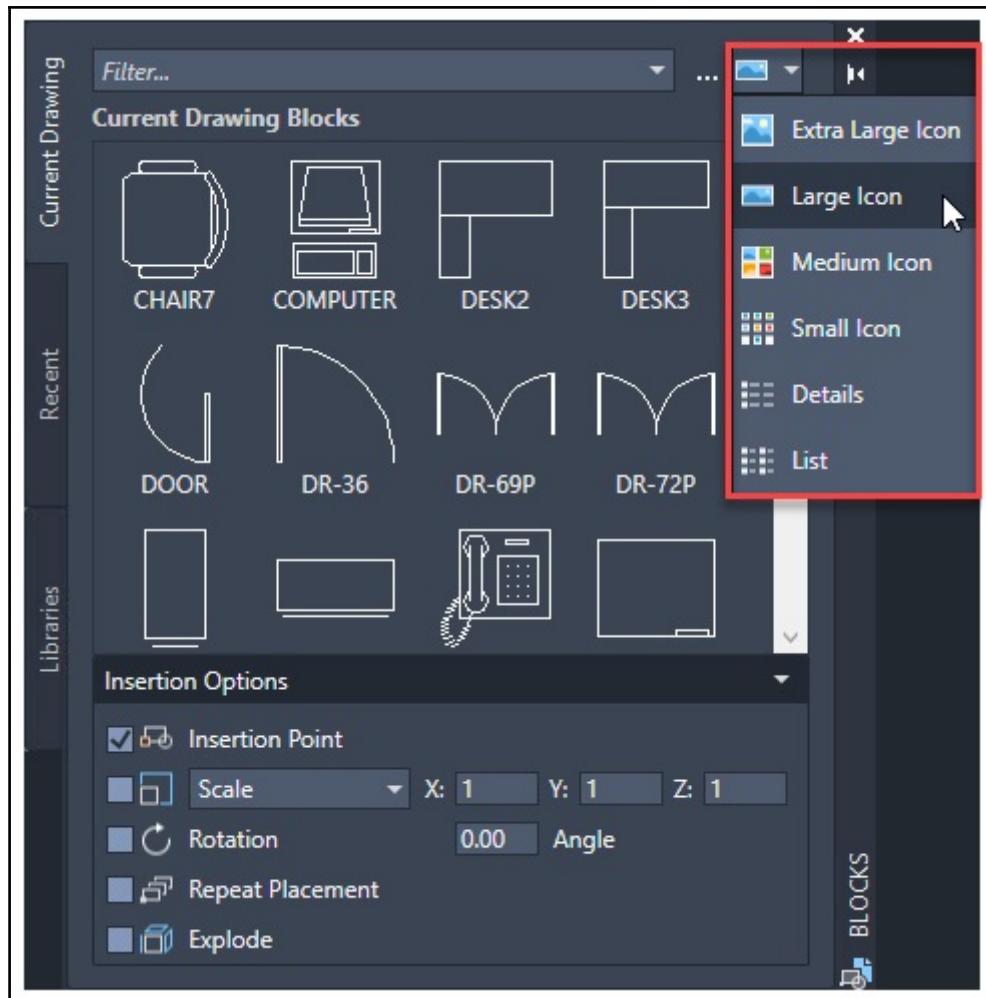


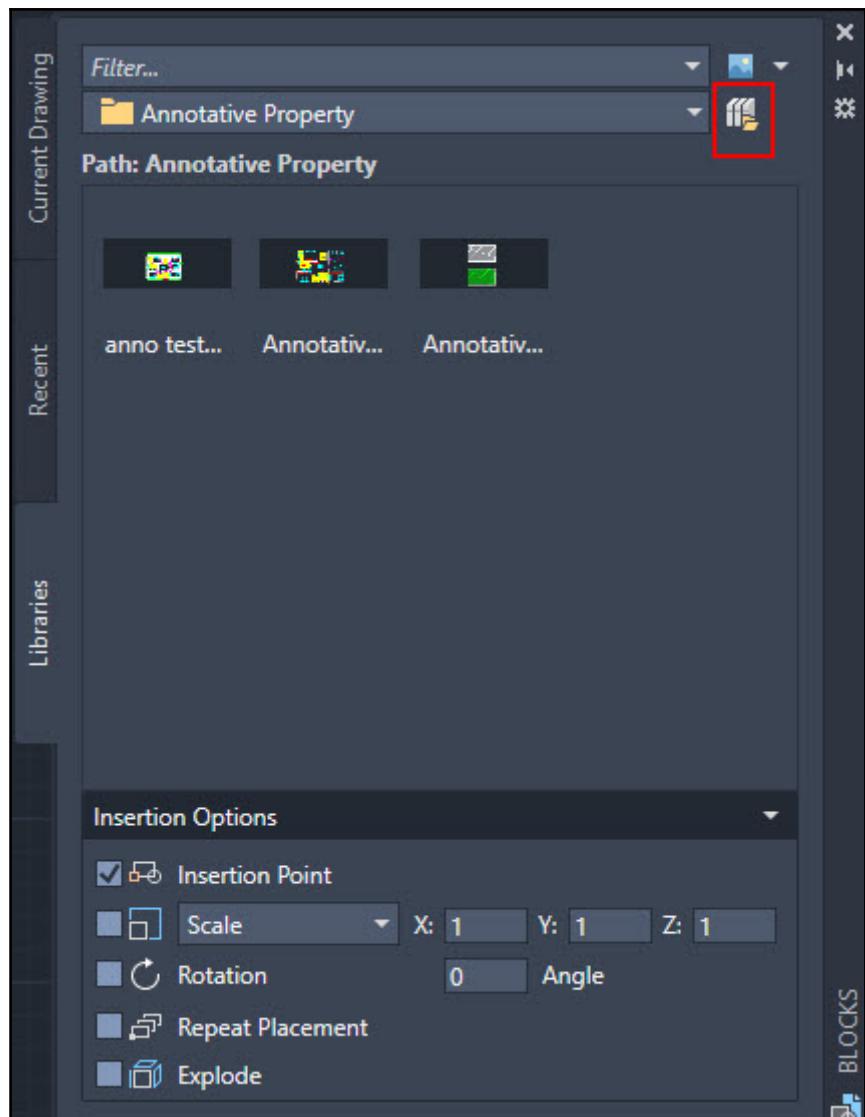


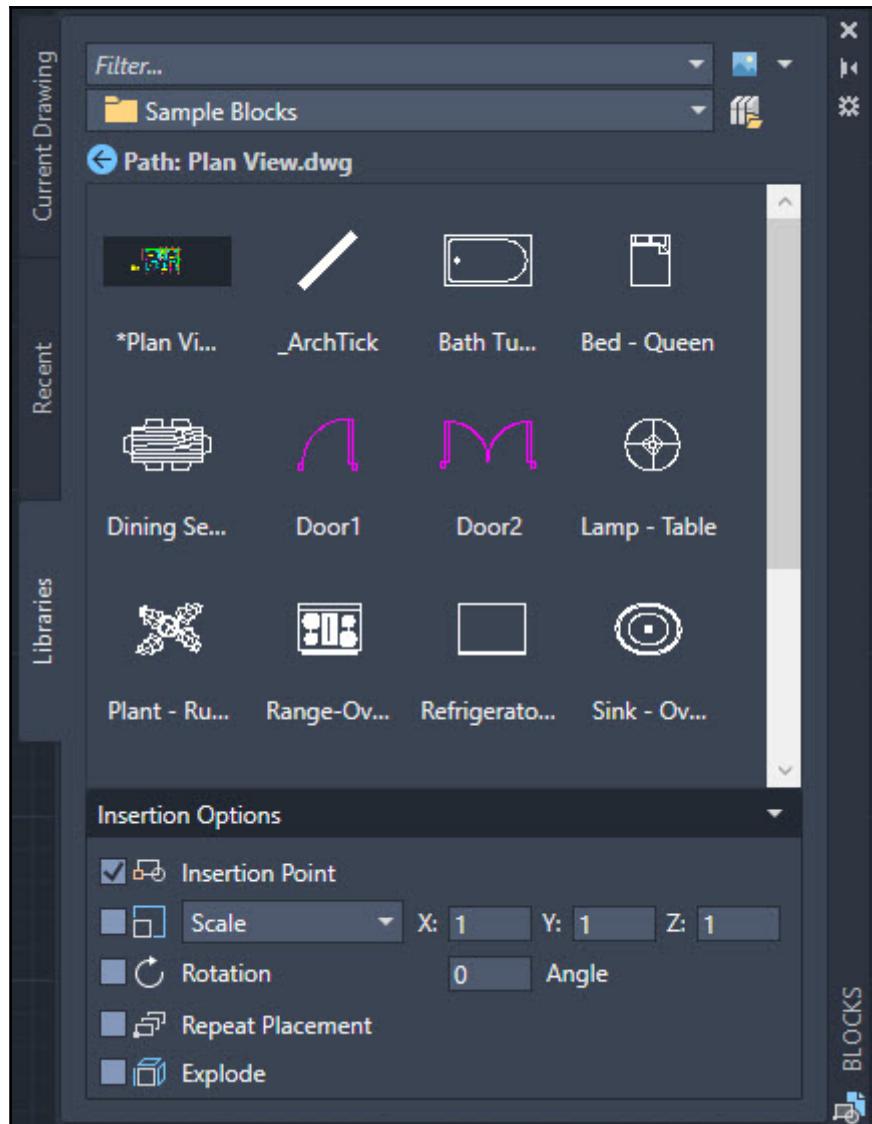


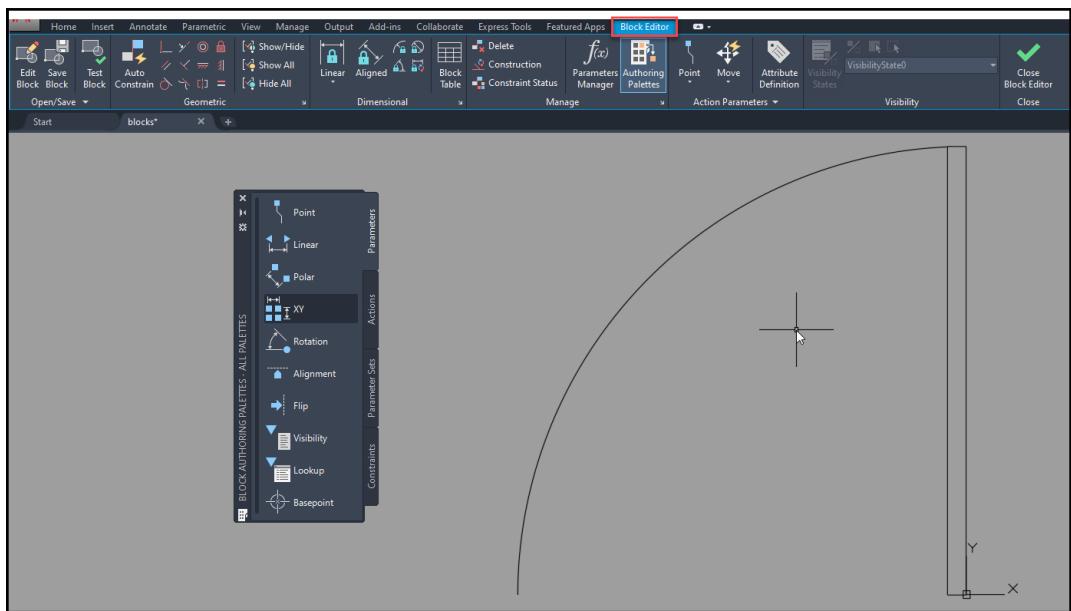
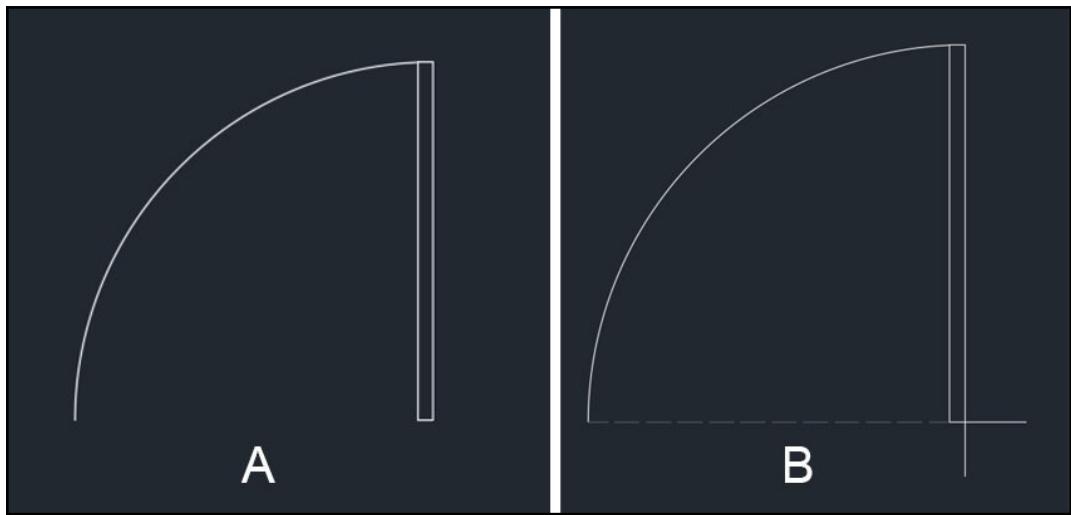


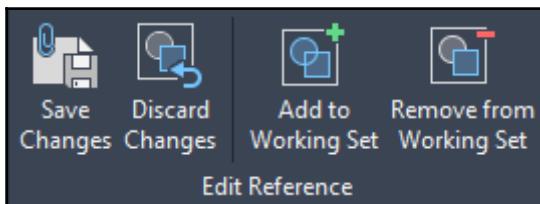
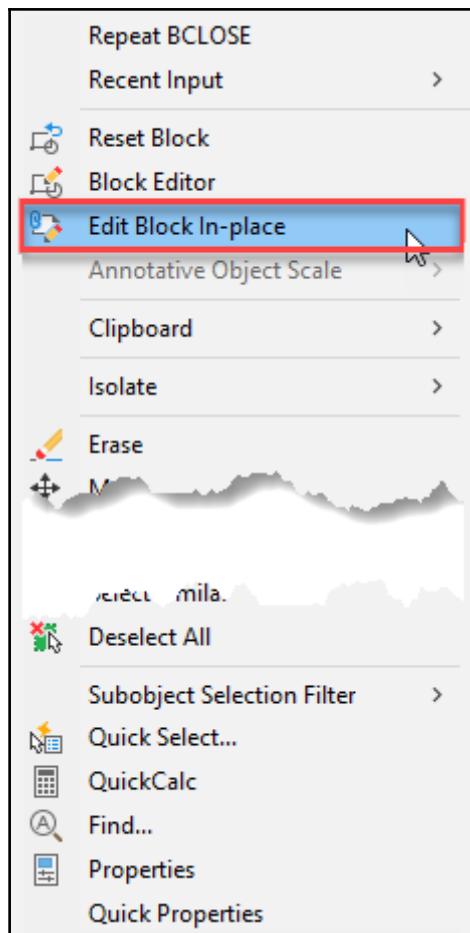


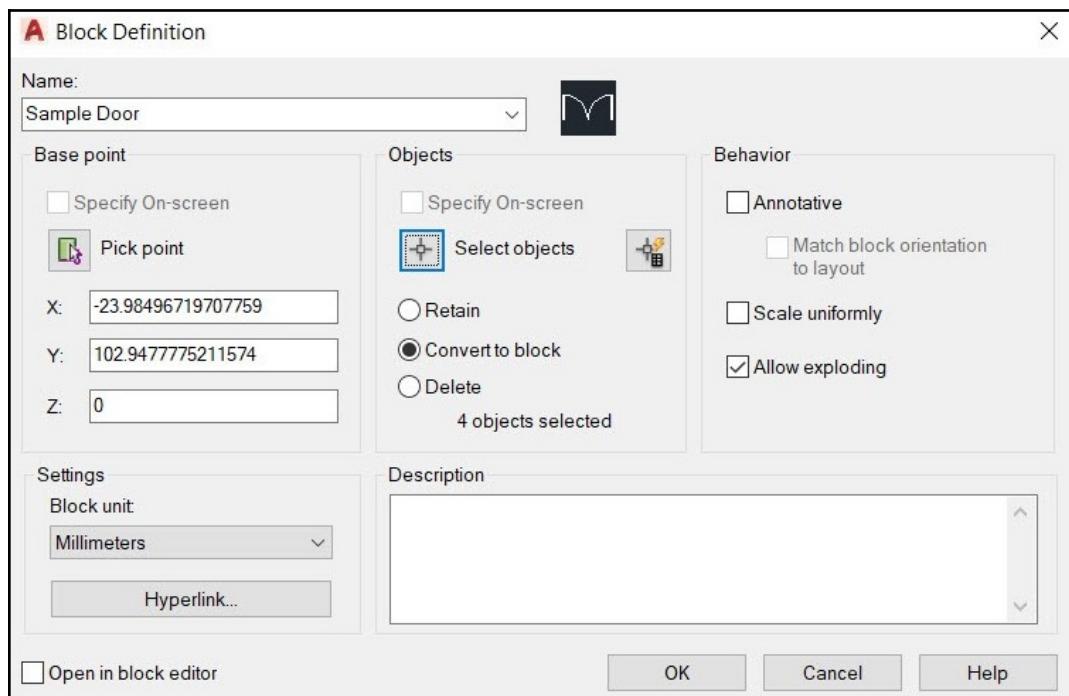












Block - Redefine Block

X



"Sample Door" is already defined as a block in this drawing, would you like to redefine this block reference?

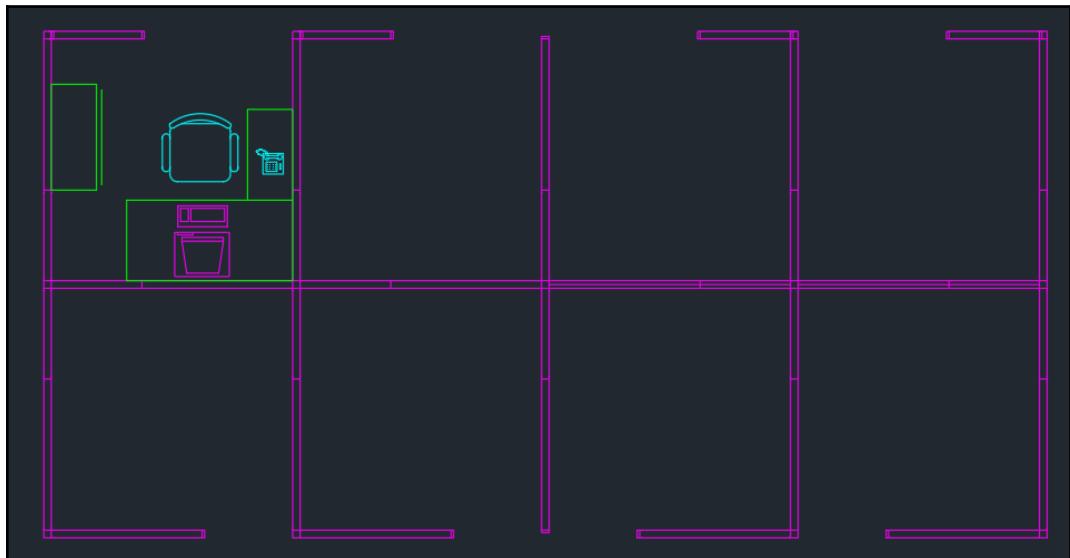
There are 1 instances of "Sample Door" in this drawing

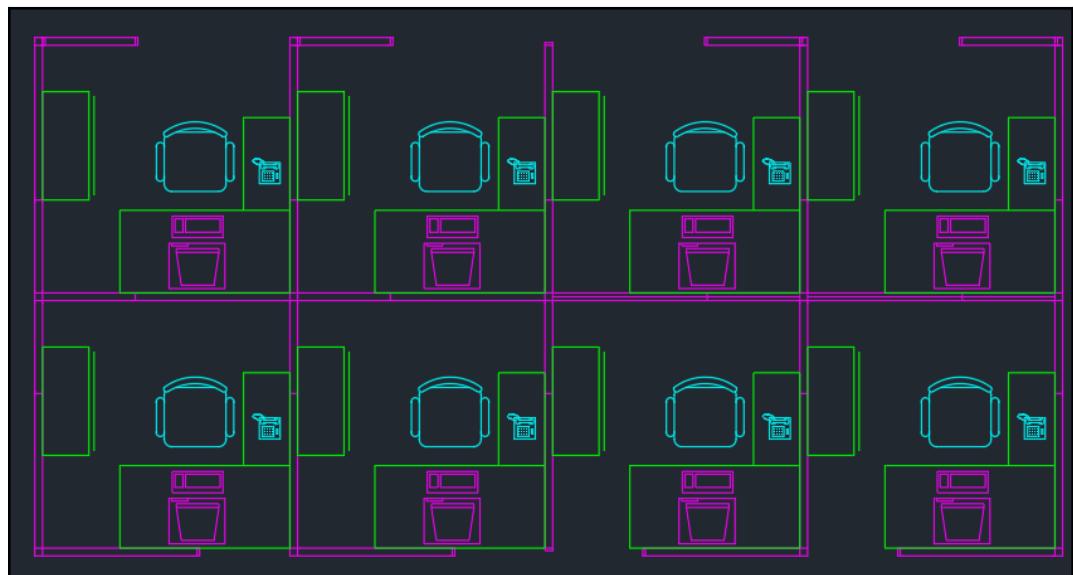
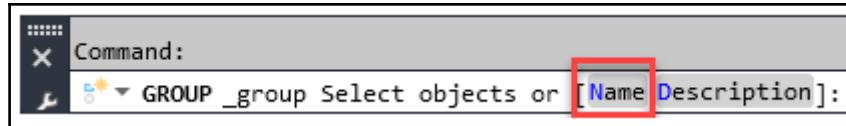
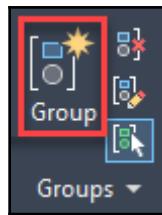
→ **Redefine block**

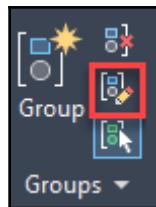
All instances of this block will be updated.

→ **Don't redefine "Sample Door"**

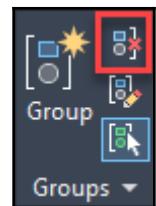
No changes will be made to the block or drawing.

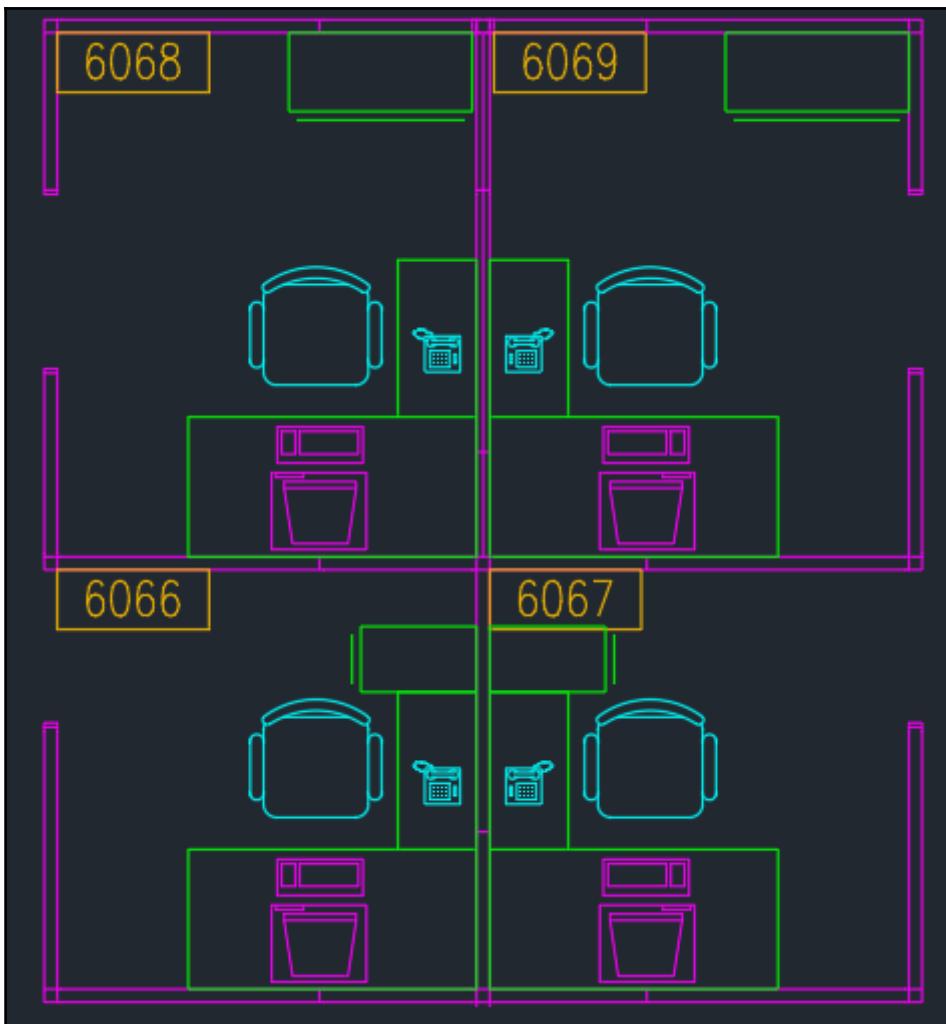
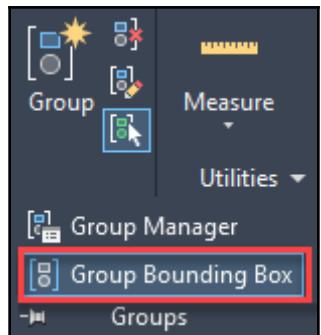


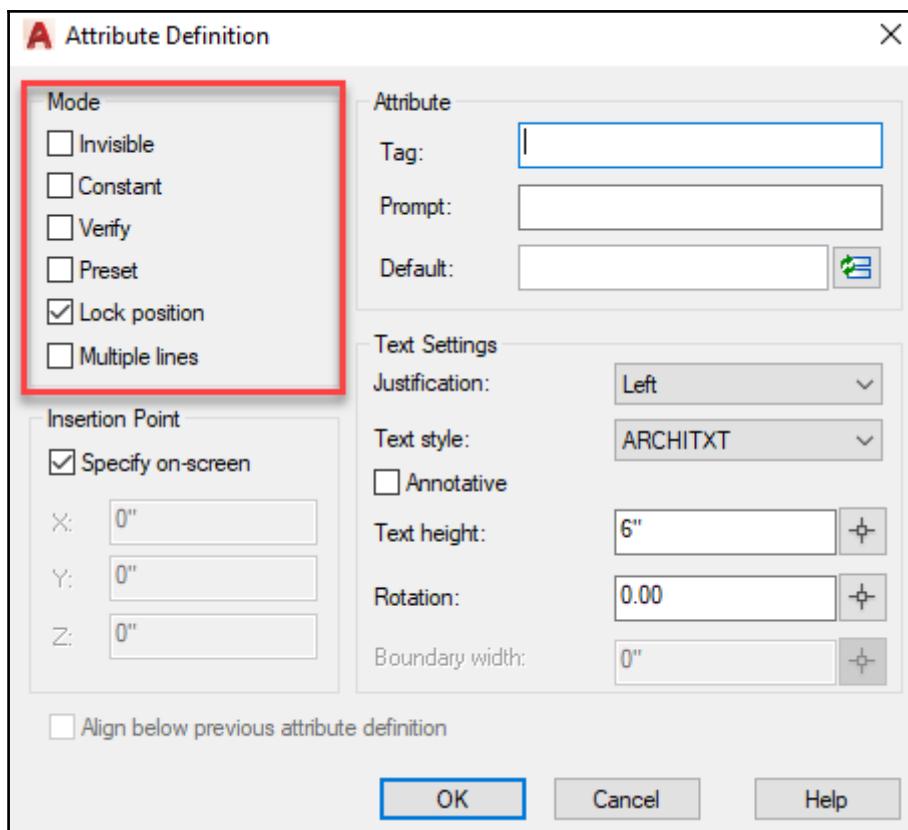
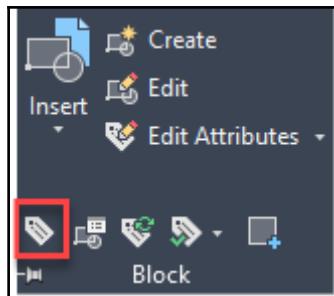


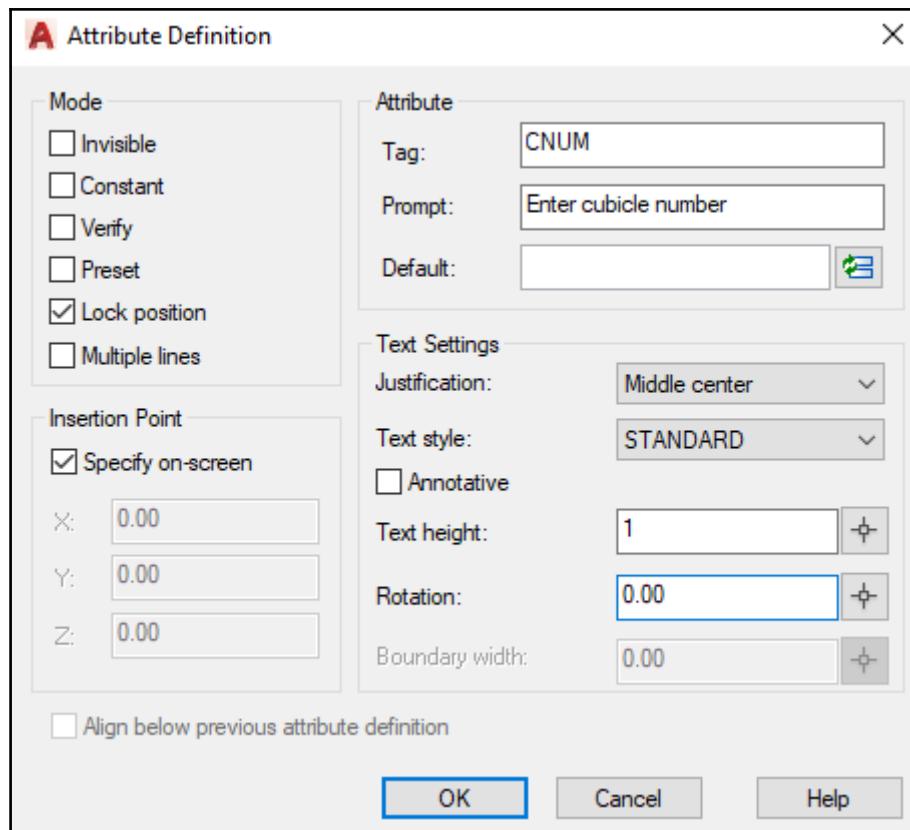


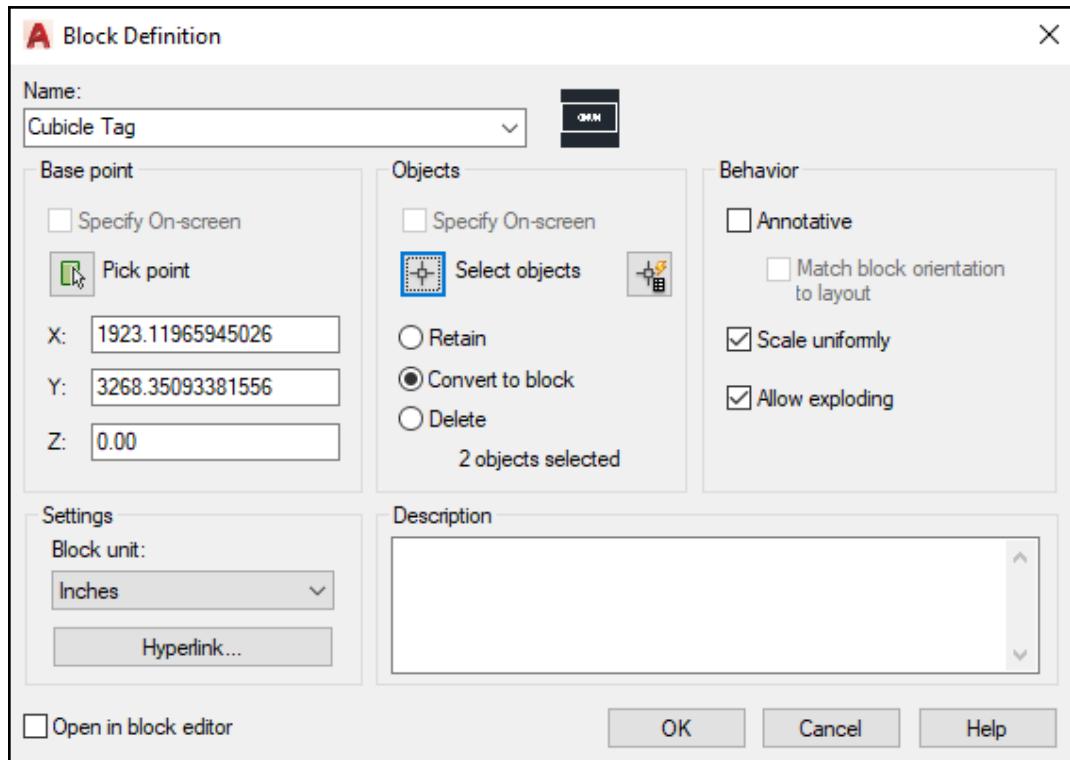
X Select group or [Name]:
↙ GROUPEDIT Enter an option [Add objects Remove objects RENAME]:

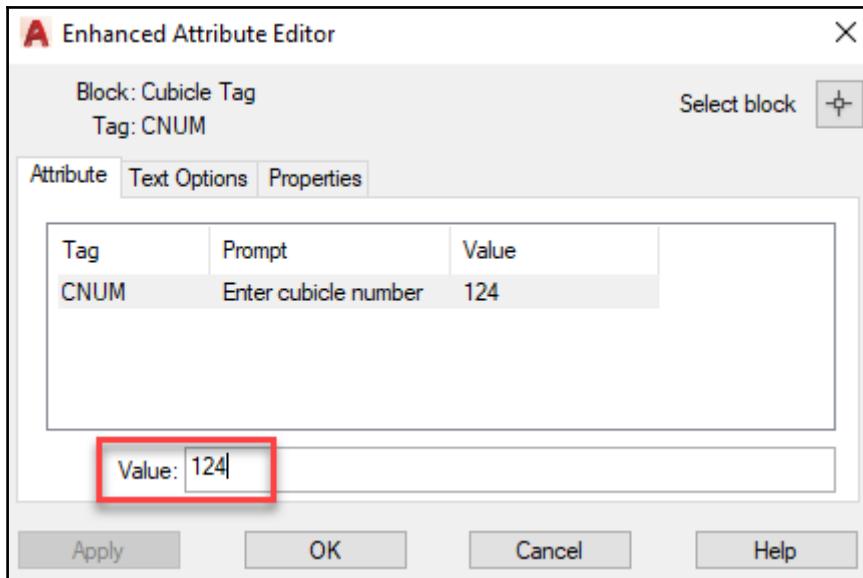
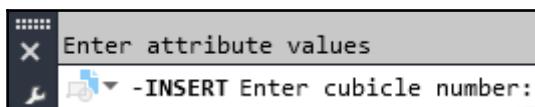
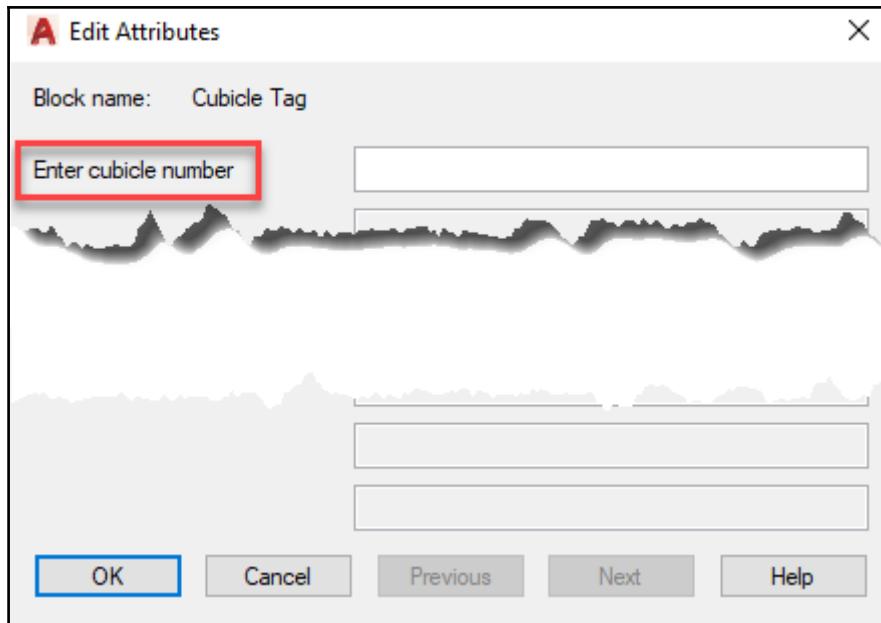


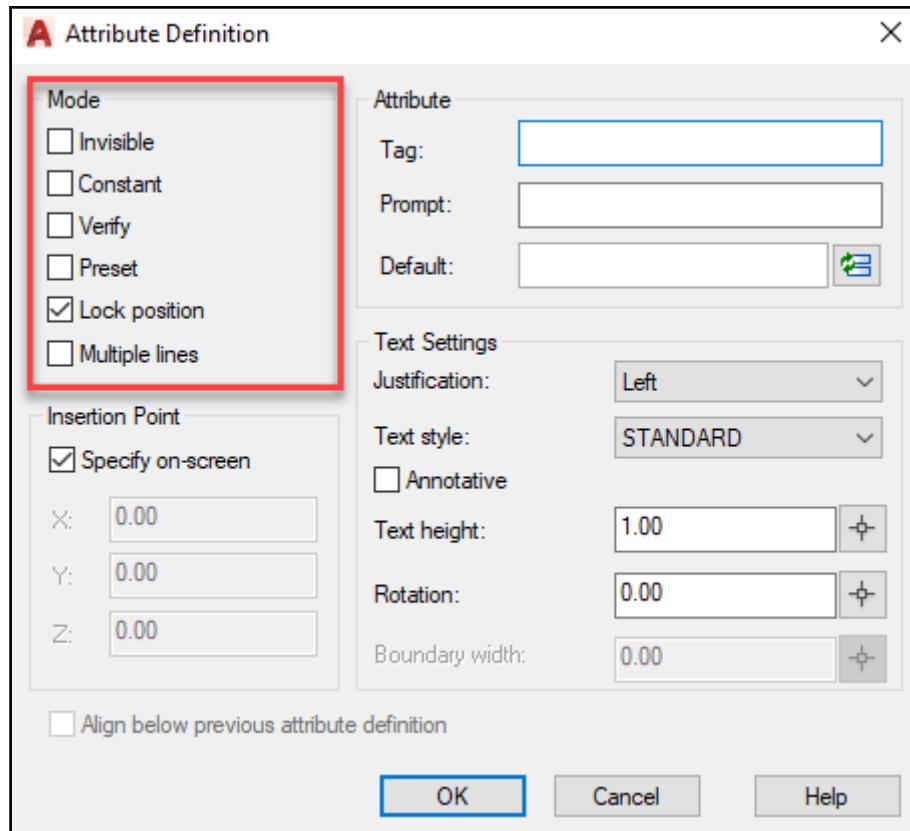


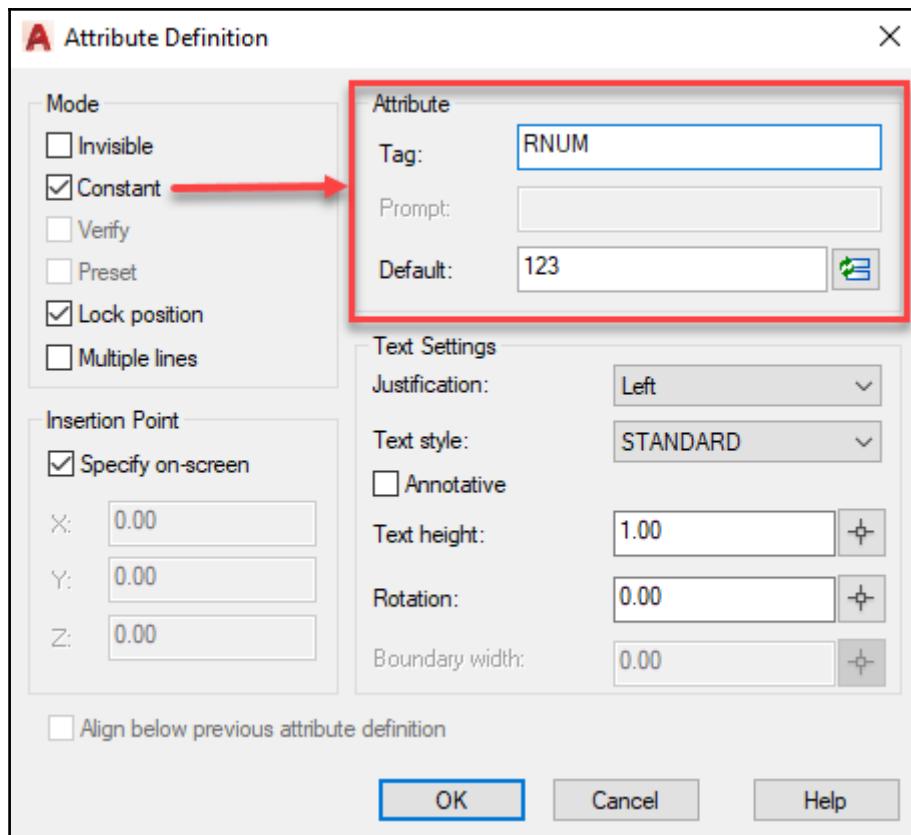


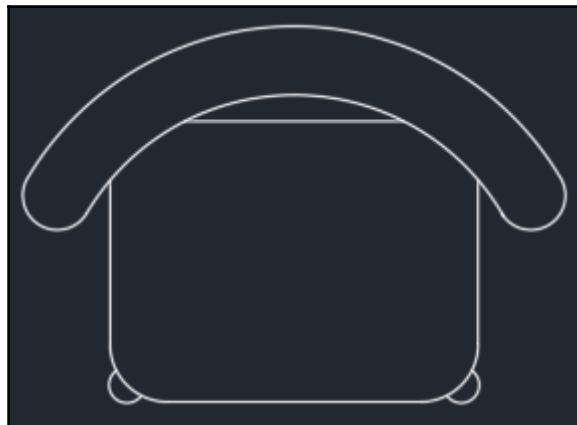
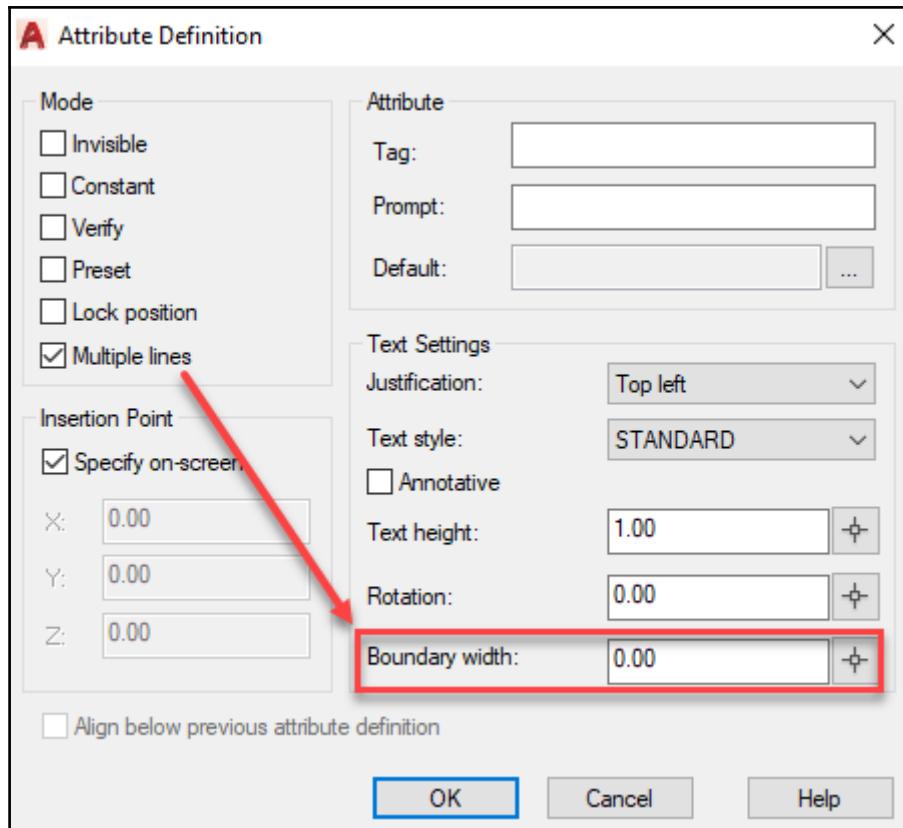


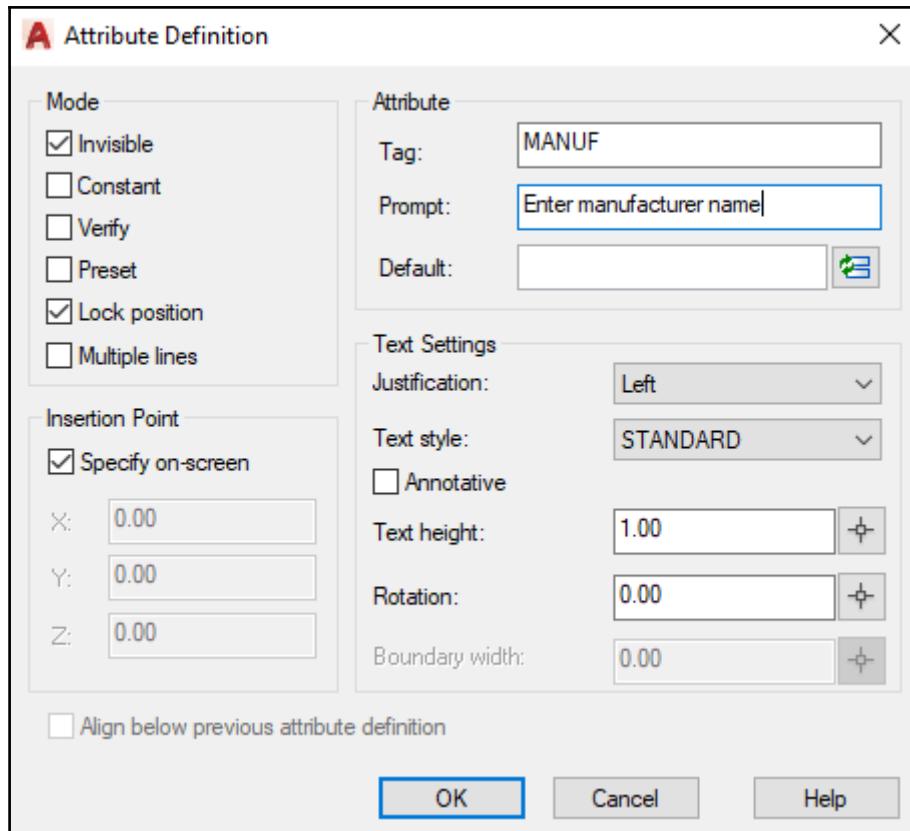


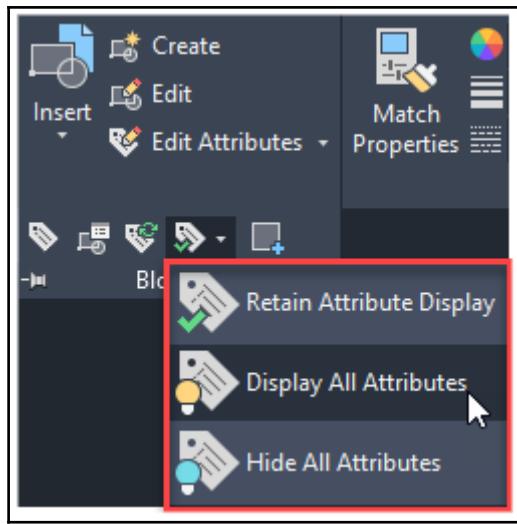






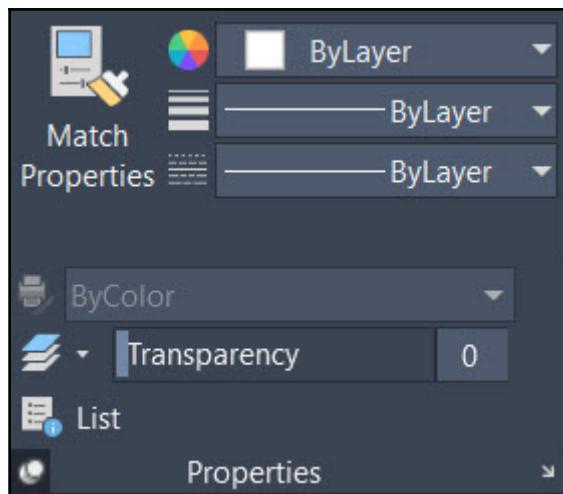


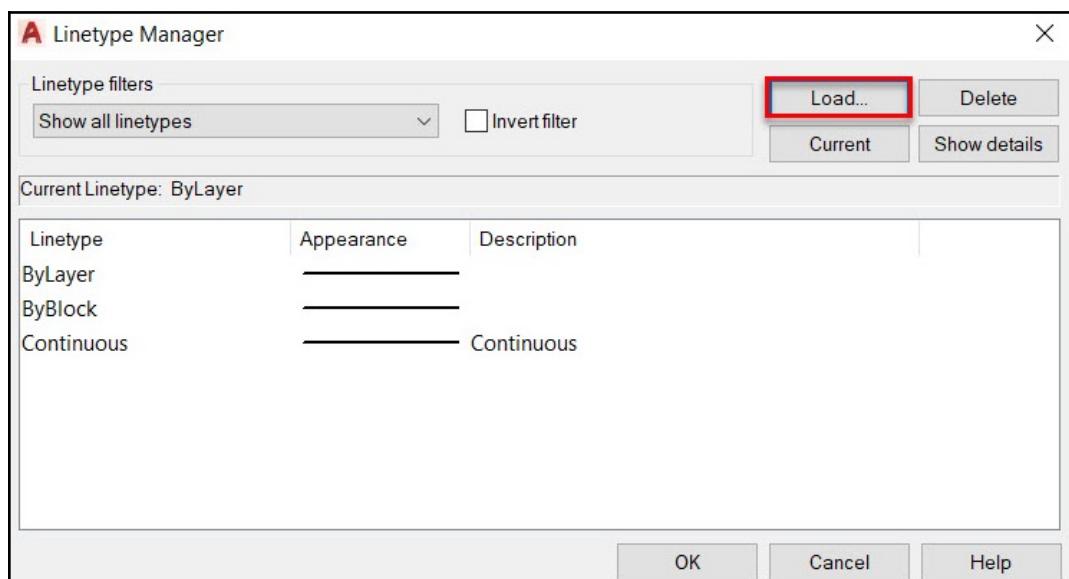
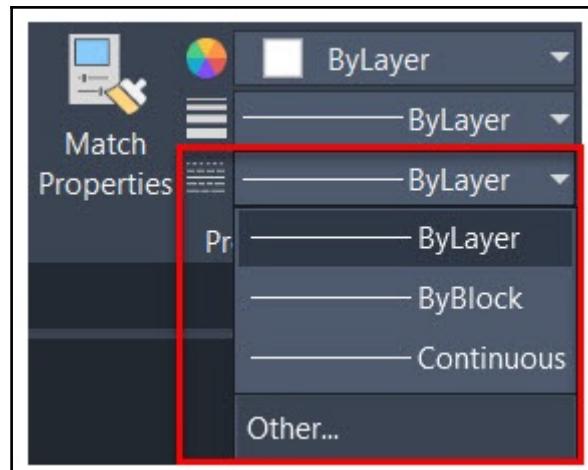


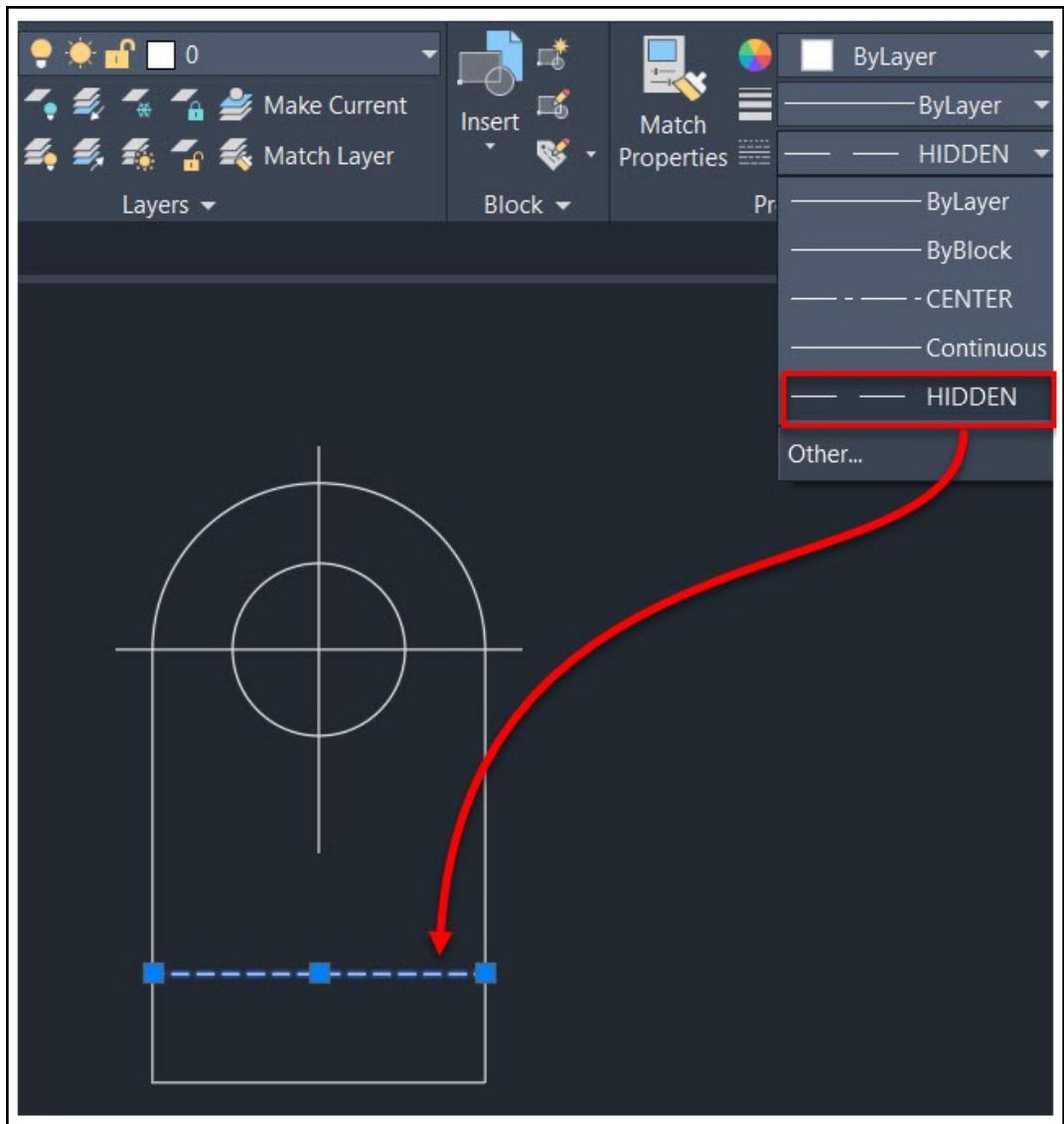


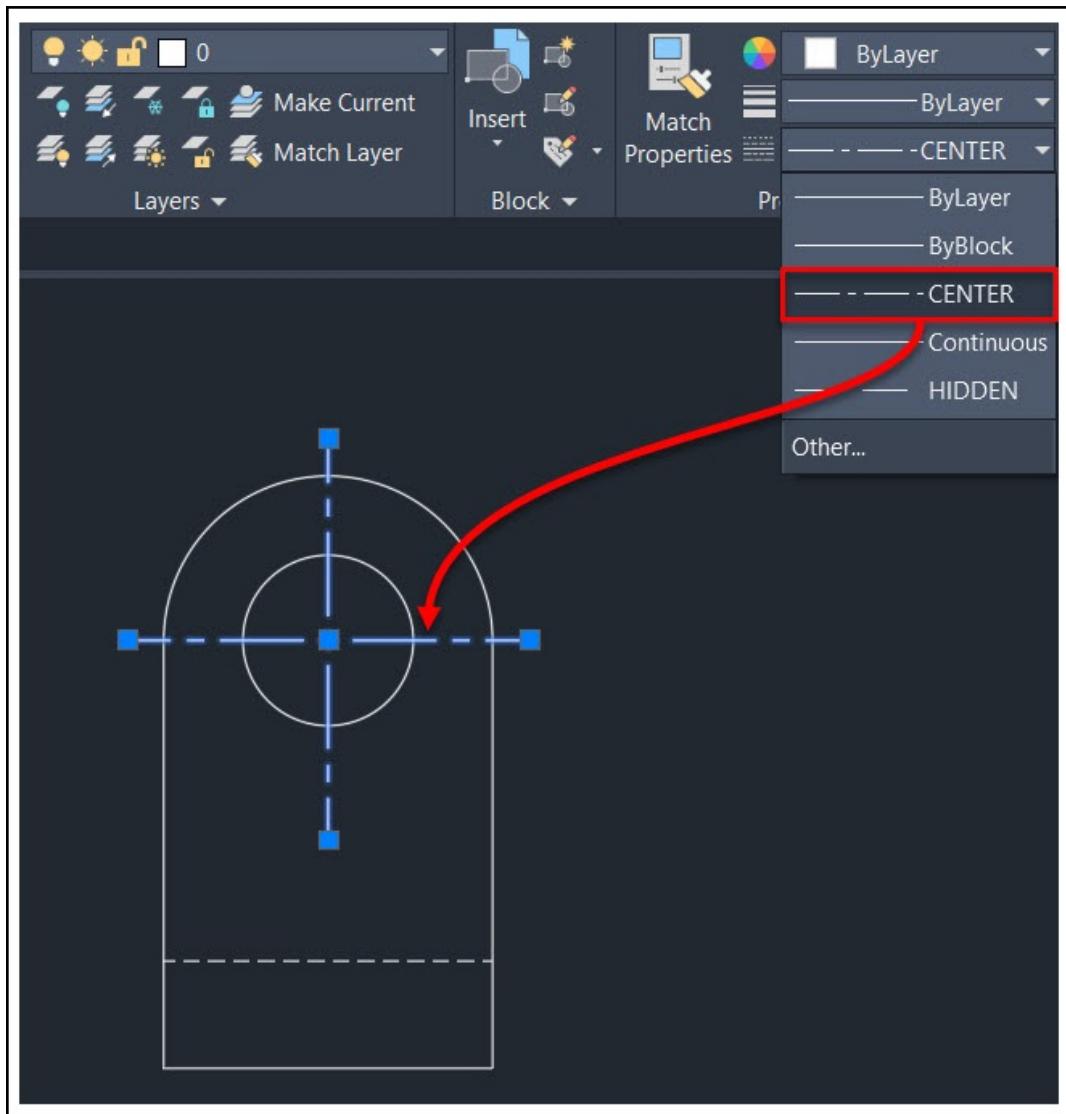
Chapter 5: Managing Drawings with Layers and Properties

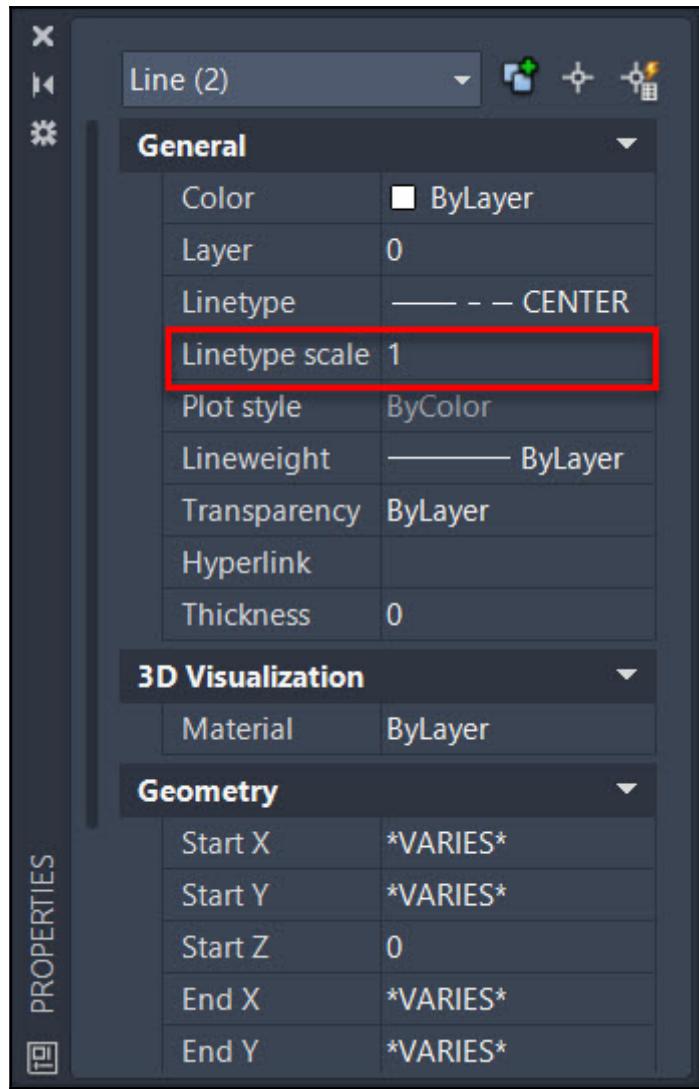


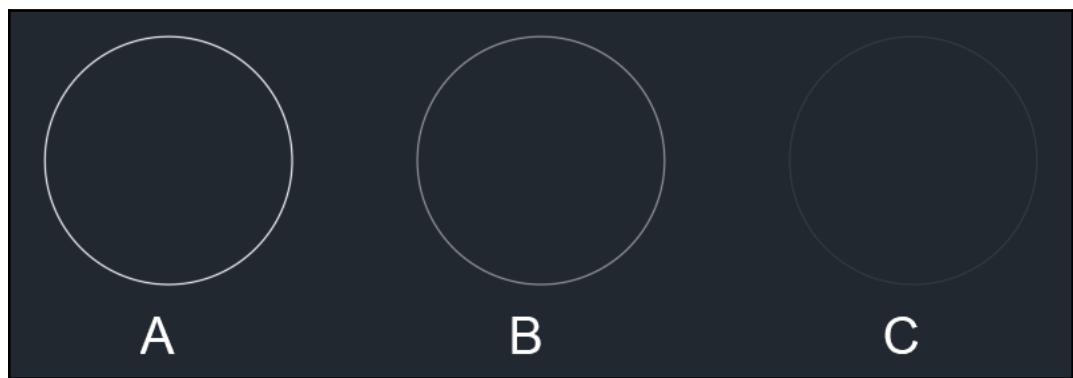
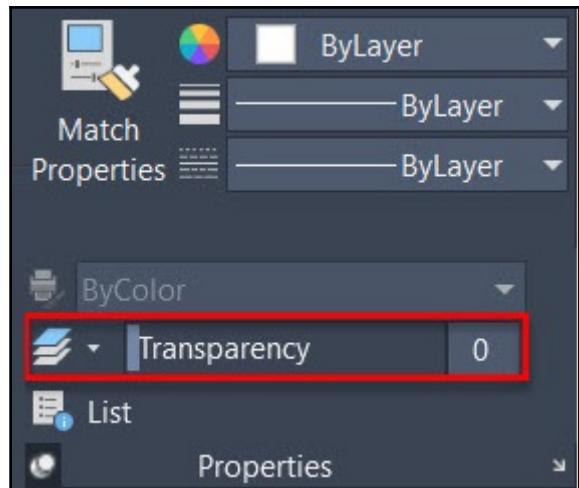


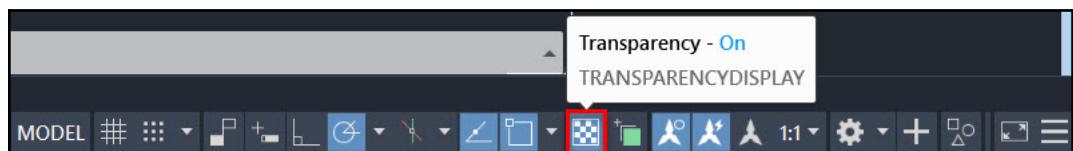
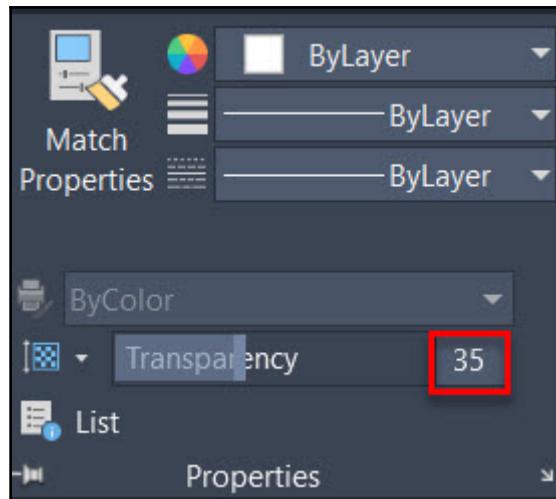




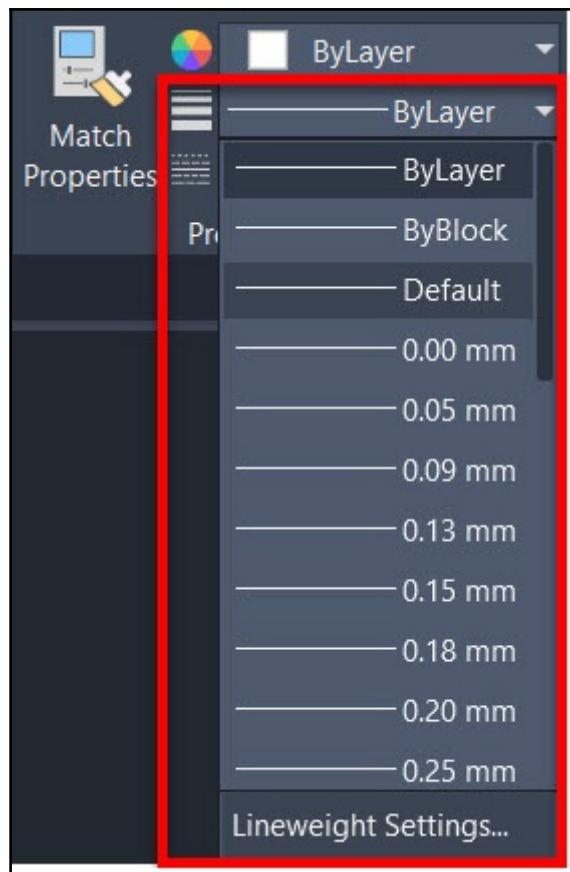


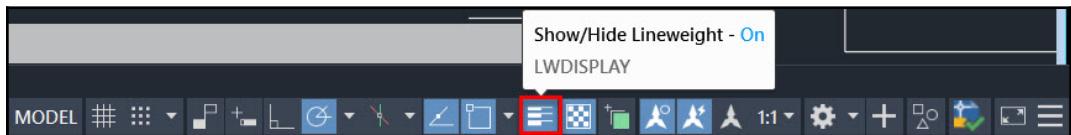
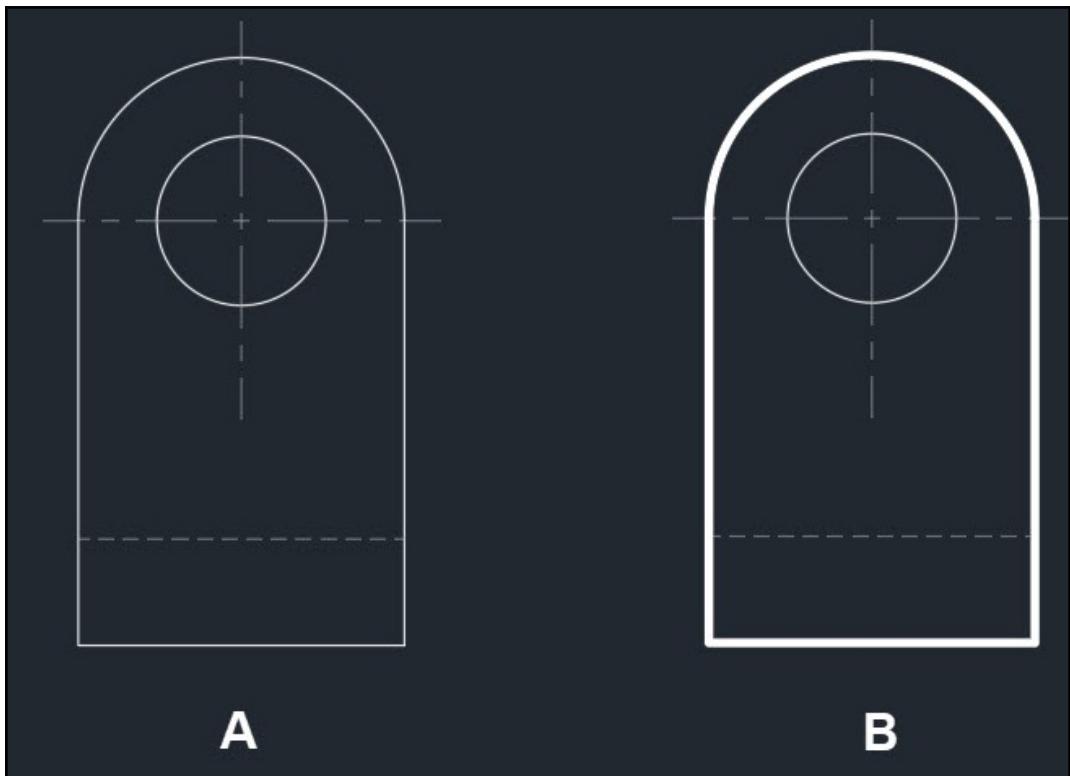


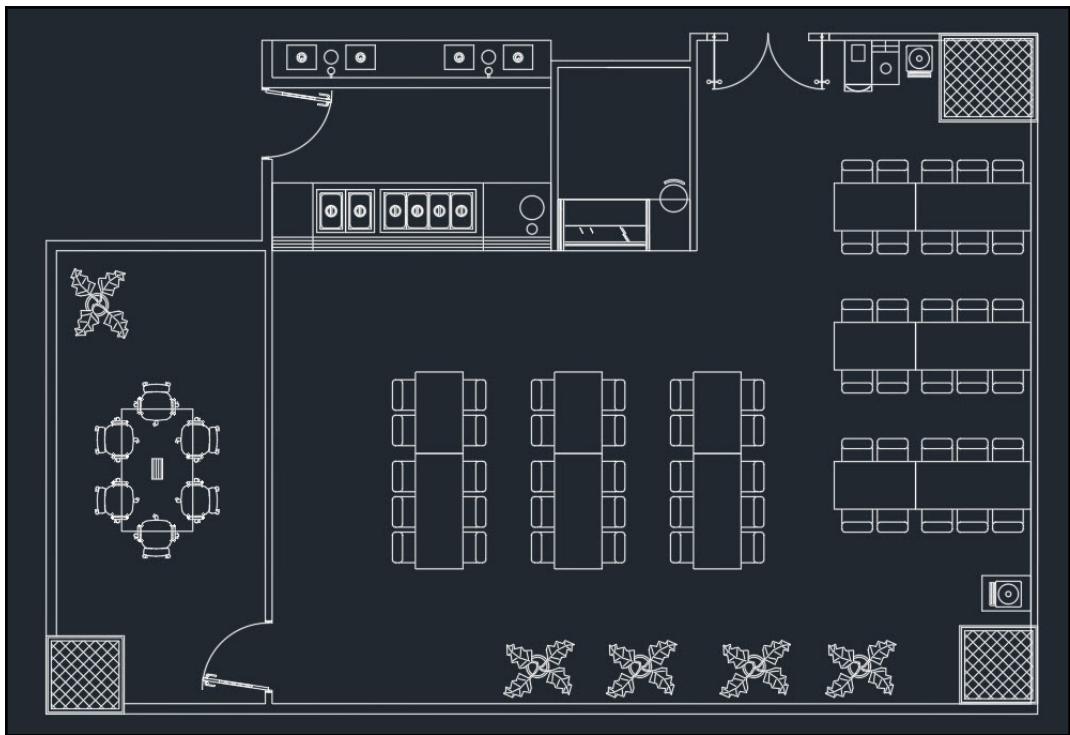


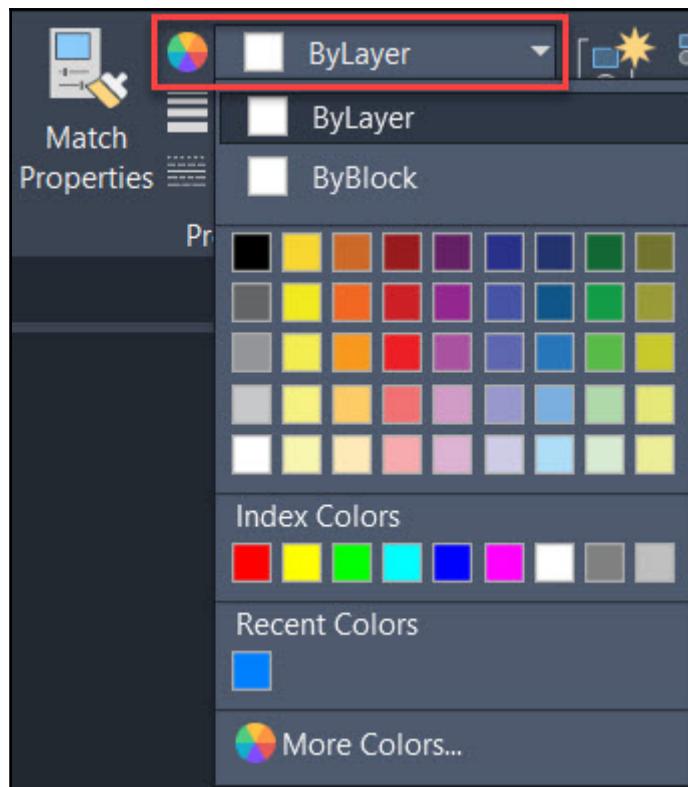


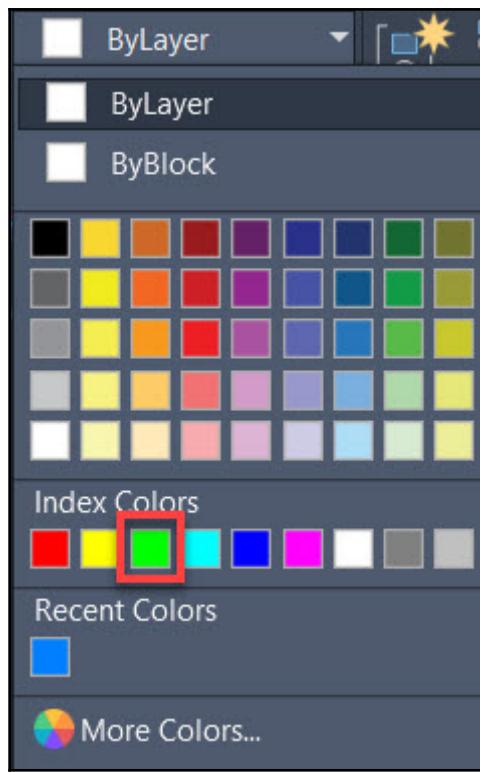


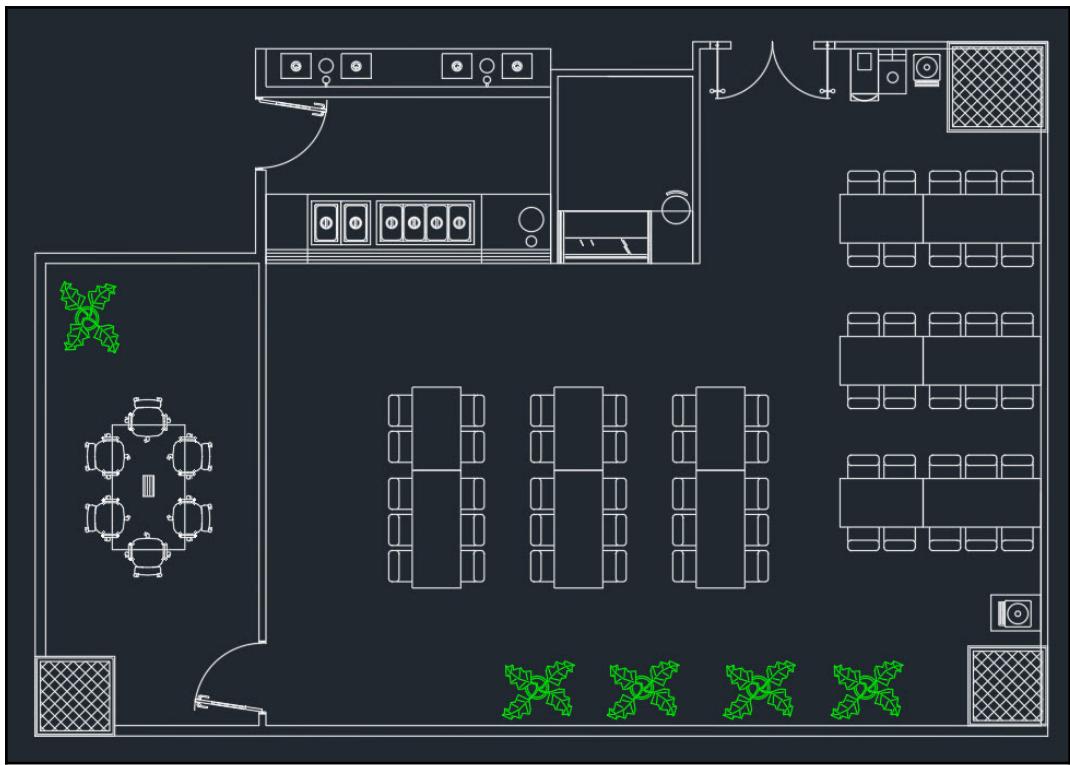


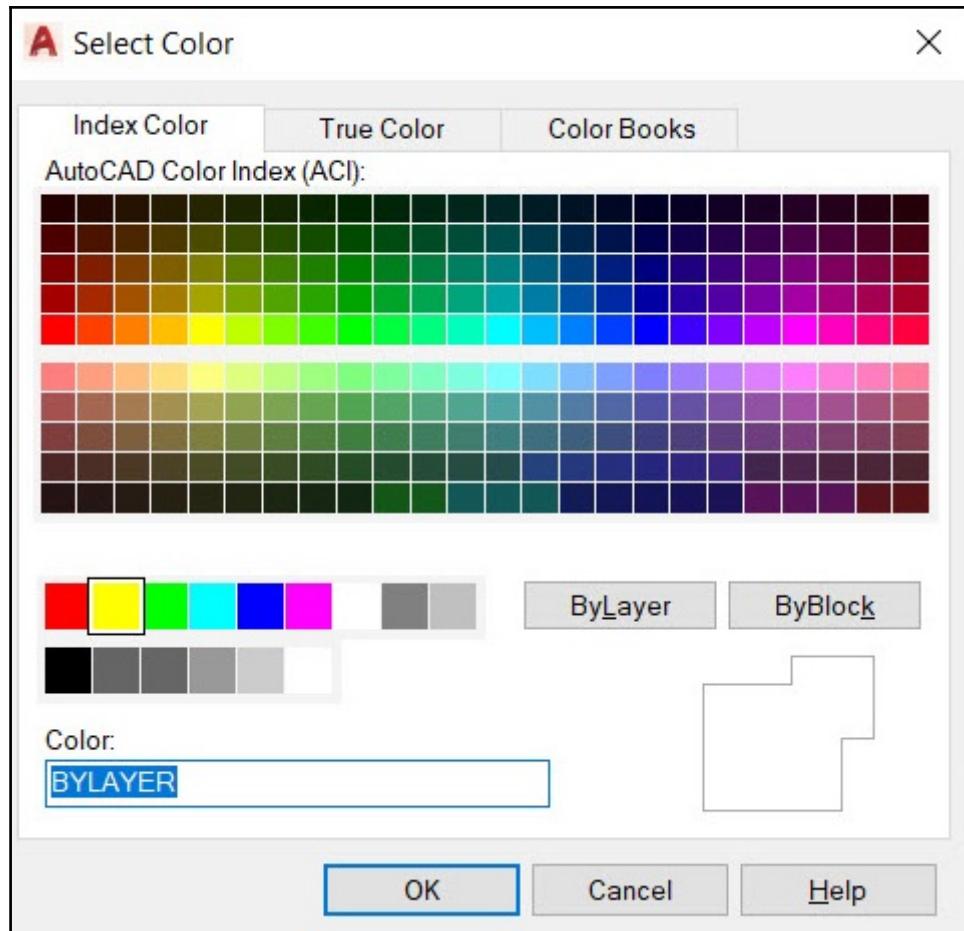


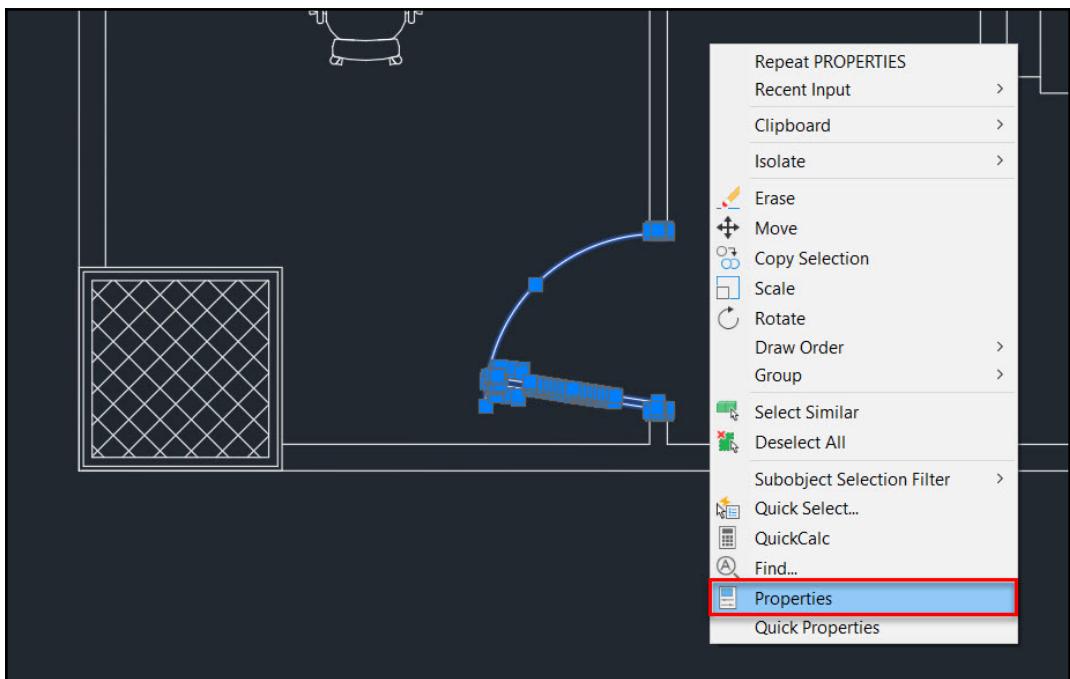


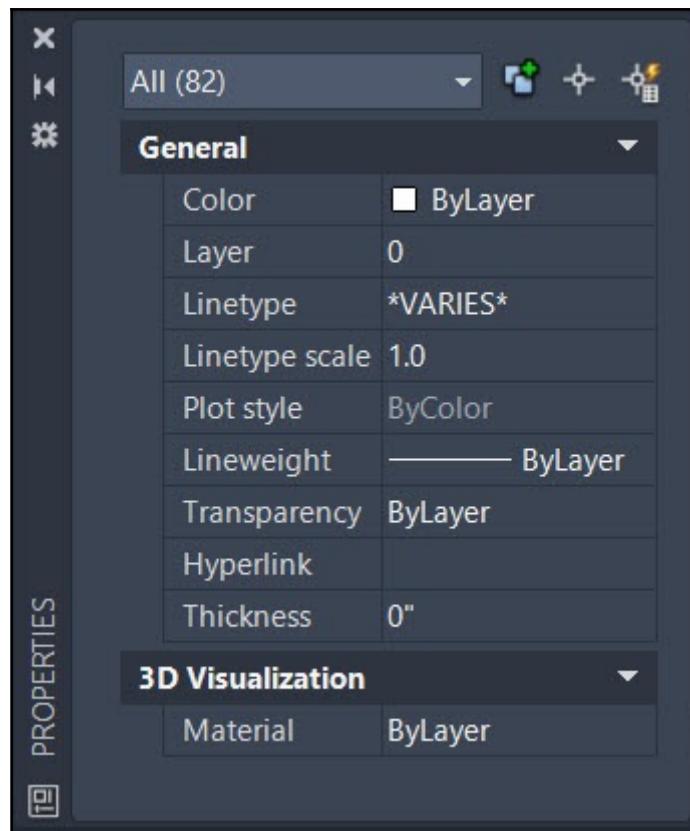


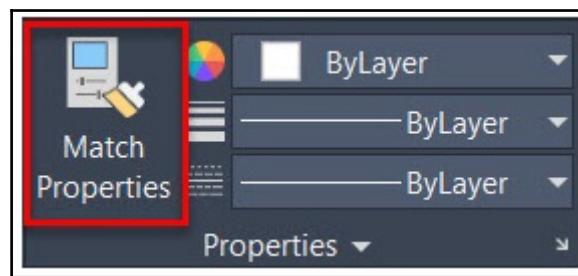
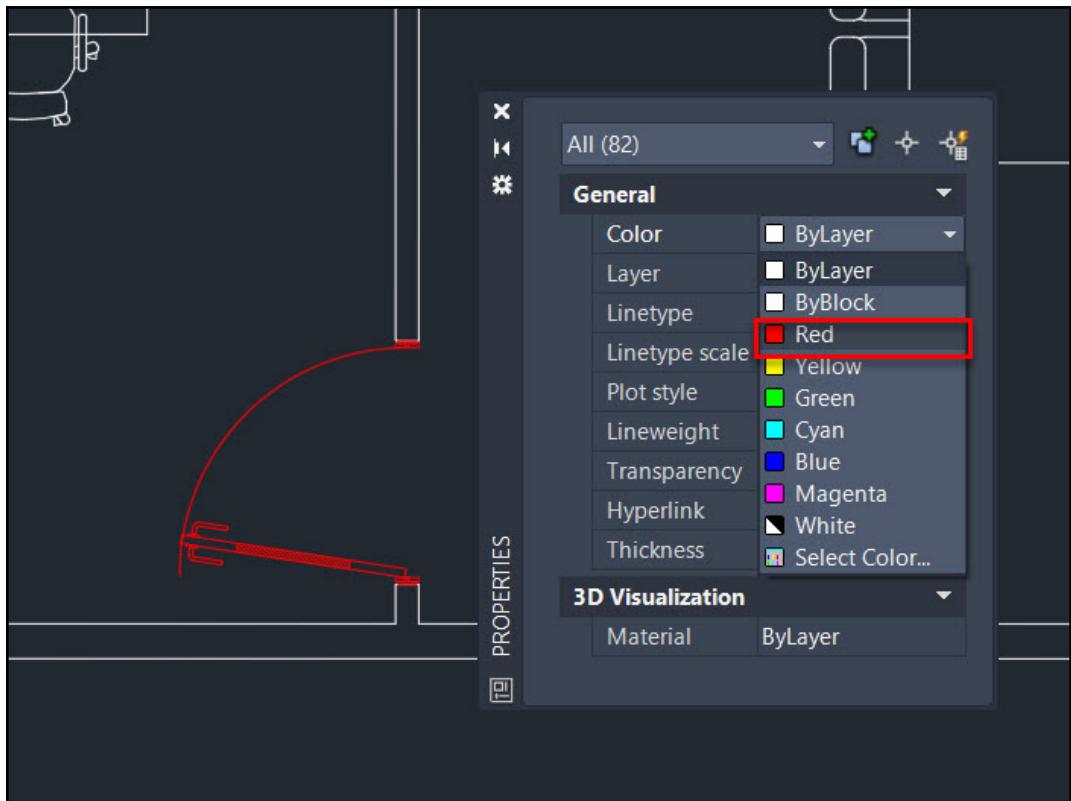


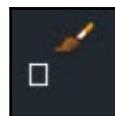
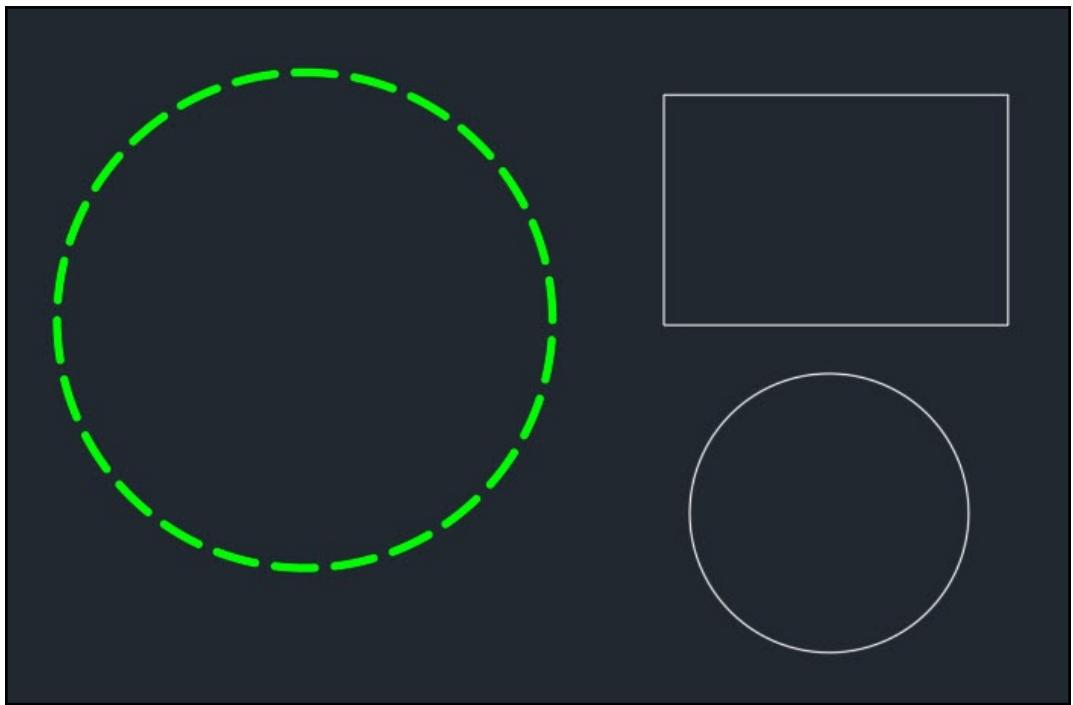


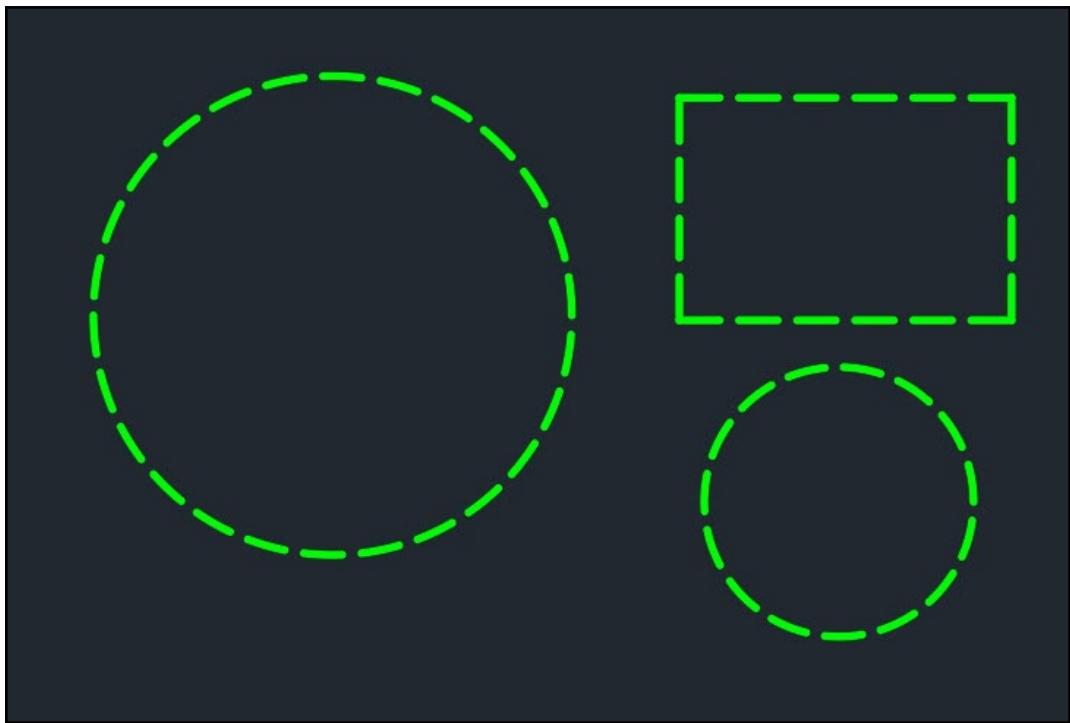




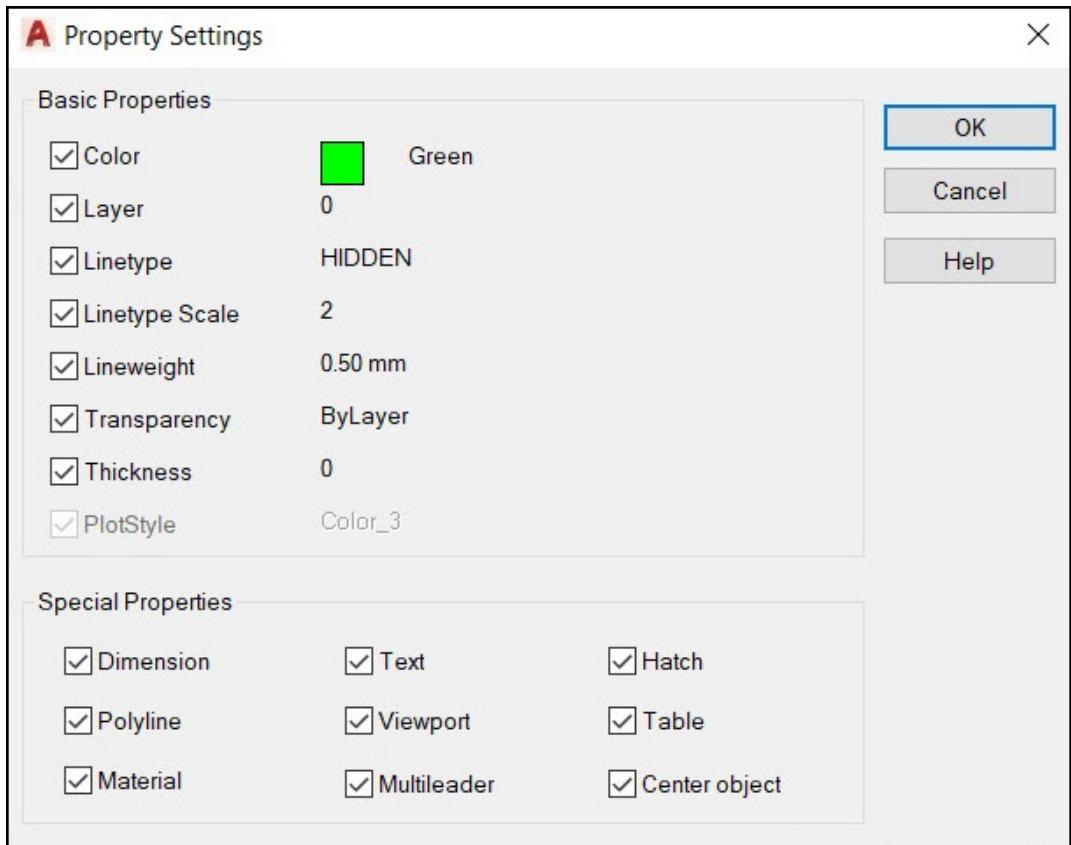


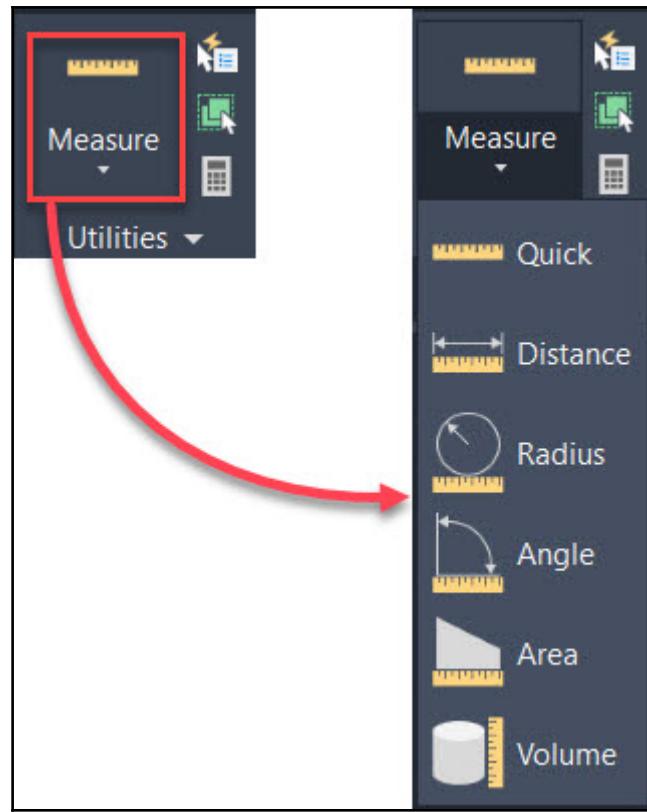


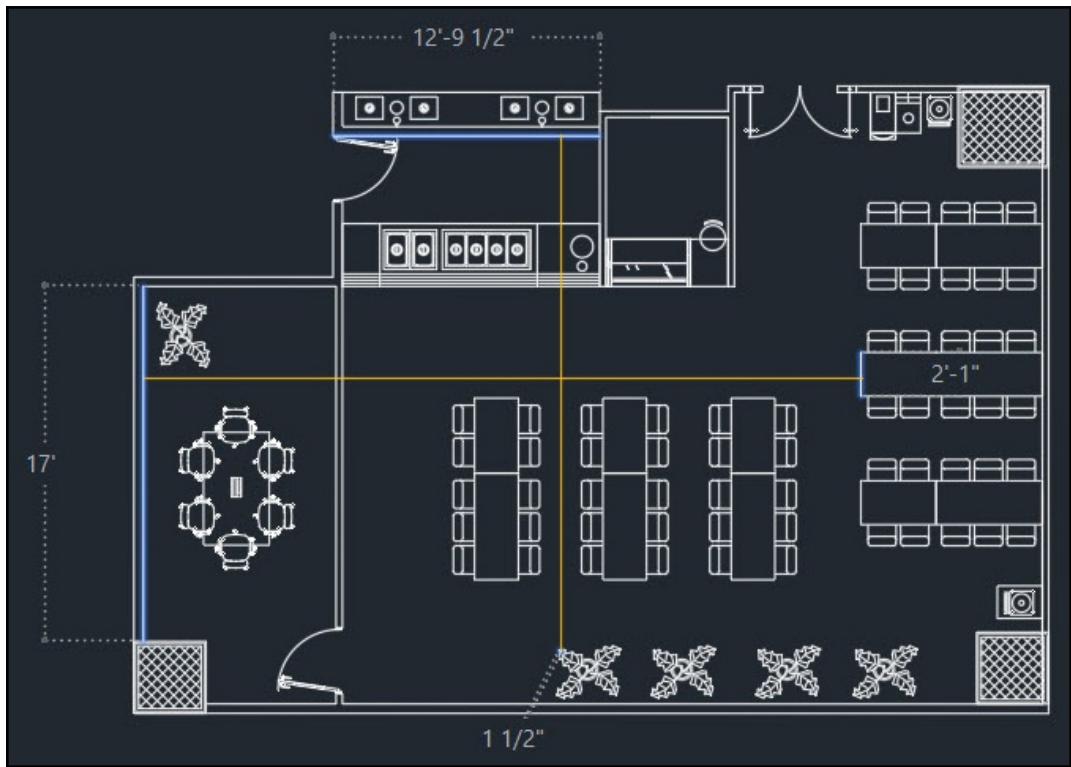


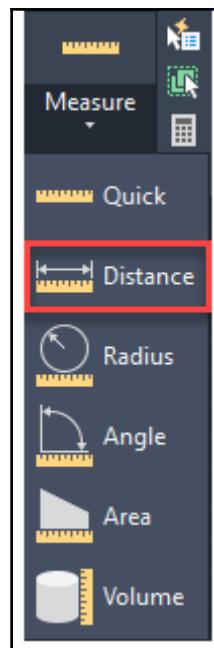


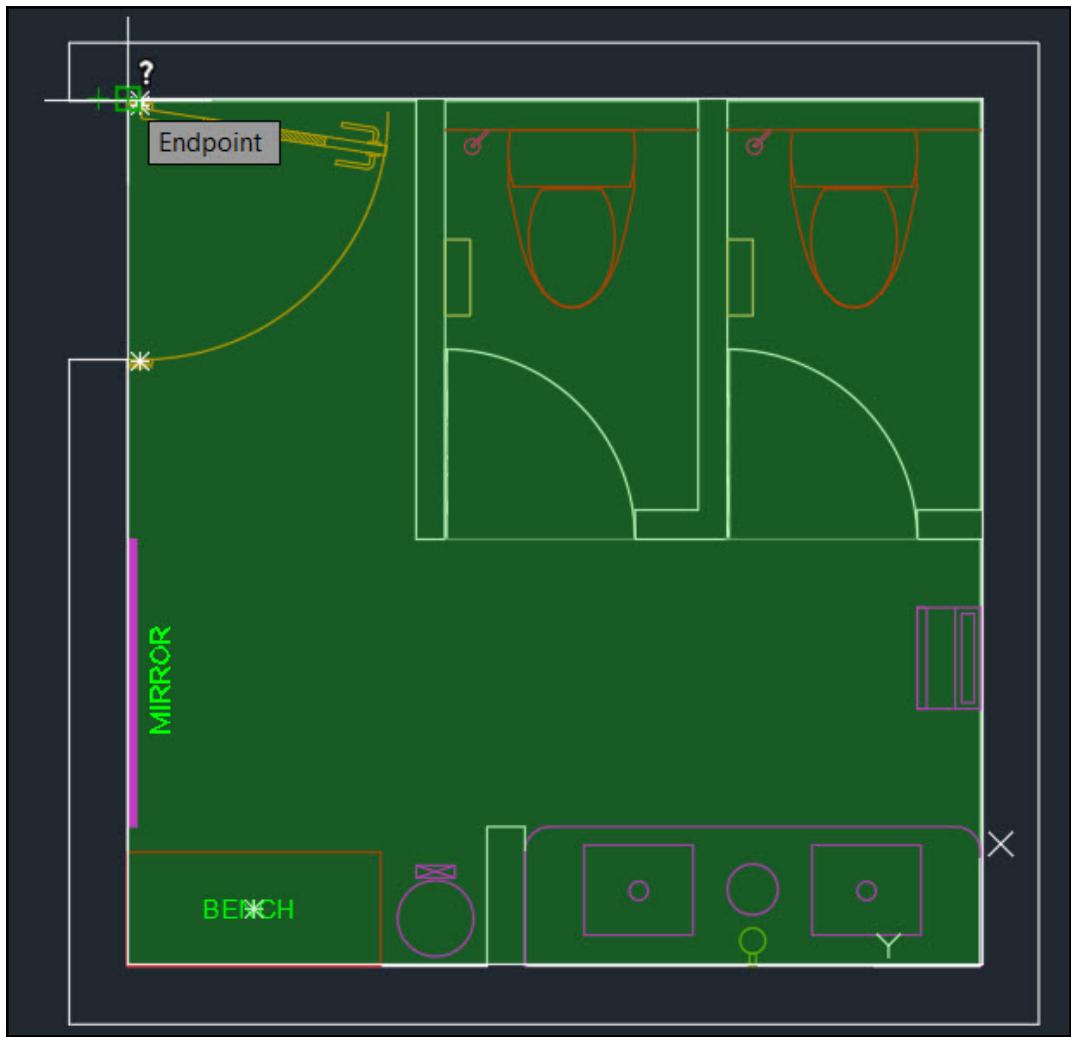
⋮ MATCHPROP Select destination object(s) or [Settings]:



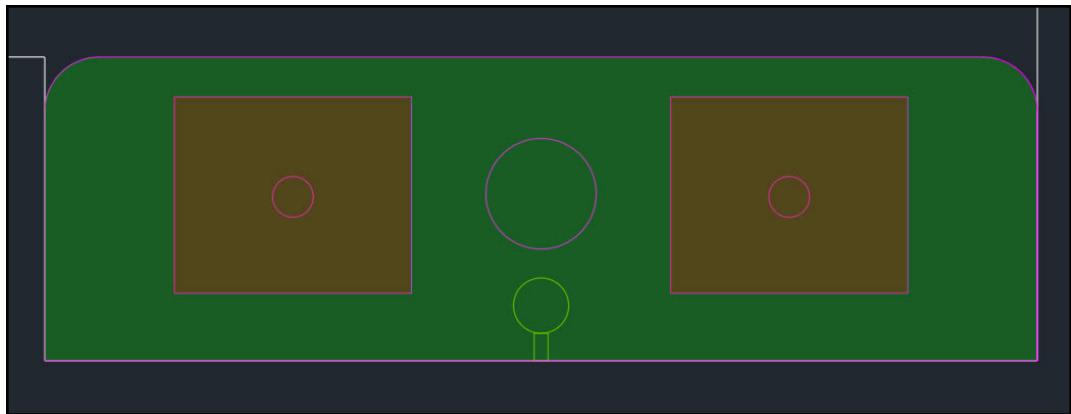
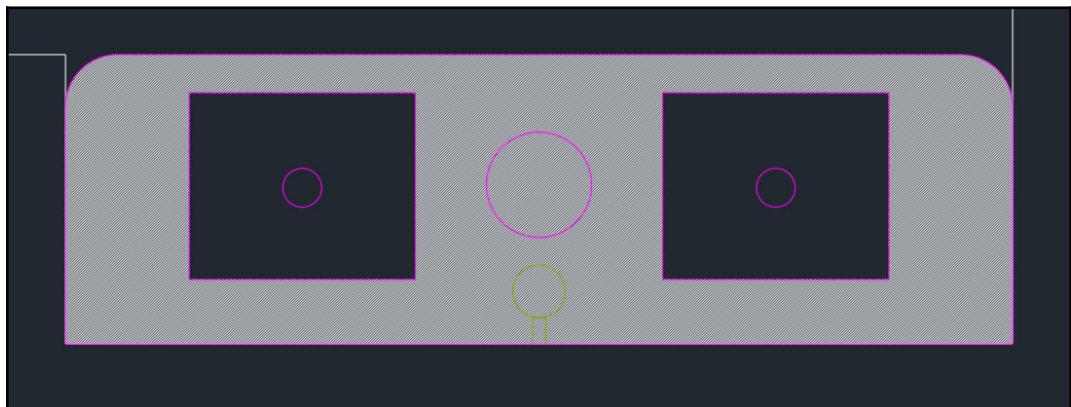


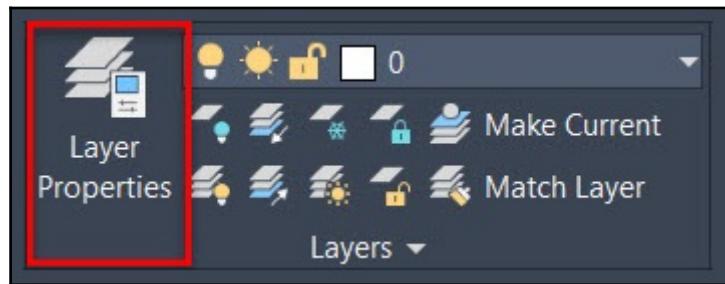
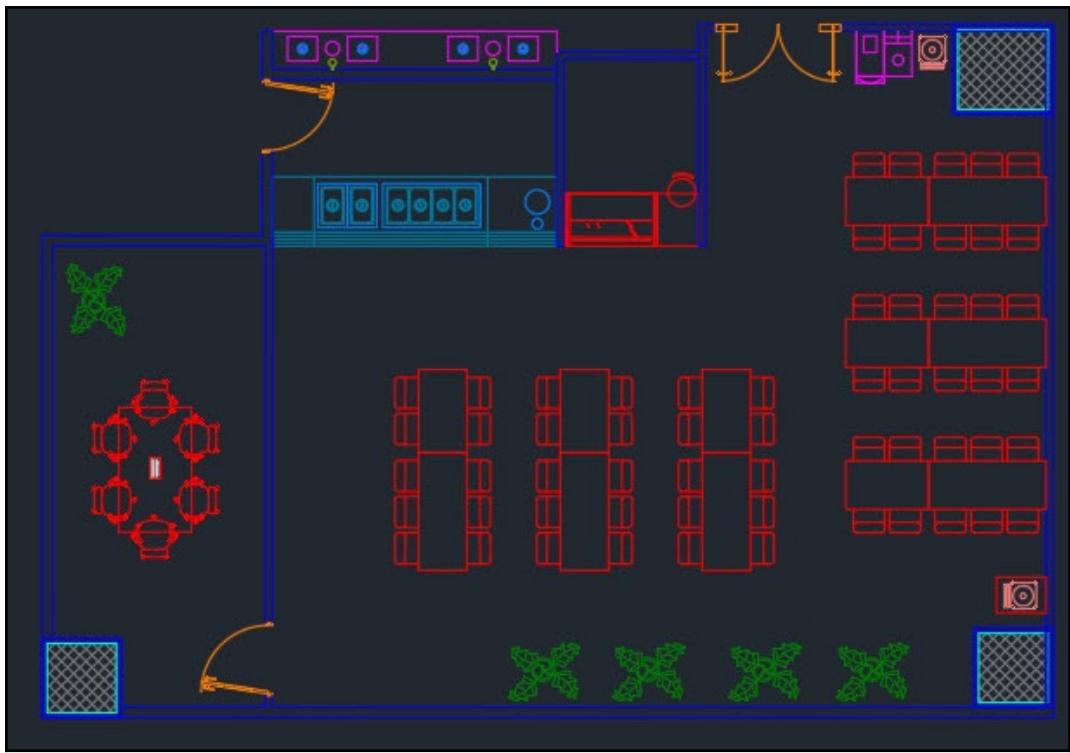


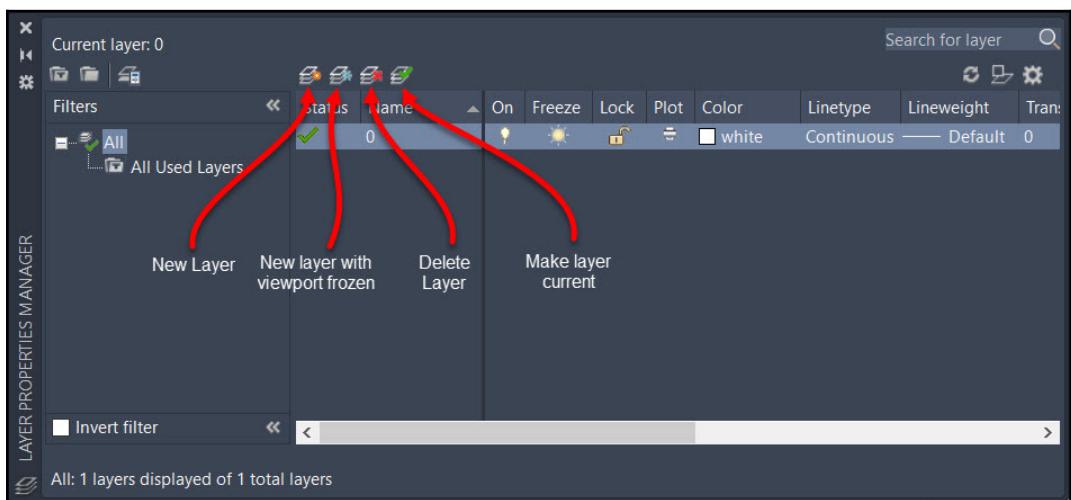
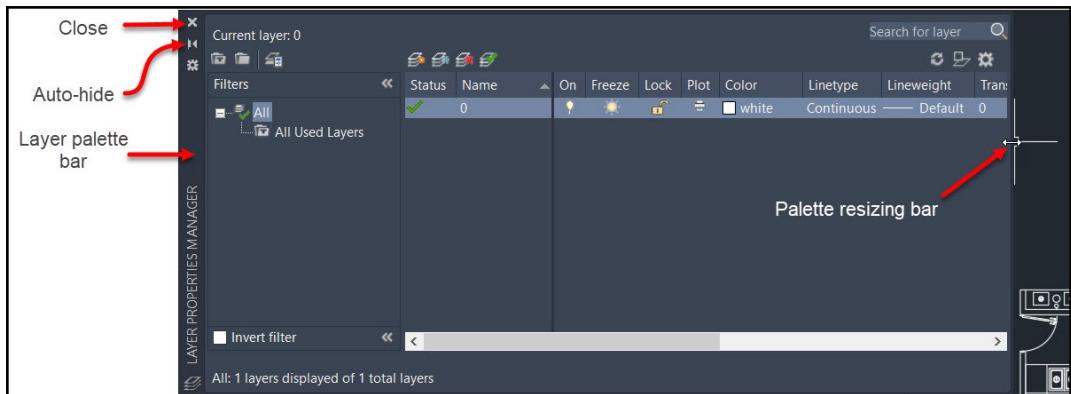




█ X ↕ AREA Specify first corner point or [Object Add area Subtract area] <Object>:







Layer - Not Deleted

X

The selected layer was not deleted.

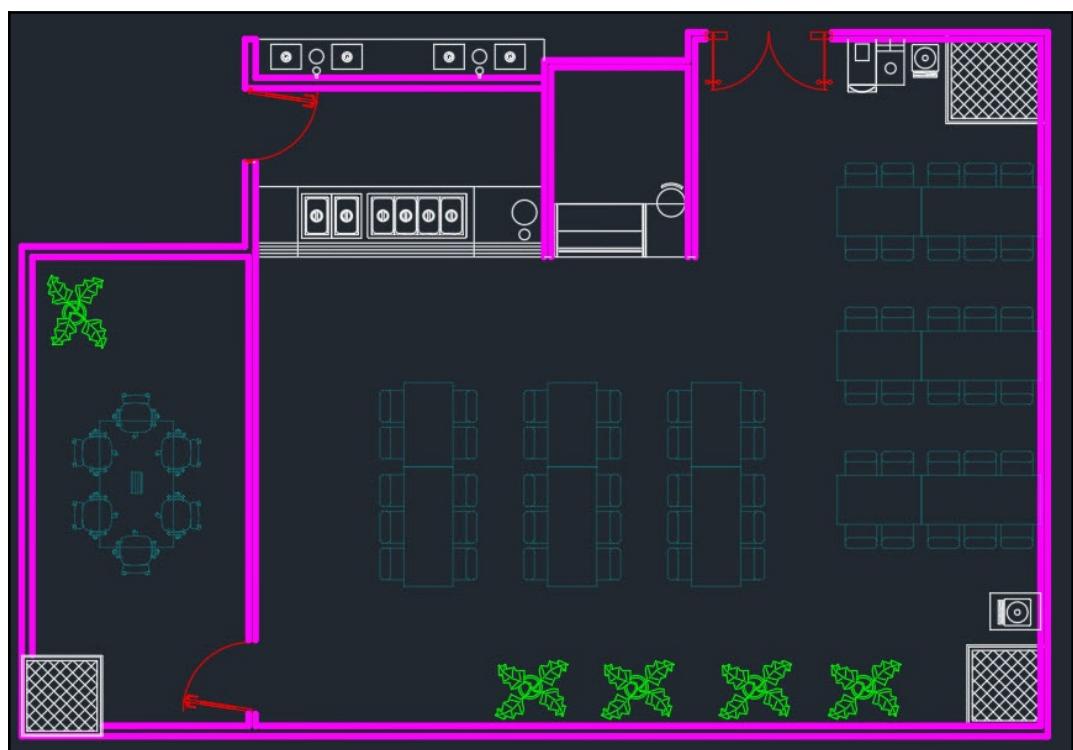
The following layers cannot be deleted:

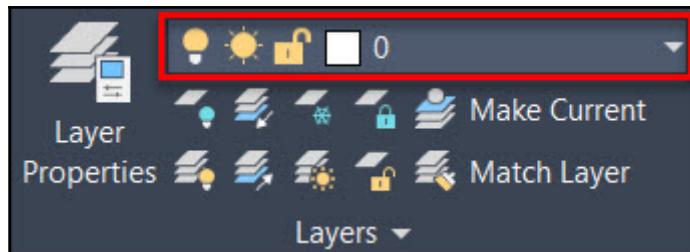
- Layers 0 and Defpoints
- The current layer
- Layers containing objects
- Xref-dependent layers

Close

Status	Name	On	Freeze	Lock	Plot	Color	Linetype	Lineweight	Transparency
✓	0	●	●	🔒	⠇	<input type="checkbox"/> white ■ red ■ magenta ■ cyan ■ green	Continuous	— Default	0
✗	Doors	●	●	🔒	⠇		Continuous	— Default	0
✗	Walls	●	●	🔒	⠇		Continuous	— Default	0
✗	Furniture	●	●	🔒	⠇		Continuous	— Default	0
✗	Plants	●	●	🔒	⠇		Continuous	— Default	0

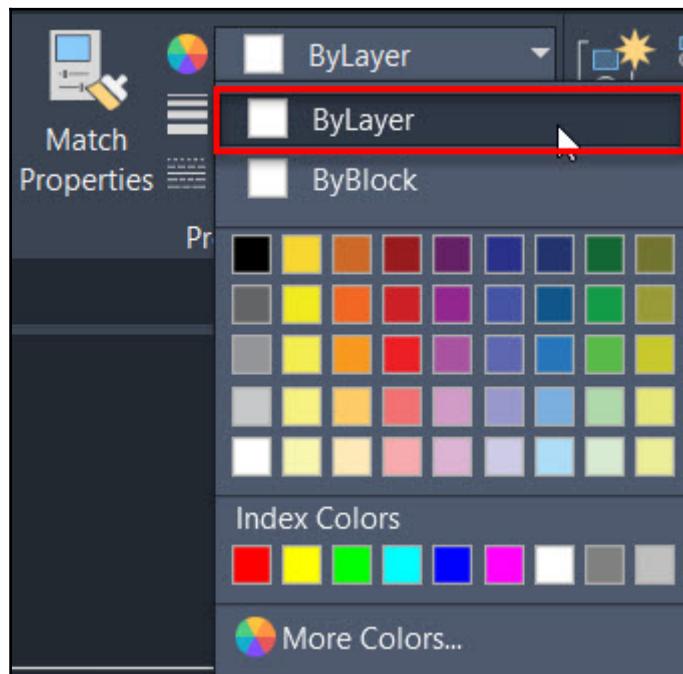
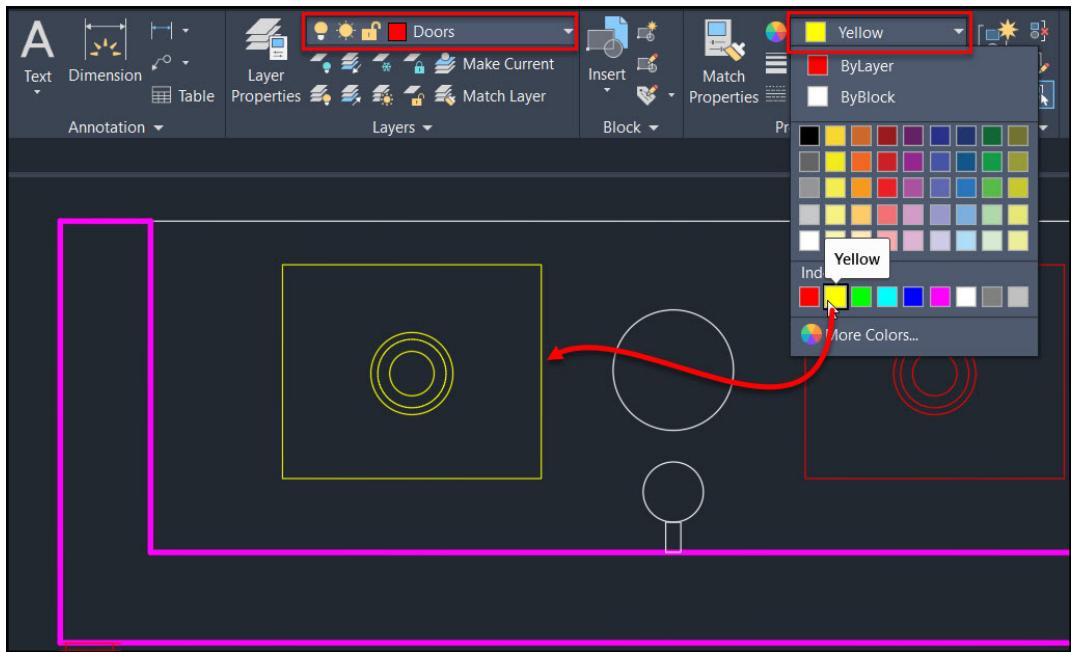
Status	Name	On	Freeze	Lock	Plot	Color	Linetype	Lineweight	Transparency
✓	0	●	●	🔒	⠇	<input type="checkbox"/> white ■ red ■ cyan ■ green ■ magenta	Continuous	— Default	0
✗	Doors	●	●	🔒	⠇		Continuous	— Default	0
✗	Furniture	●	●	🔒	⠇		Continuous	— Default	60
✗	Plants	●	●	🔒	⠇		Continuous	— Default	0
✗	Walls	●	●	🔒	⠇		Continuous	— 0.50 mm	0





Current layer: 0											Search for layer
Filters		Status	Name	On	Freeze	Lock	Plot	Color	Linetype	Lineweight	Transparency
All	<input checked="" type="checkbox"/>	0							Continuous	Default	0
All Used Layers	<input type="checkbox"/>	Doors							red	Continuous	Default
	<input type="checkbox"/>	Furniture							cyan	Continuous	Default
	<input type="checkbox"/>	Plants							green	Continuous	Default
	<input type="checkbox"/>	Walls							magenta	Continuous	0.50 mm

Below the table, there is a checkbox labeled 'Invert filter' and a message stating 'All: 5 layers displayed of 5 total layers'.





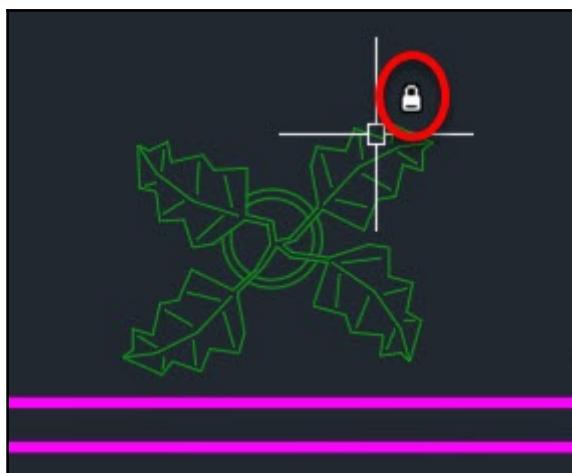
Filters		Status	Name	On	Freeze	Lock	Plot	Color	Linetype	Lineweight	Transparency
All	All Used Layers	0	Doors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	white	Continuous	Default	0
			Furniture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	red	Continuous	Default	0
			Plants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	cyan	Continuous	Default	80
			Walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	green	Continuous	Default	0
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	magenta	Continuous	0.50 mm	0

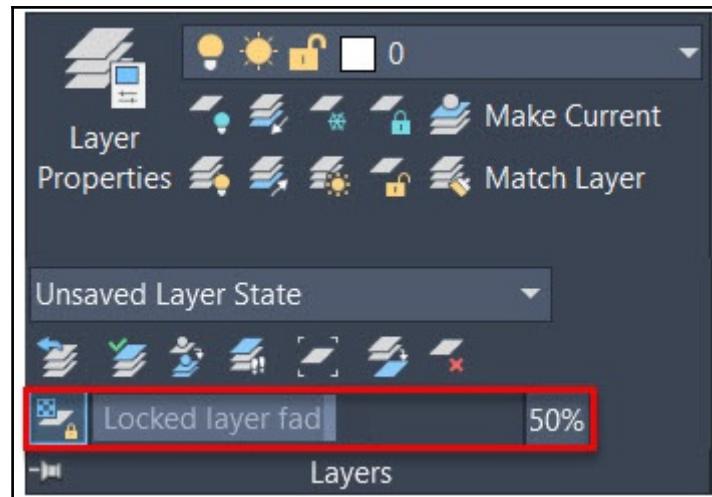
Layer - Current Layer Off X

The current layer will be turned off. What do you want to do?

→ Turn the current layer off
Objects that you create from now on will not be displayed in the drawing until you turn the layer back on.

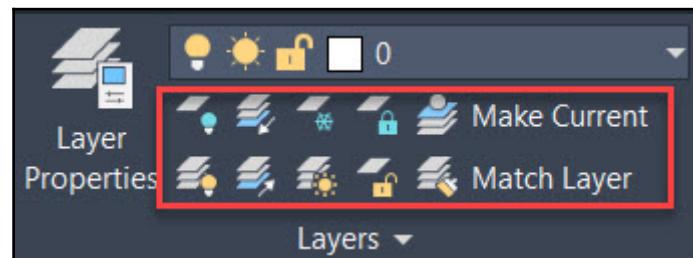
→ Keep the current layer on

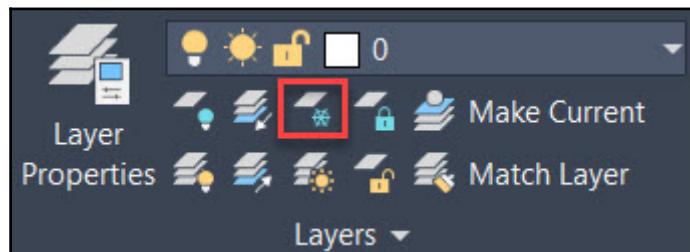
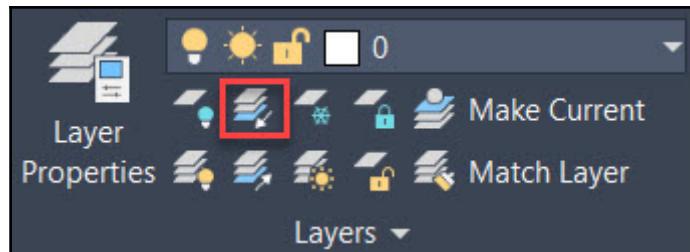
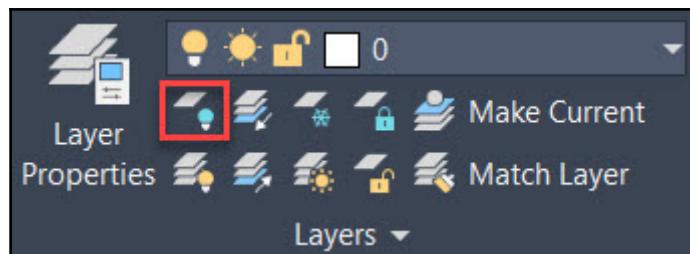


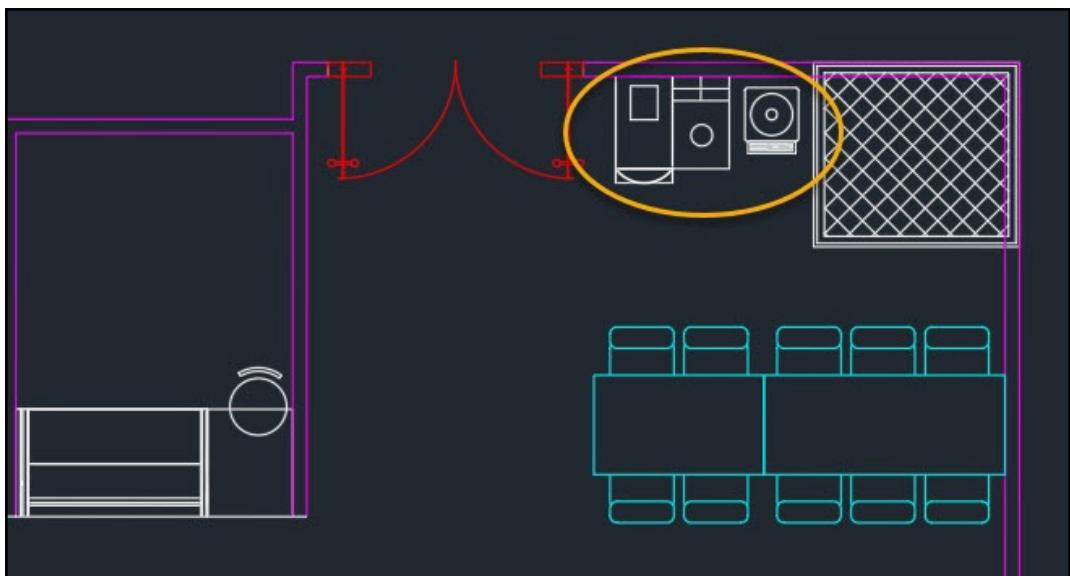
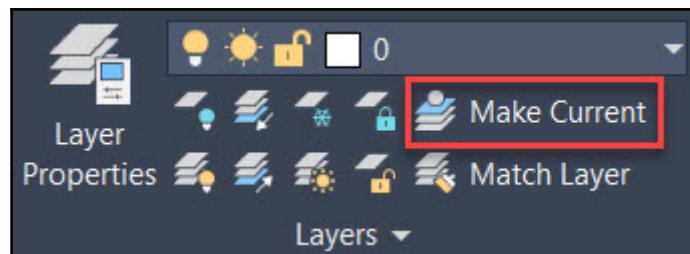
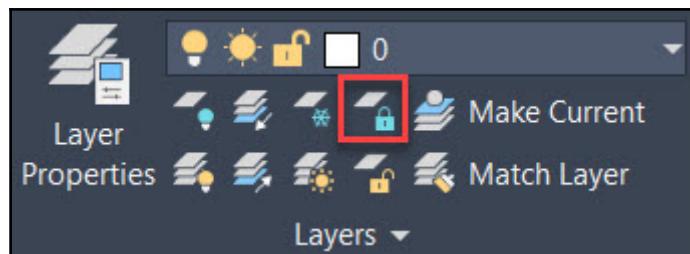


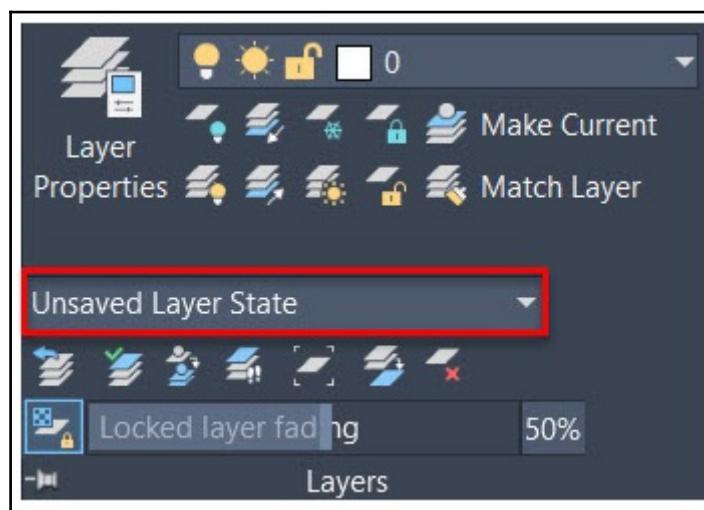
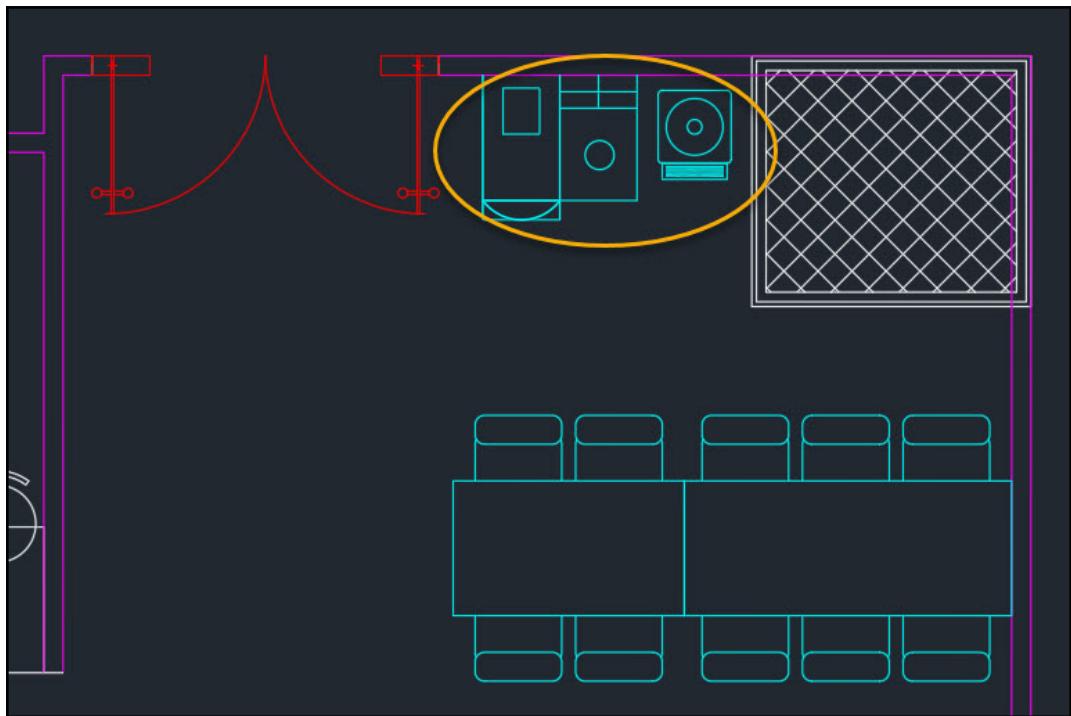
Layer Properties Manager												
	Current layer: 0											
	Filters		Status	Name	On	Freeze	Lock	Plot	Color	Linetype	Lineweight	Transparency
All	All Used Layers	<input checked="" type="checkbox"/>		0					white	Continuous	Default	0
				Doors					red	Continuous	Default	0
				Furniture					cyan	Continuous	Default	80
				Plants					green	Continuous	Default	0
				Walls					magenta	Continuous	0.50 mm	0

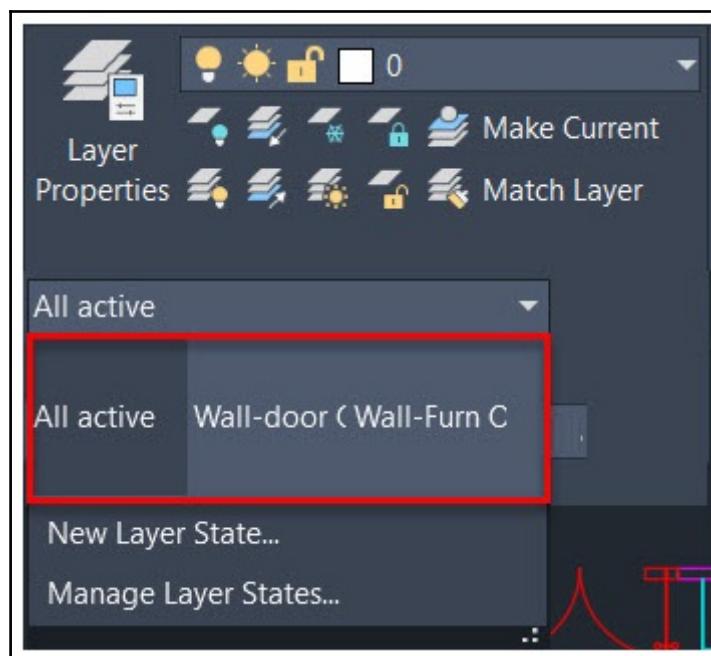
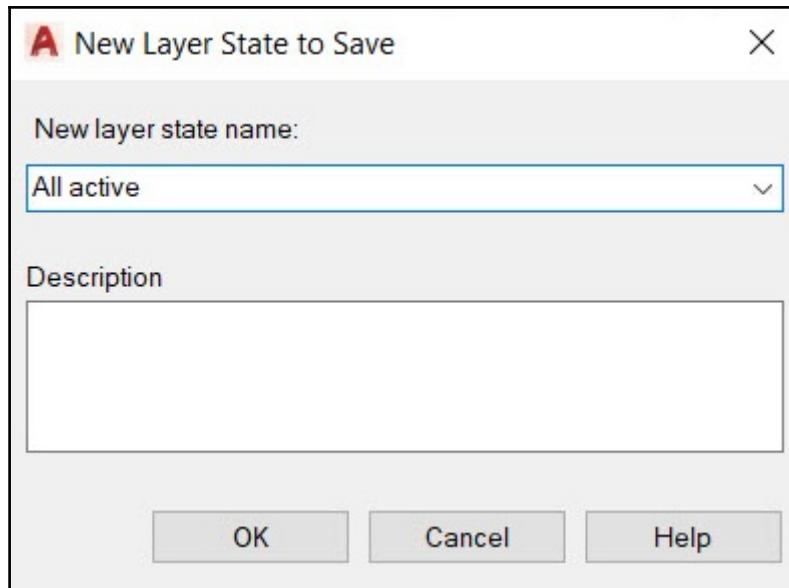
All: 5 layers displayed of 5 total layers



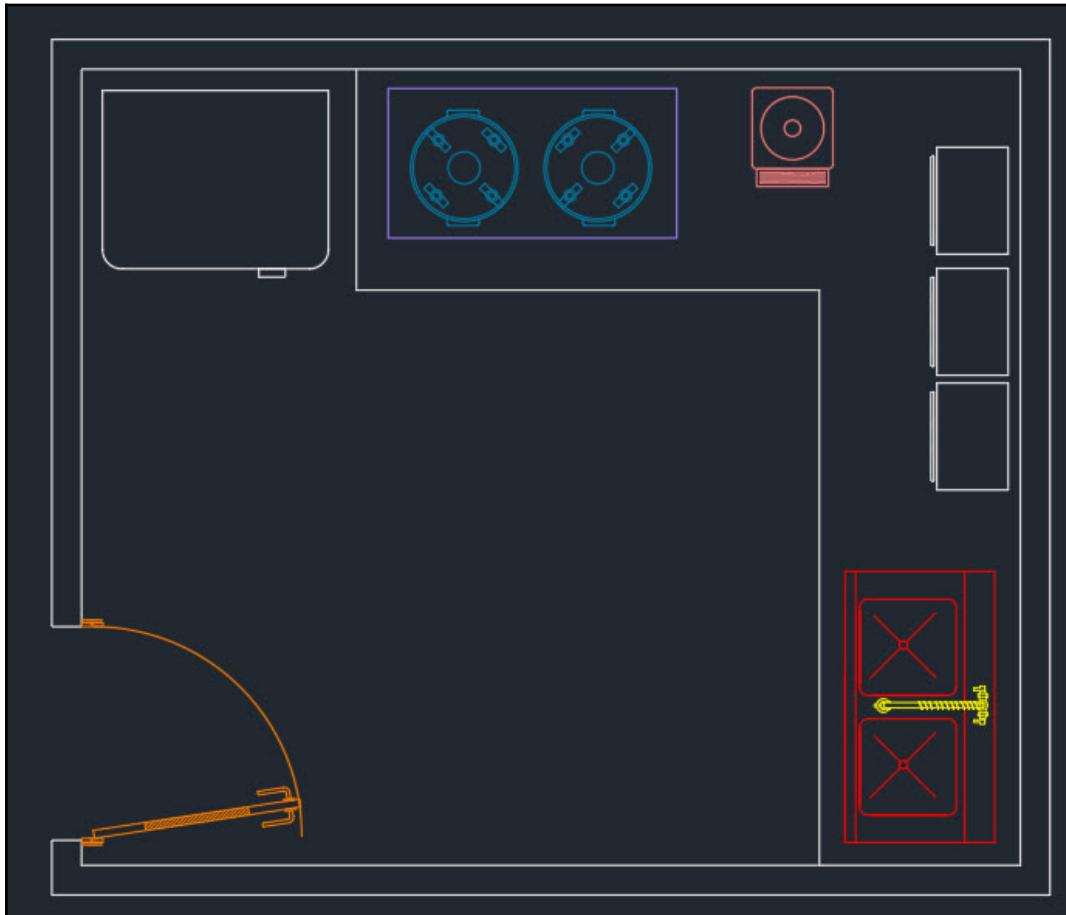


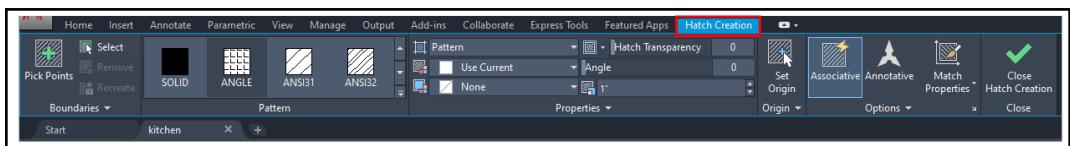
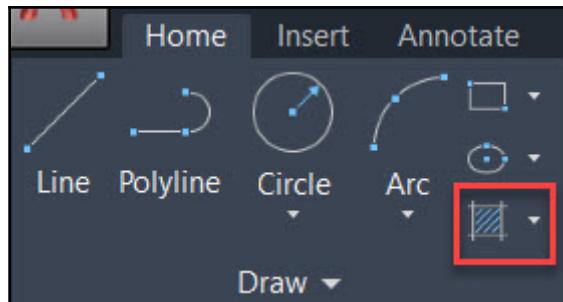


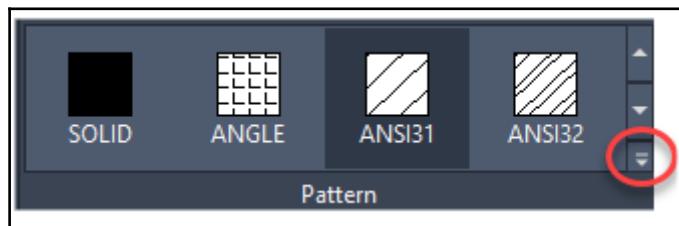
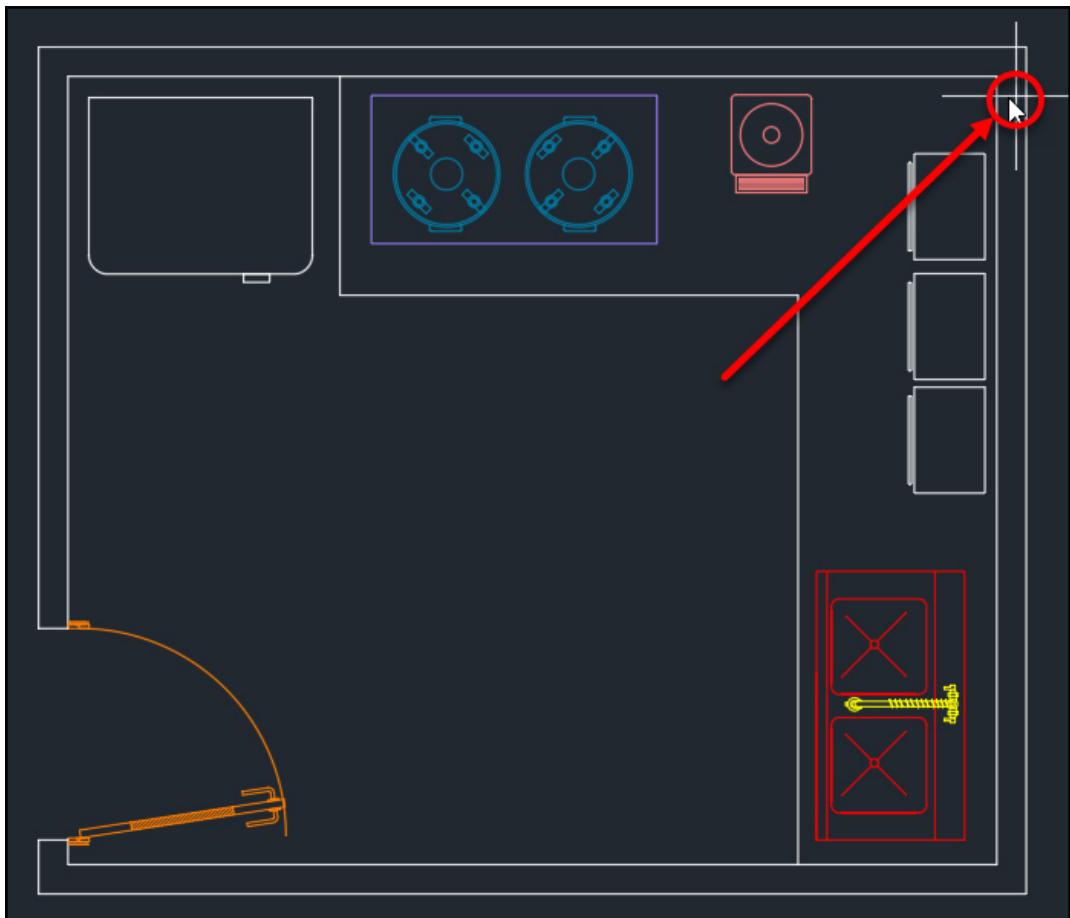


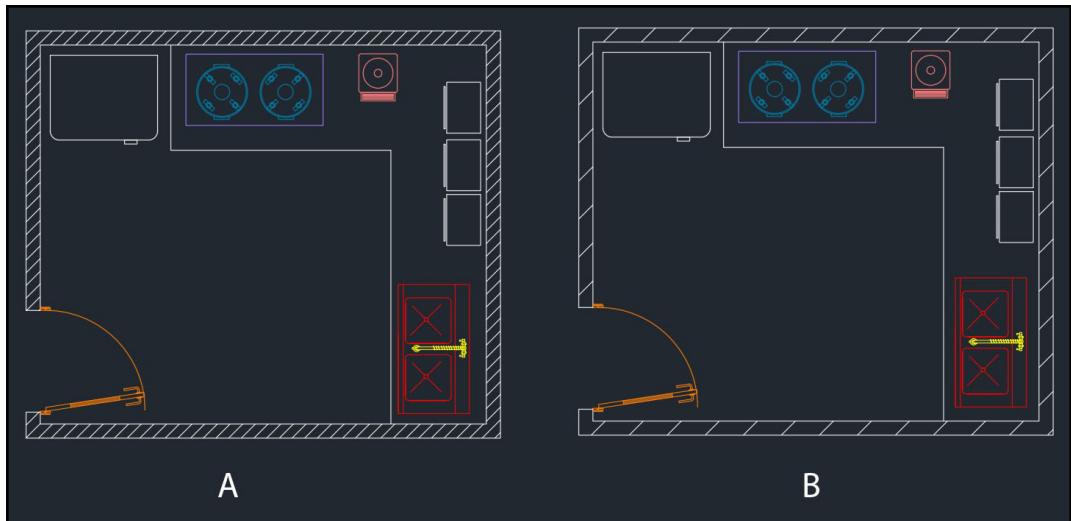
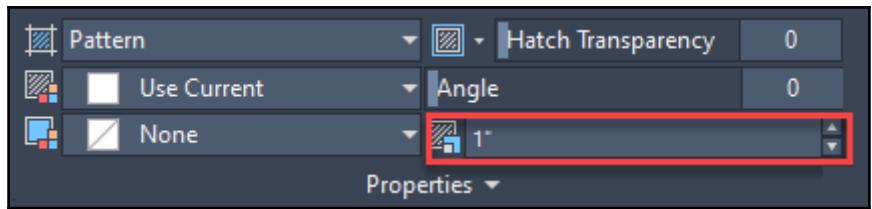


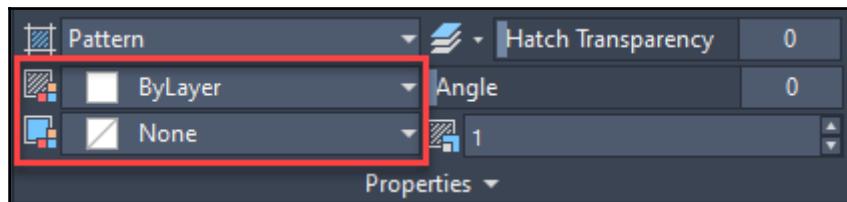
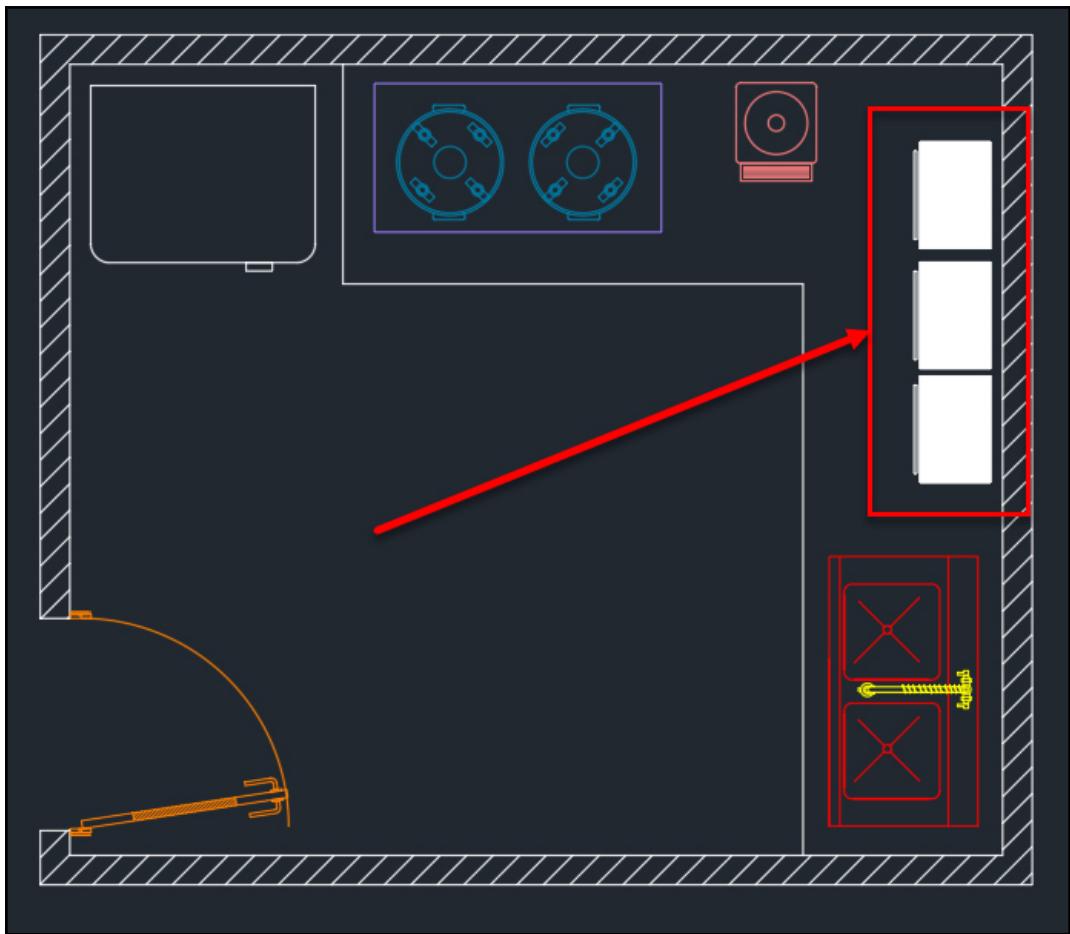
Chapter 6: Working with Hatches, Text, and Dimensions

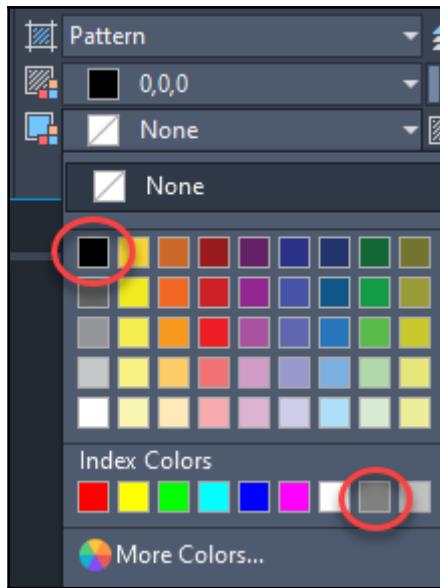


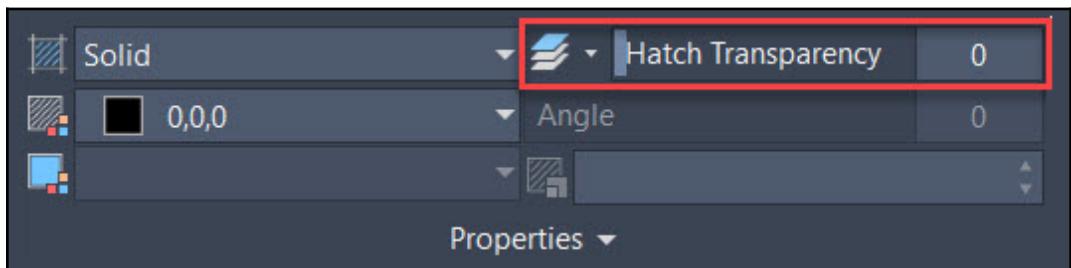
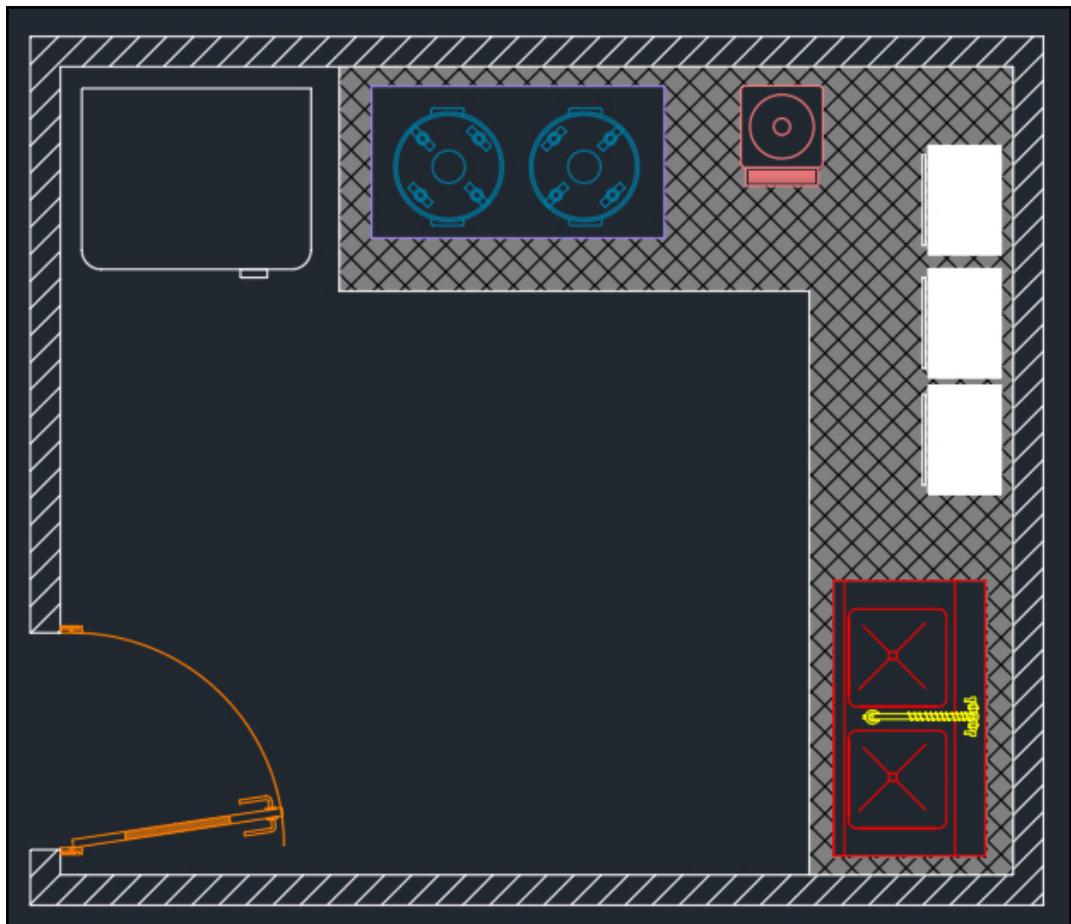


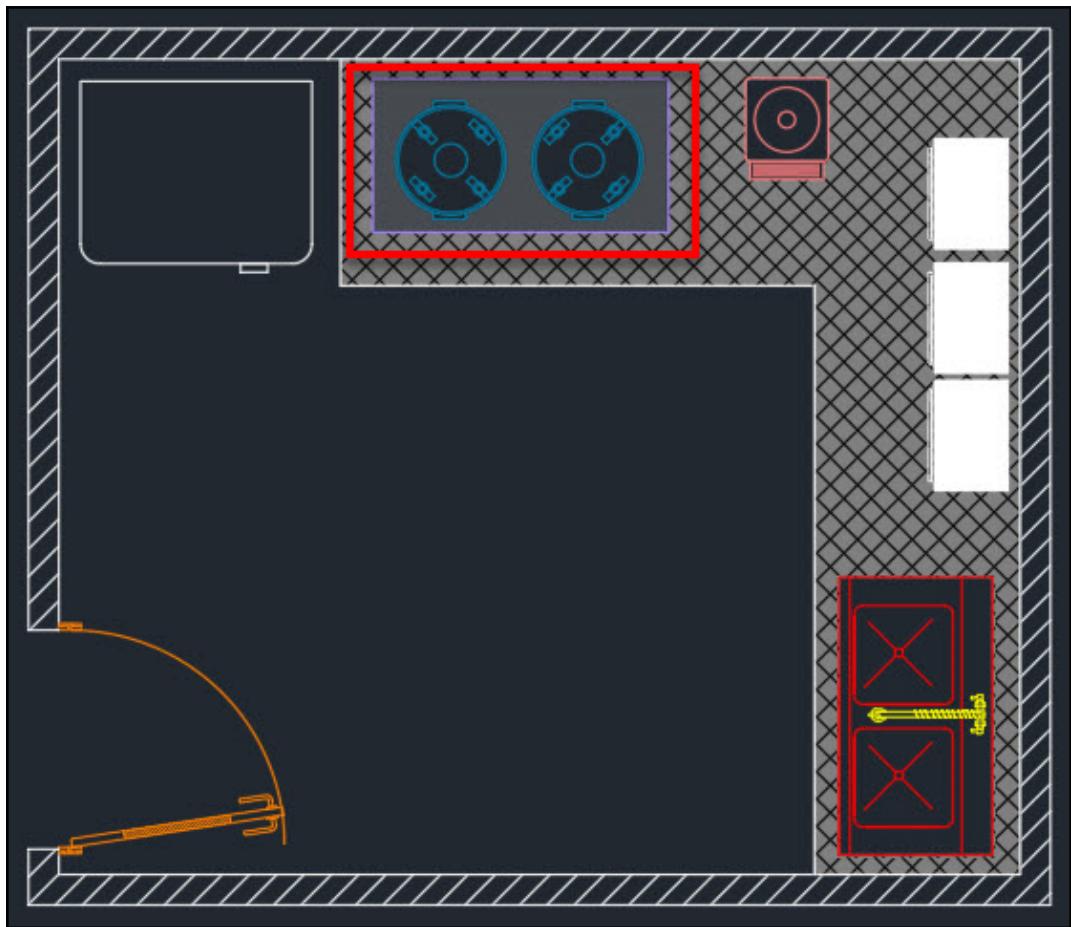


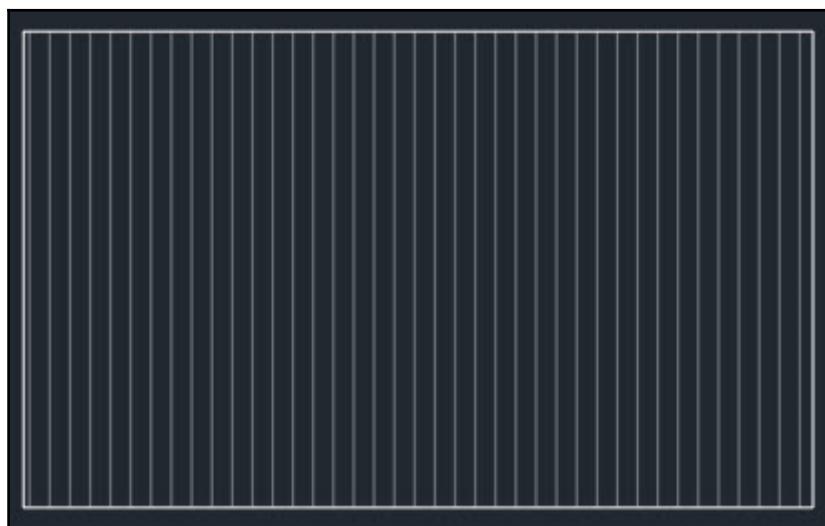
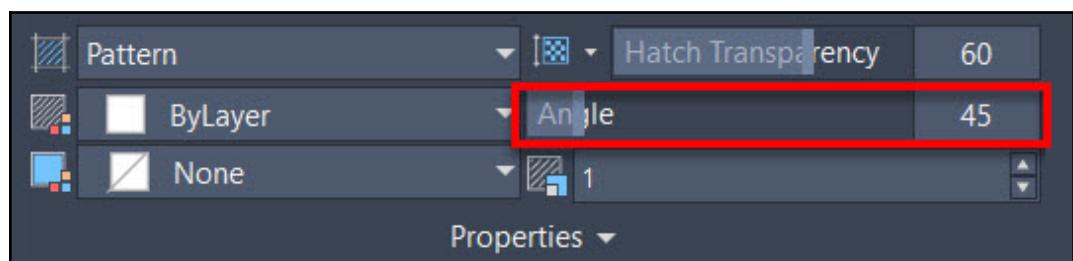


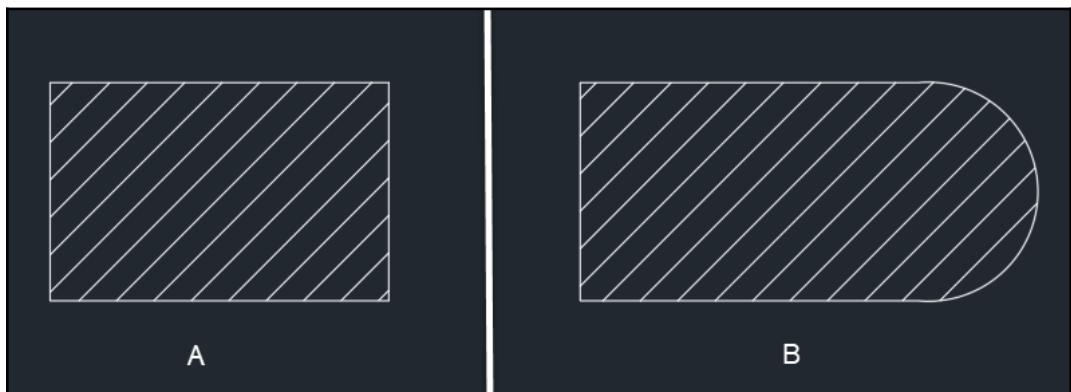
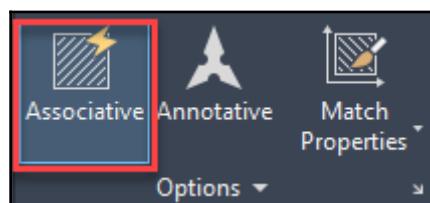
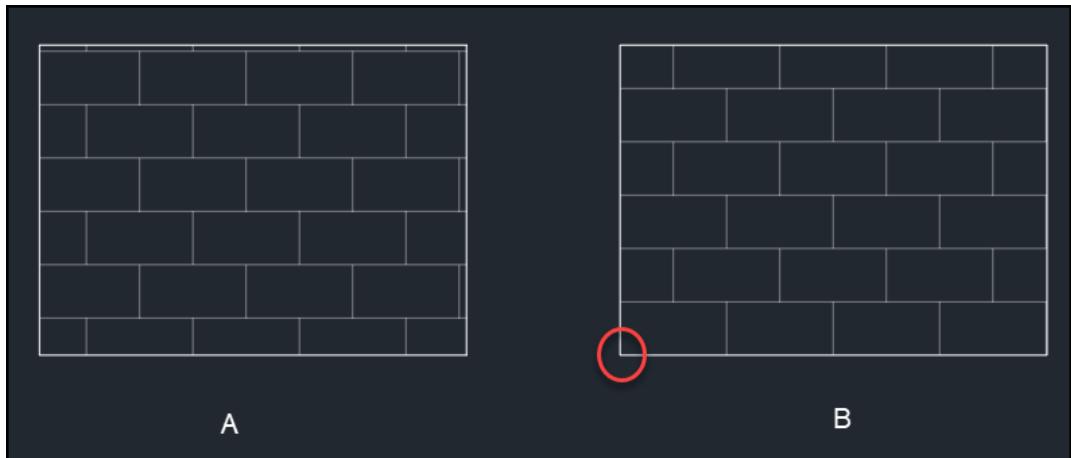
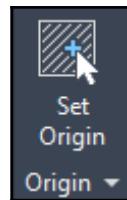


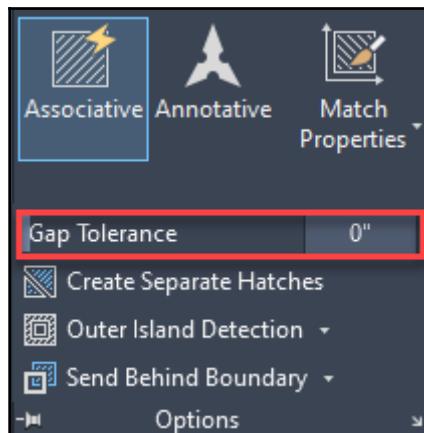
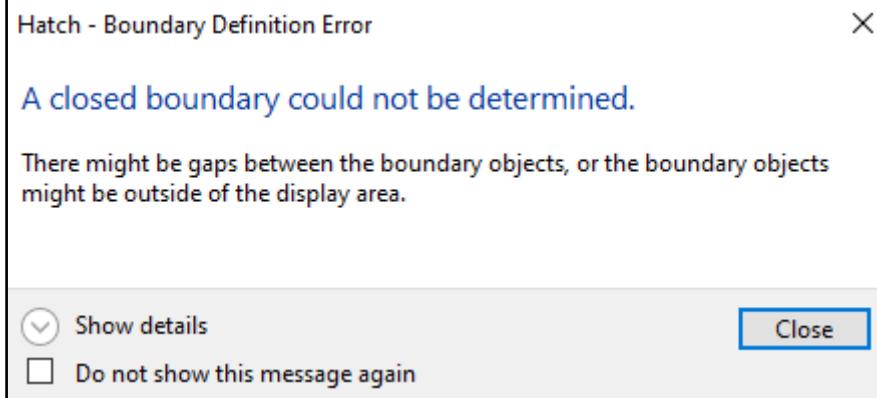
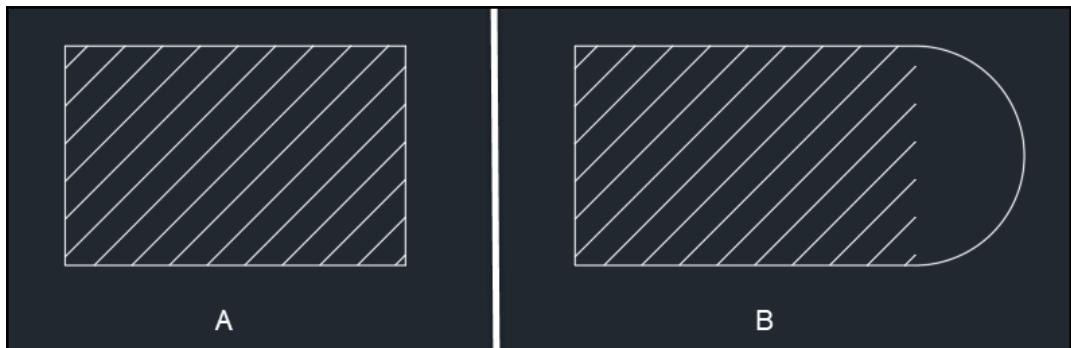


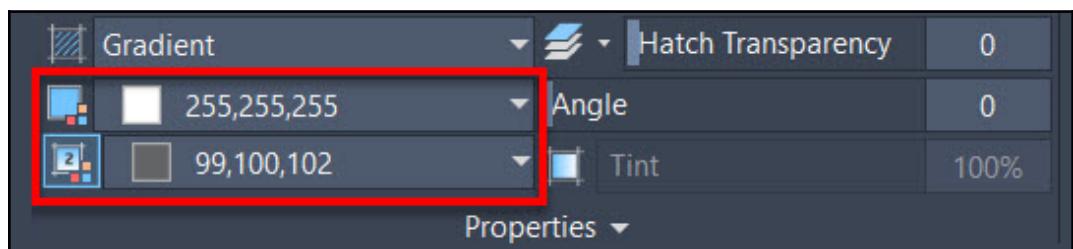
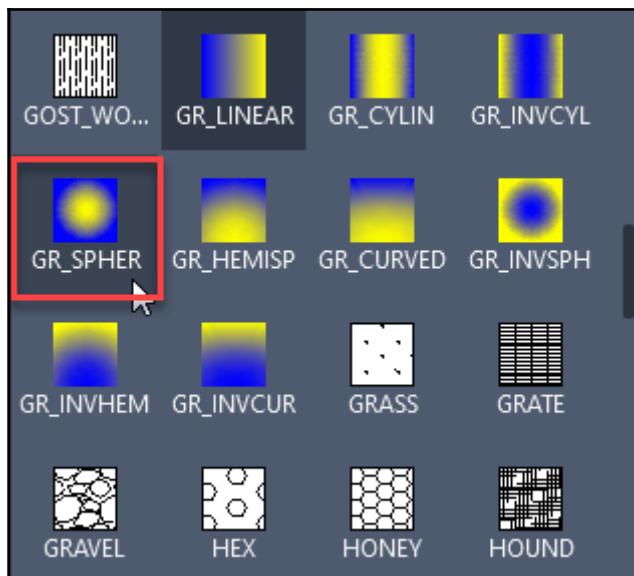
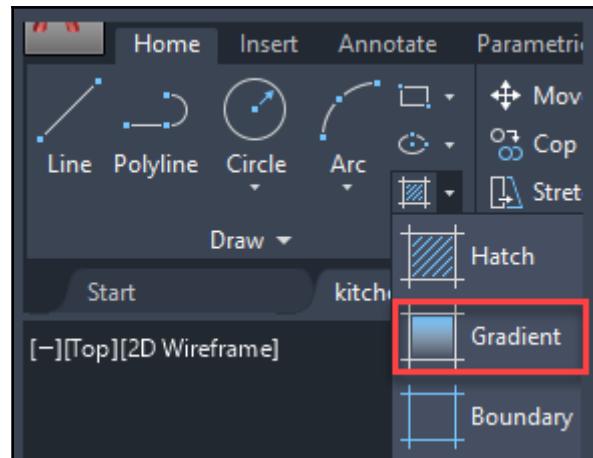


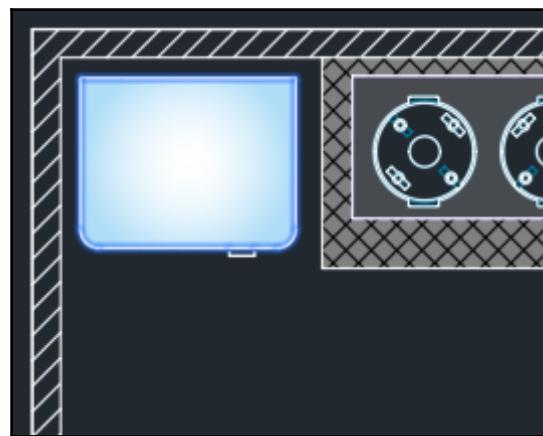
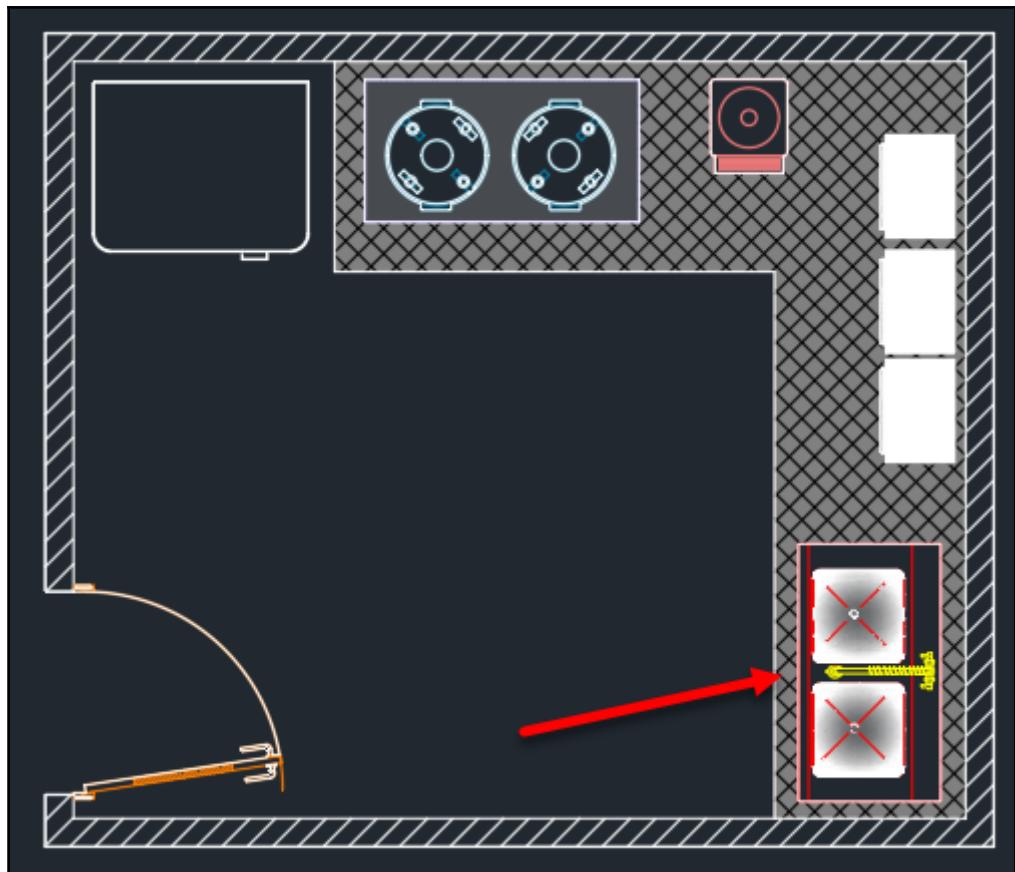


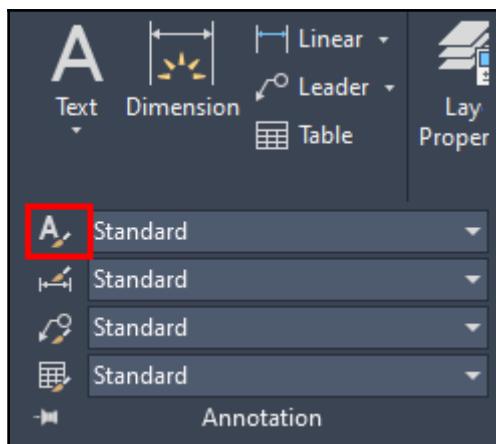
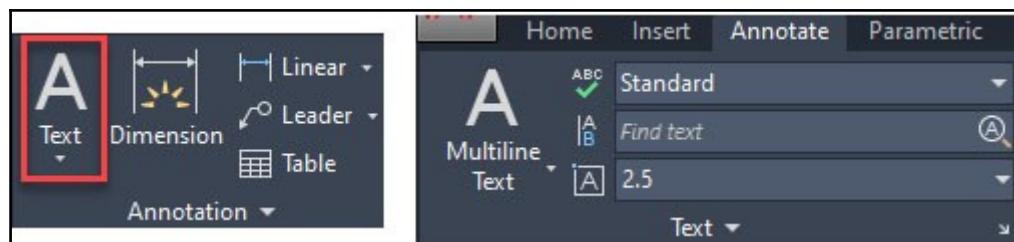
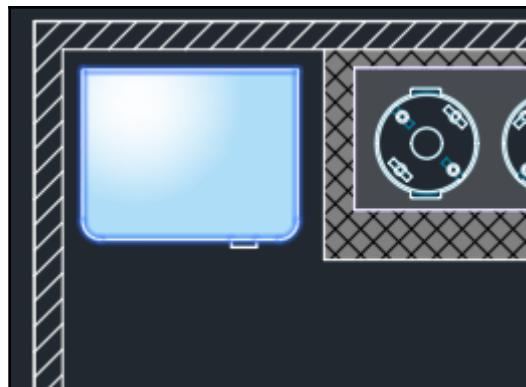
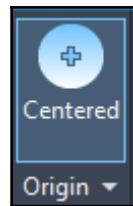


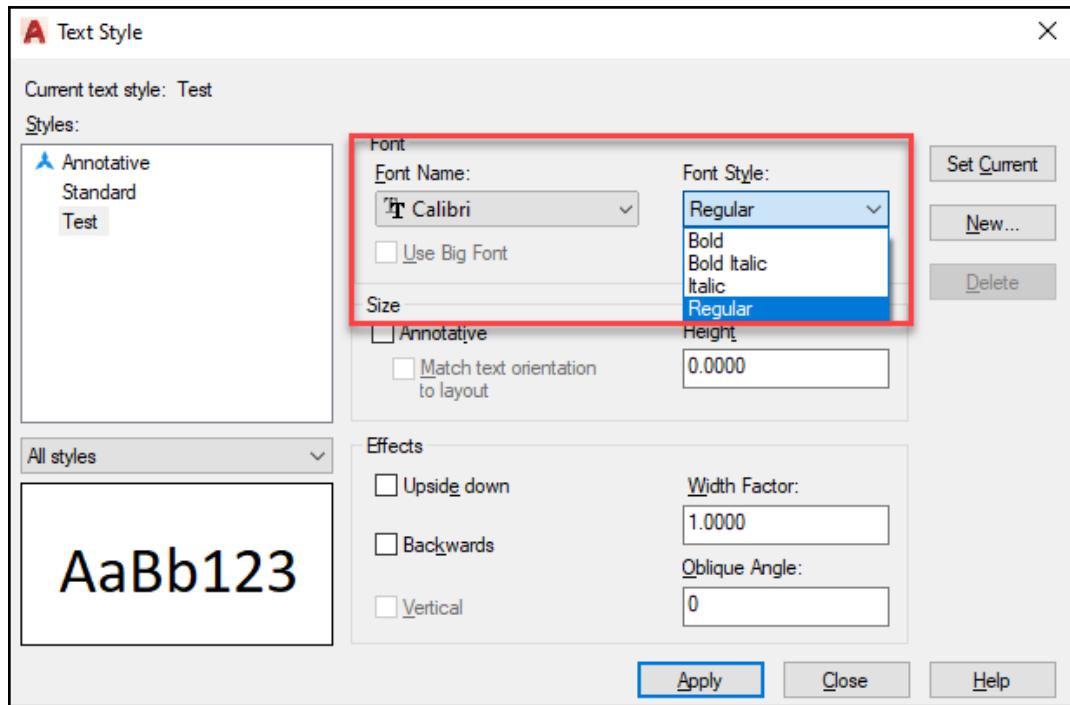


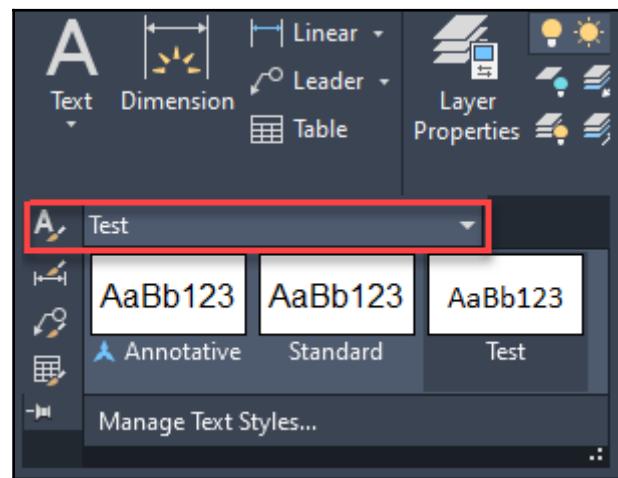
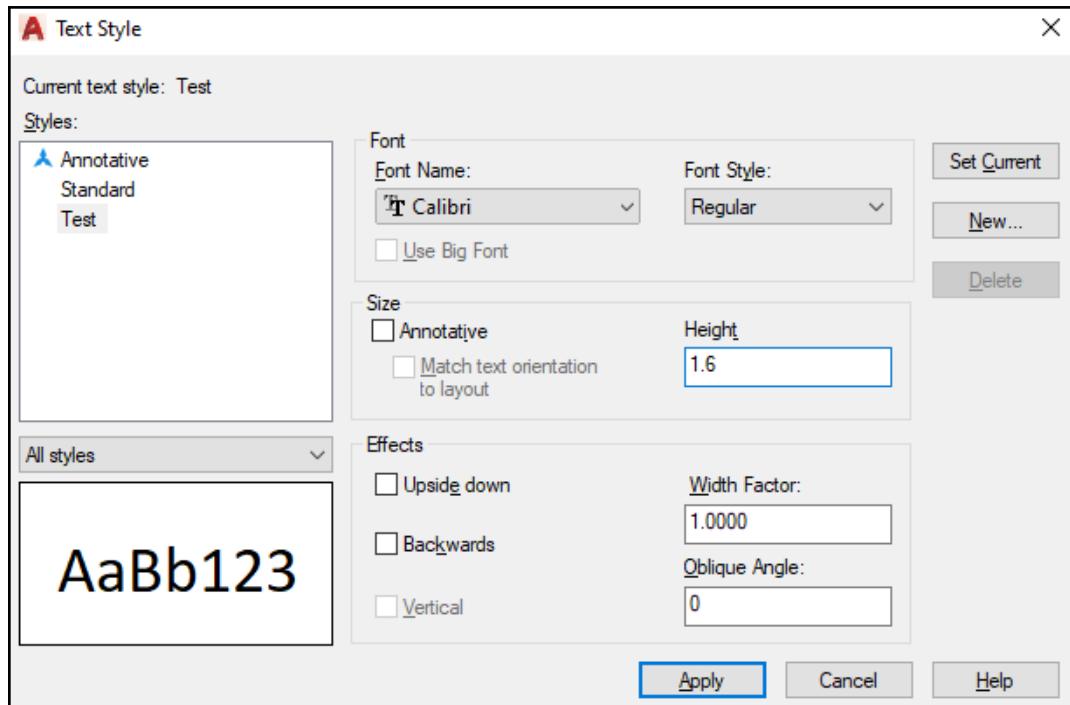


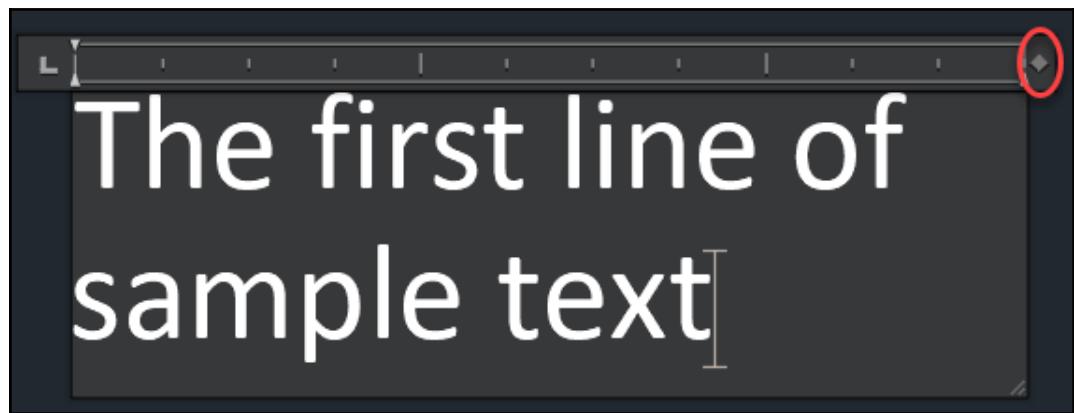
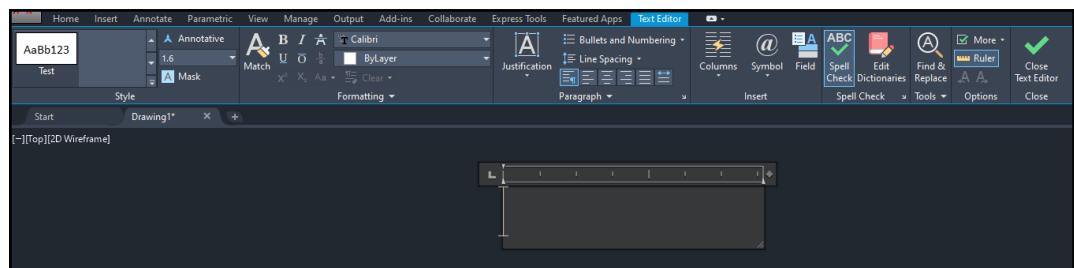
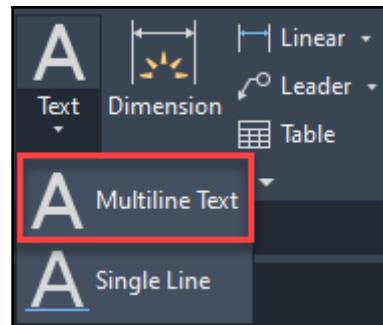


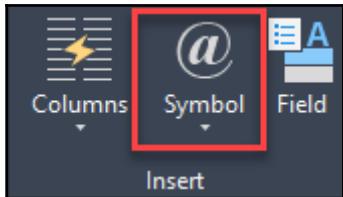
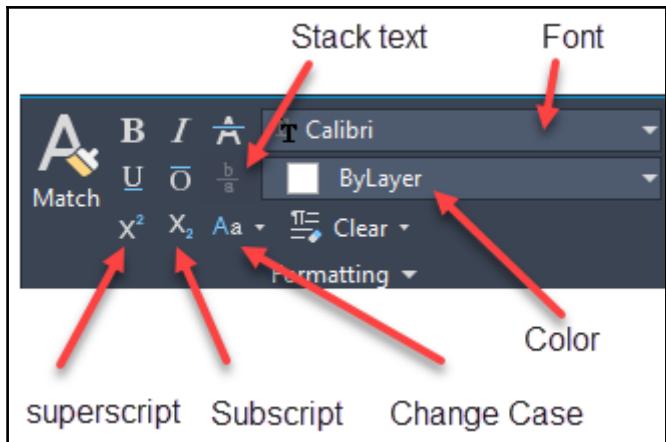


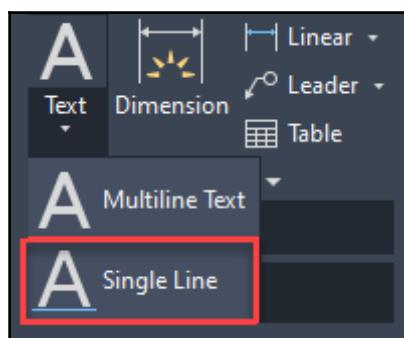
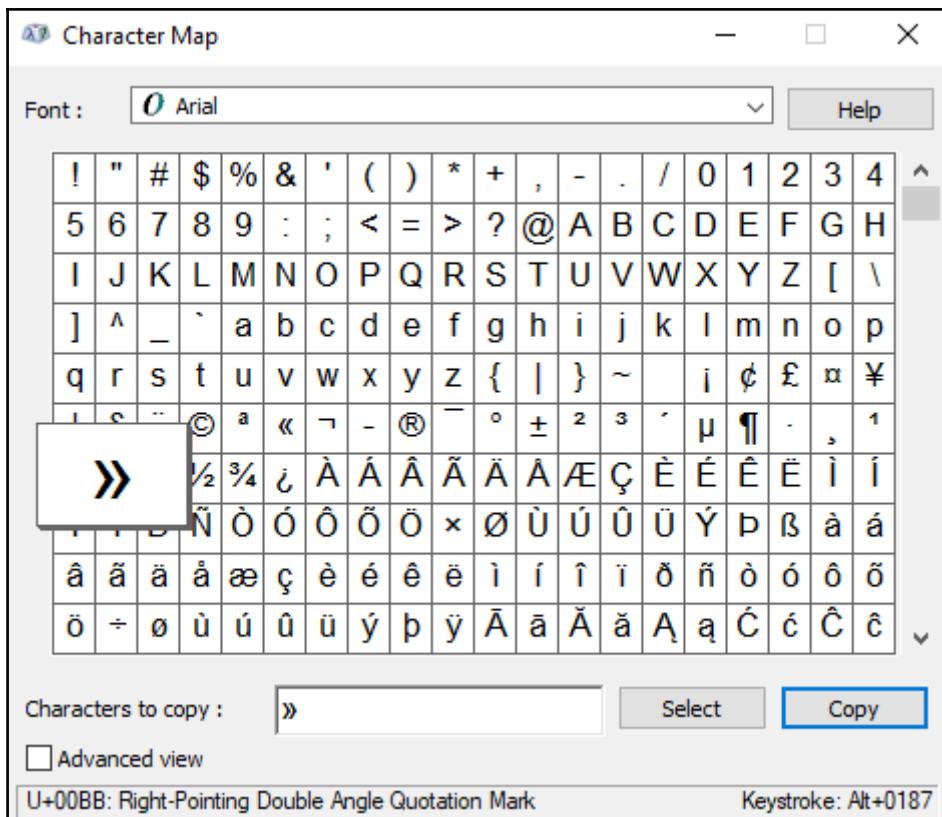


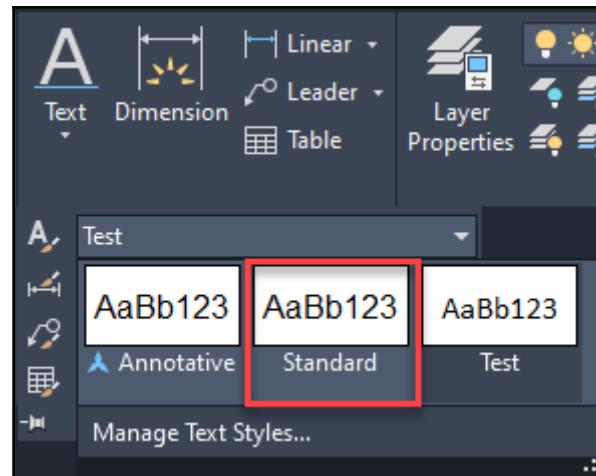


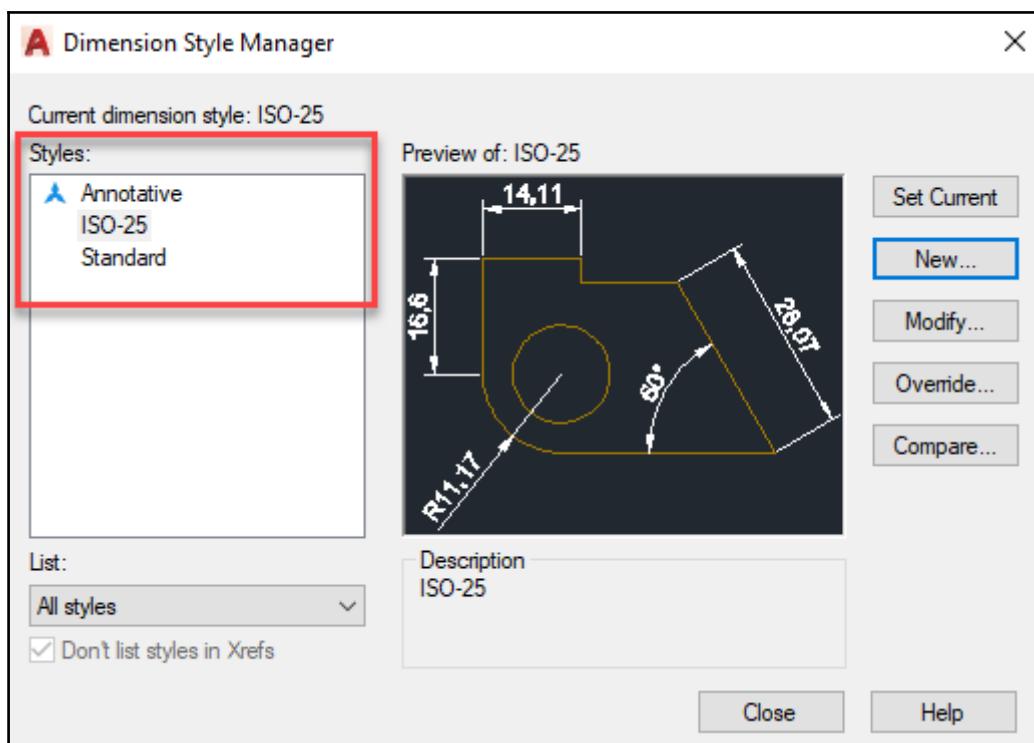
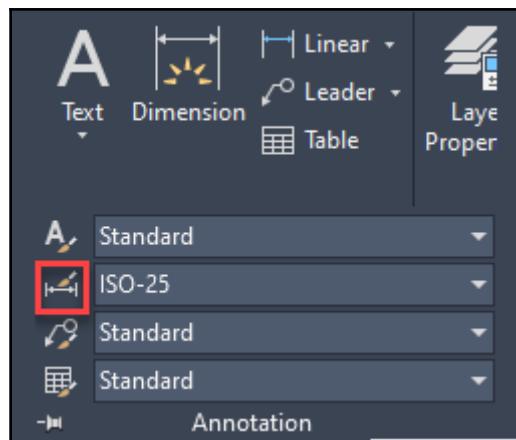


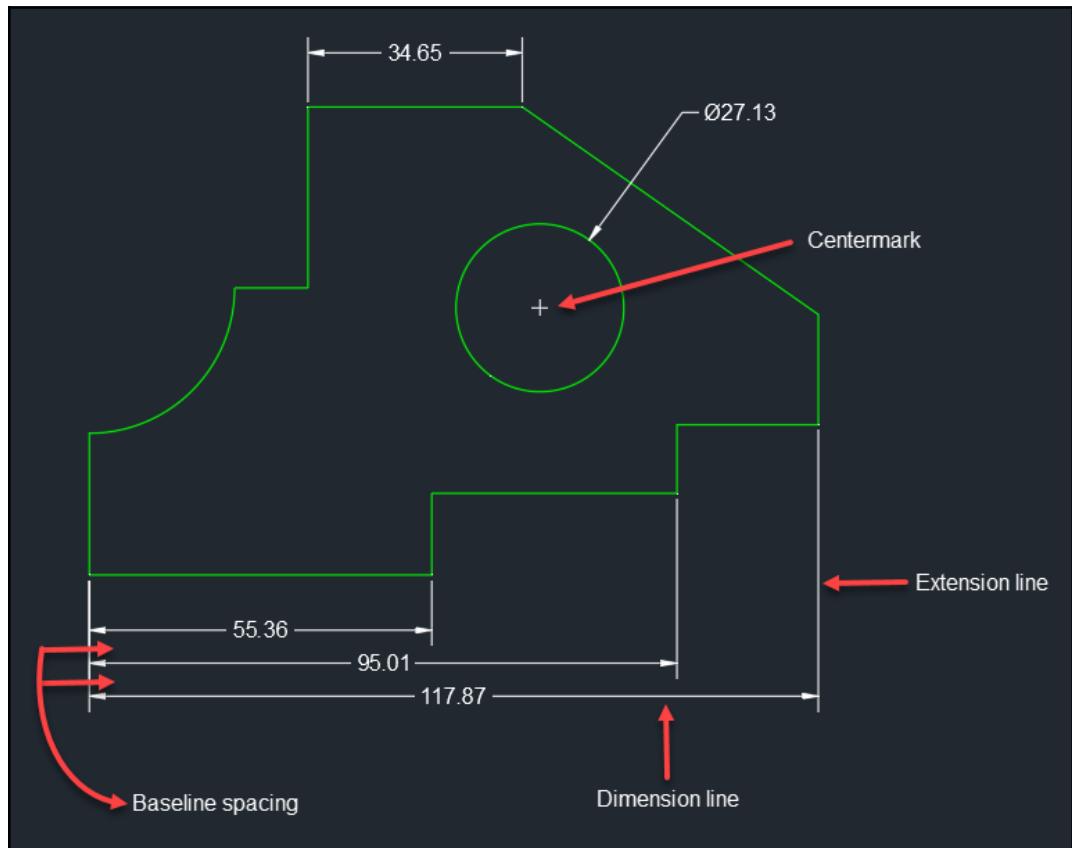
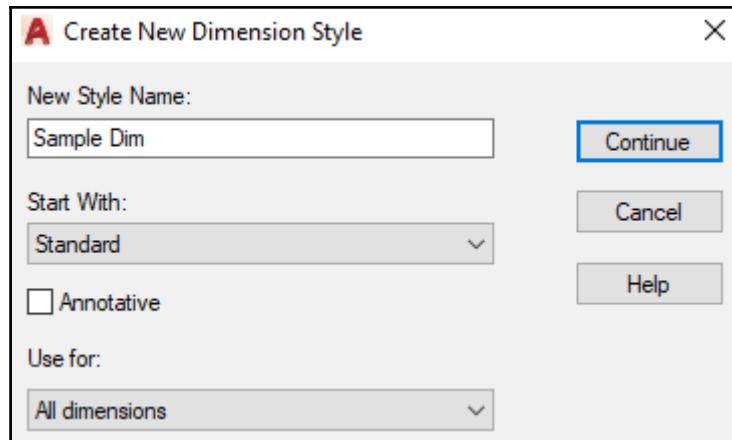


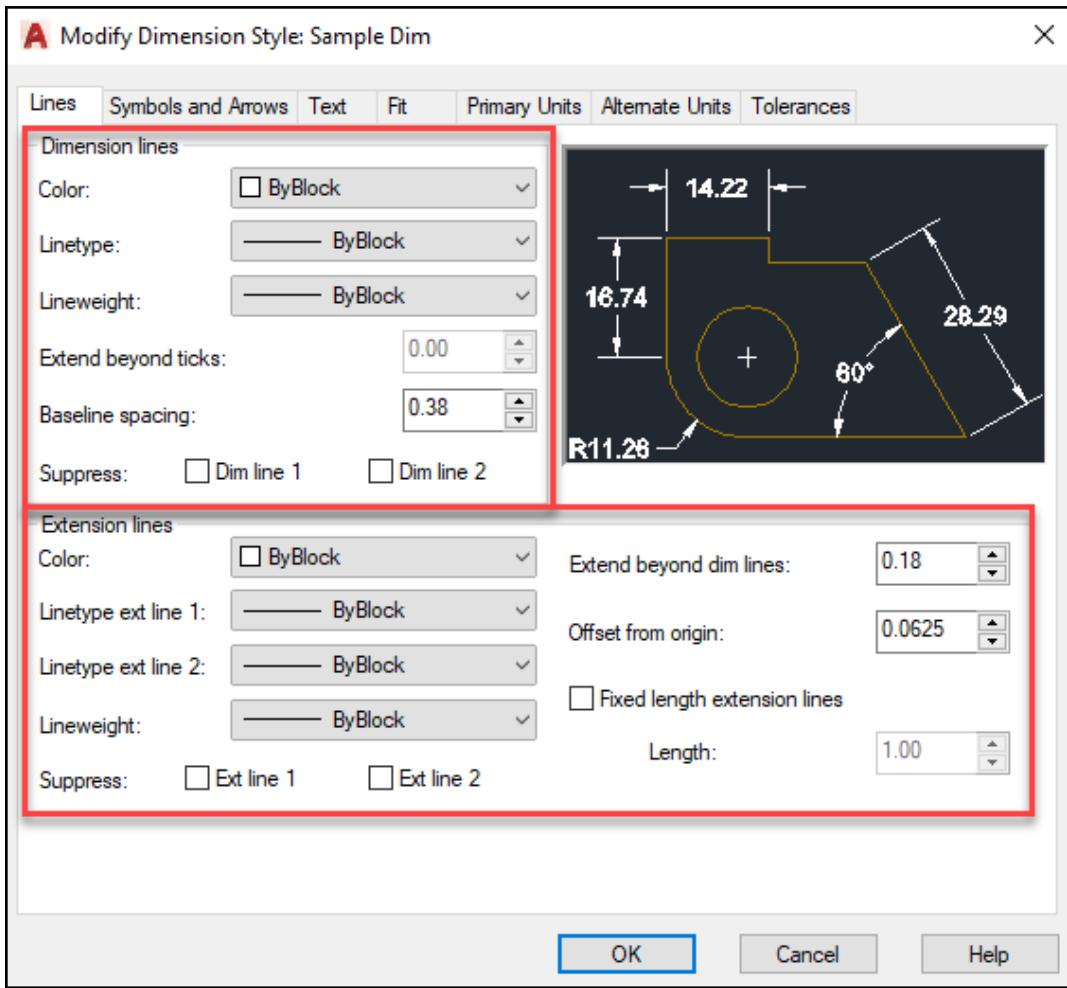


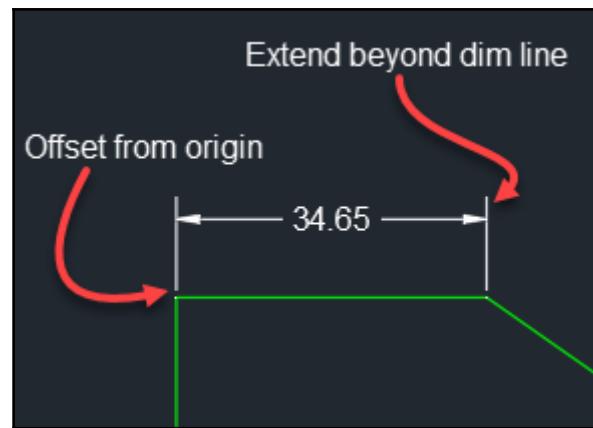


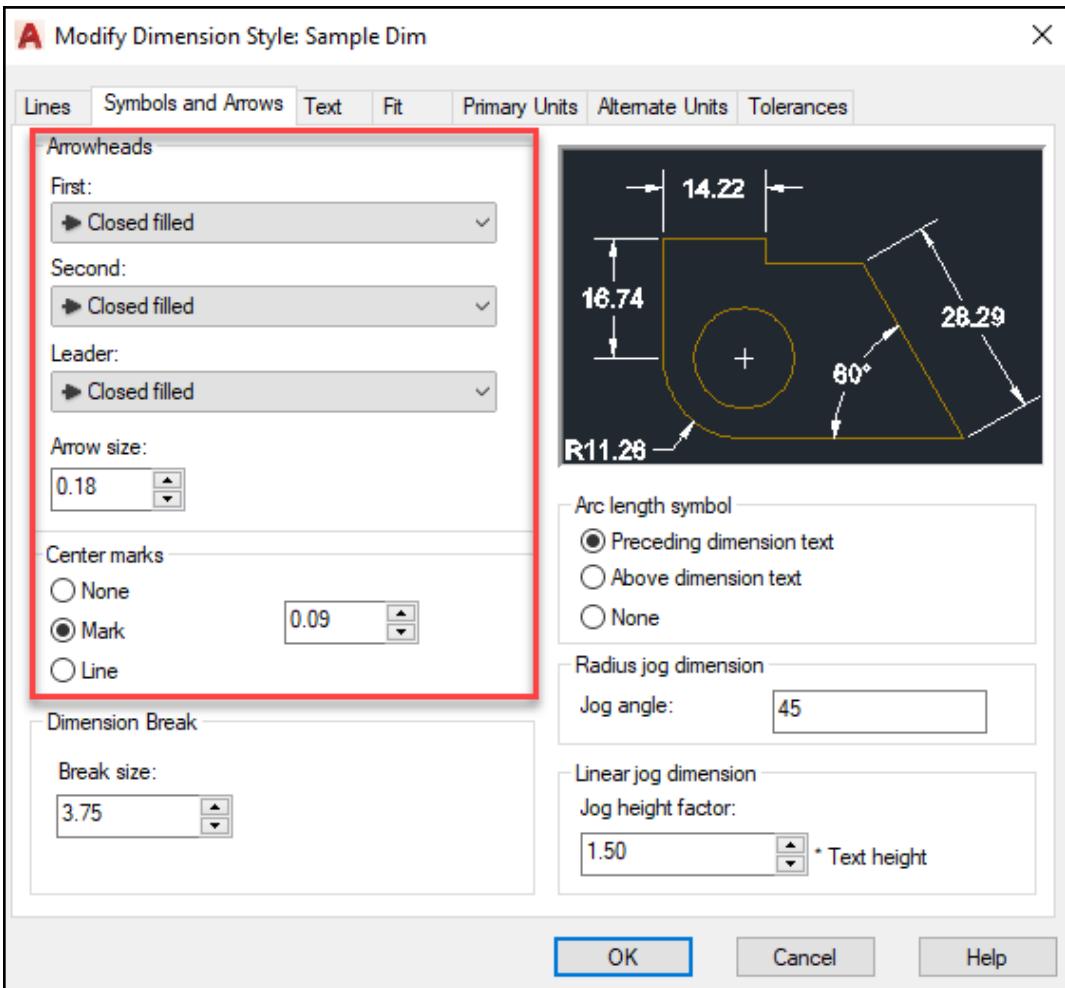


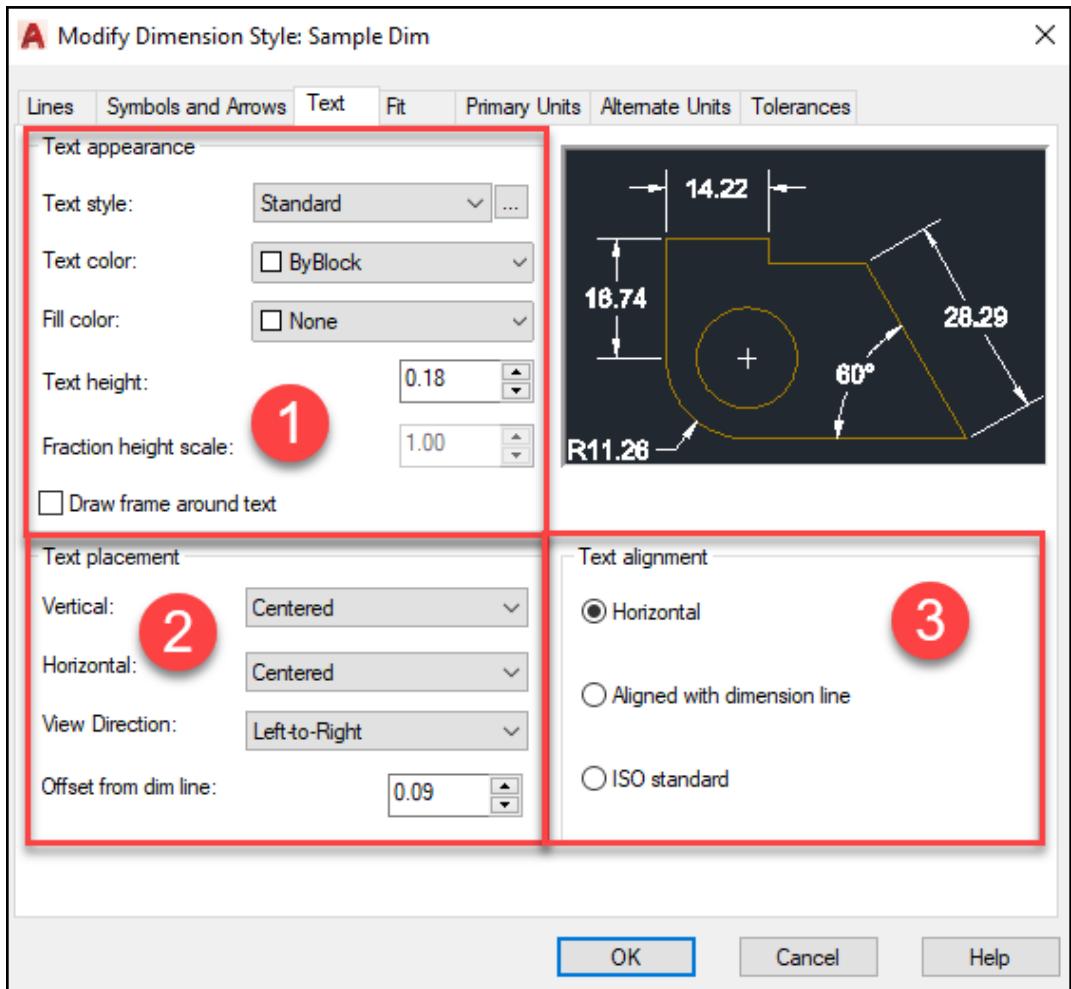


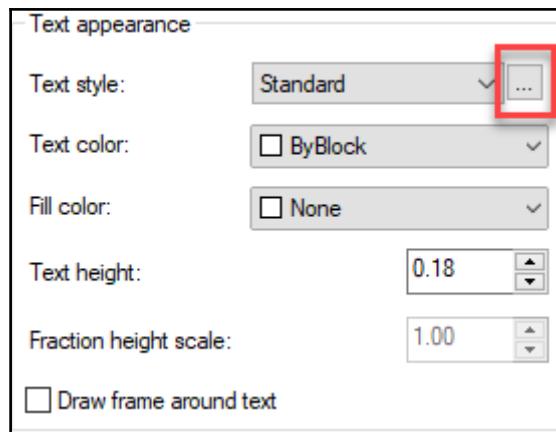


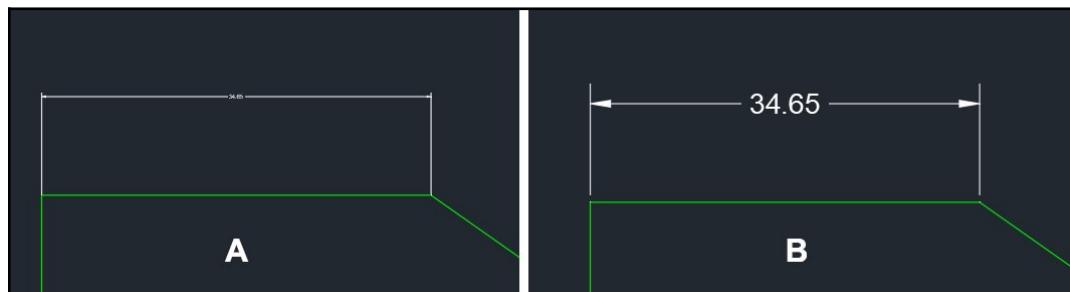
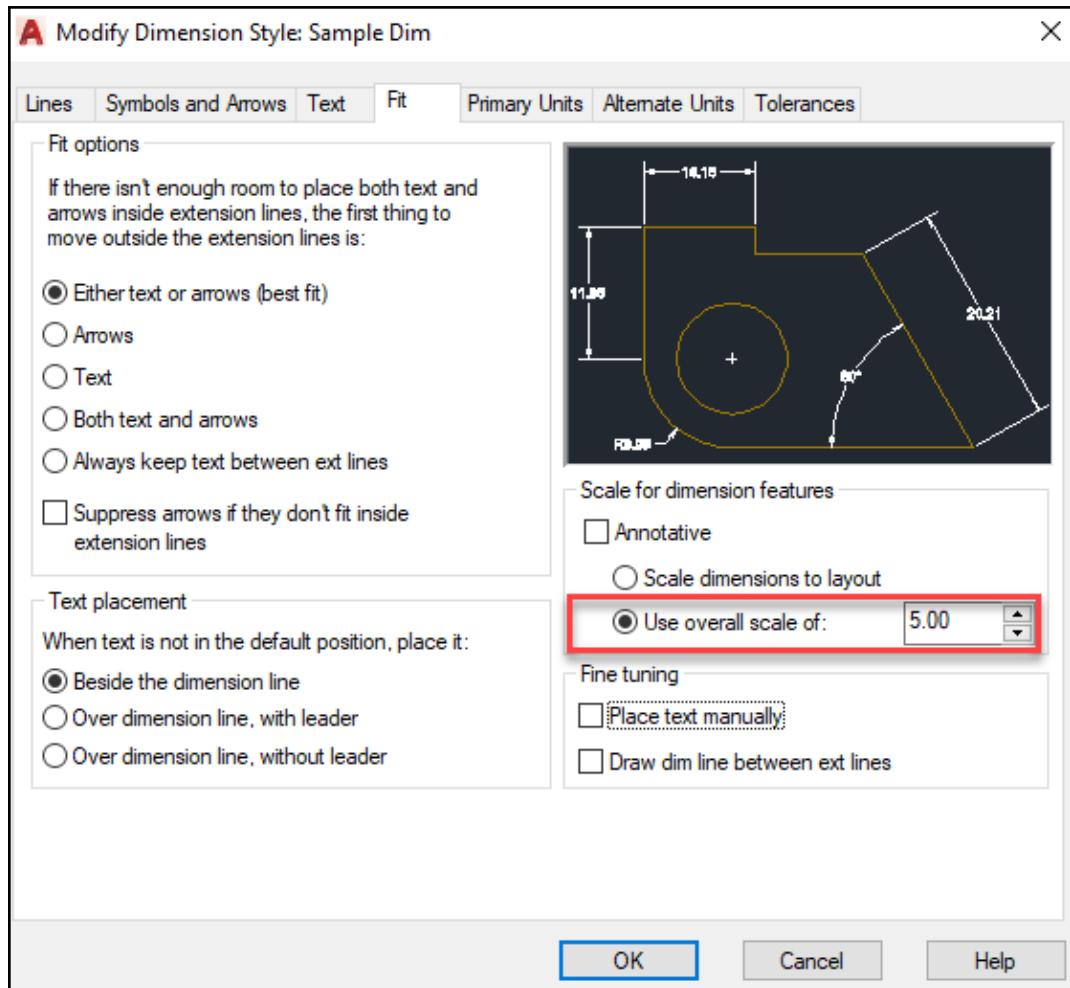


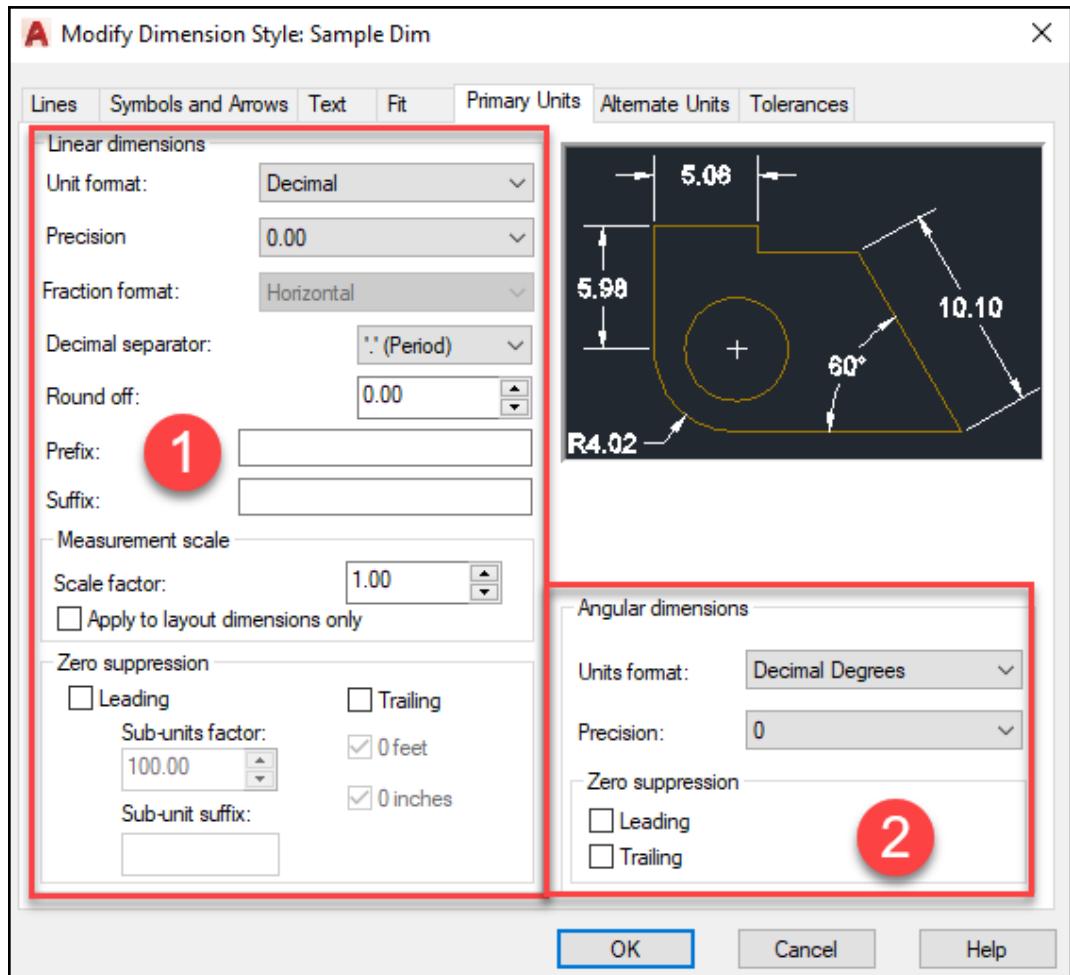


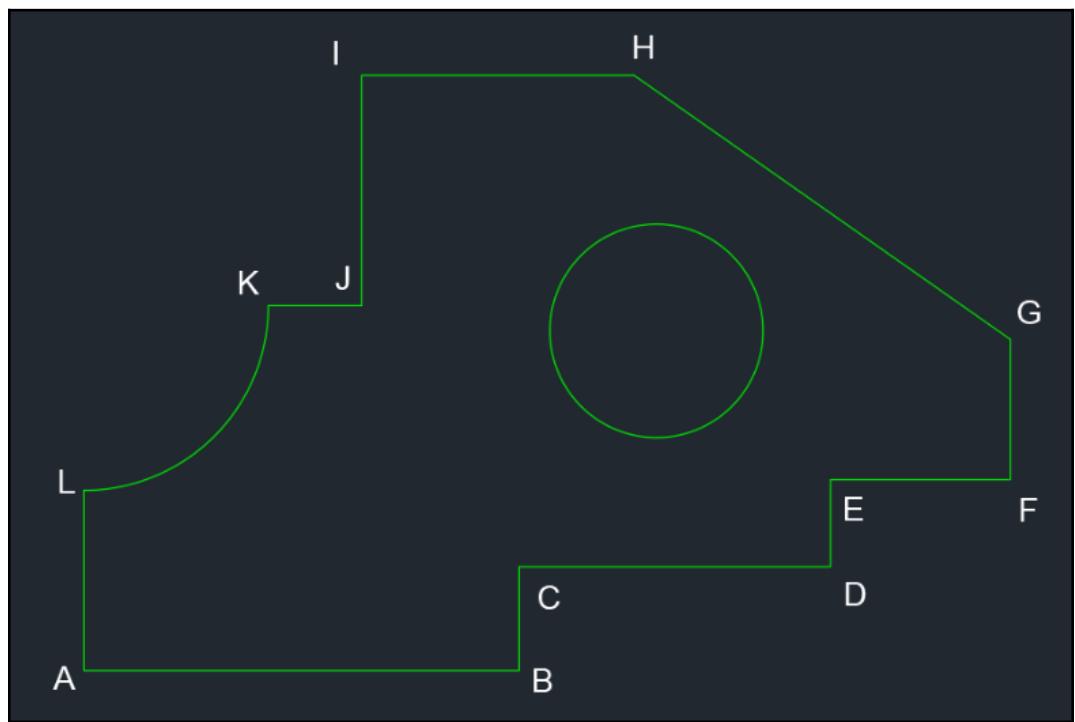


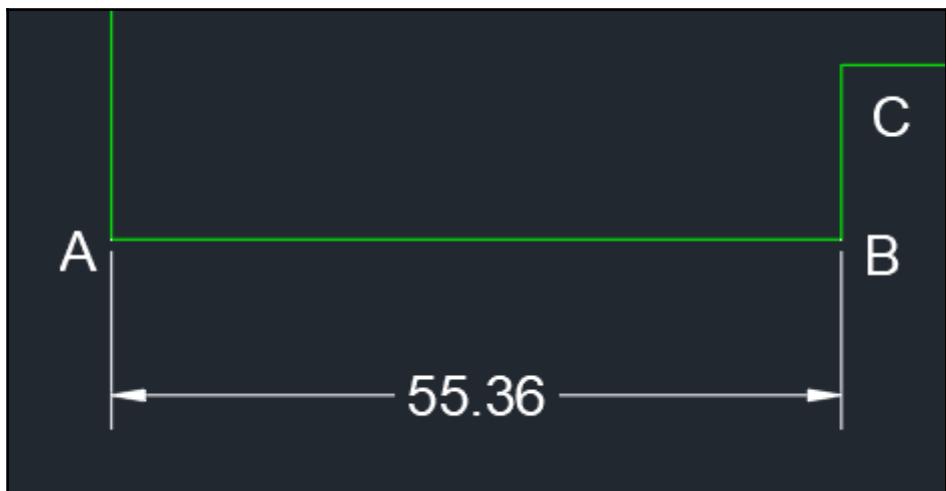
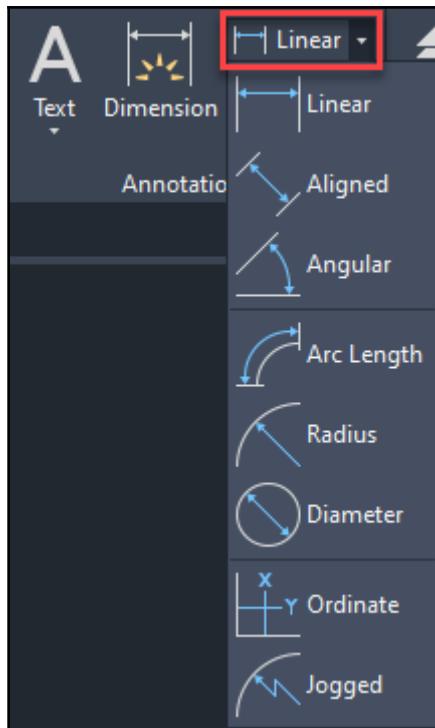


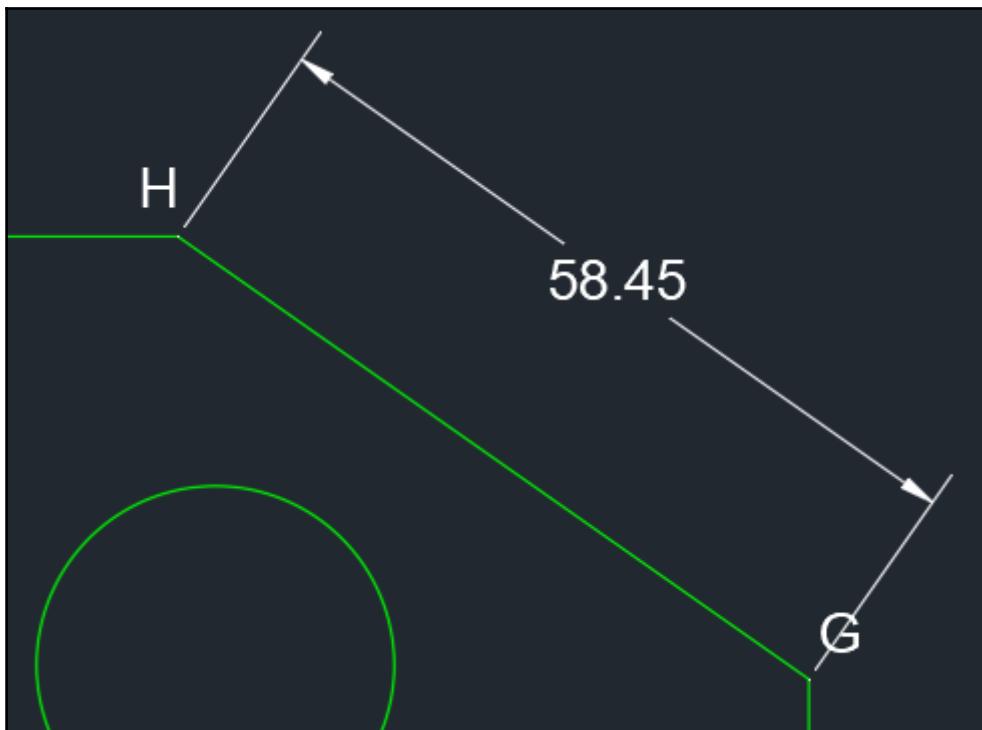


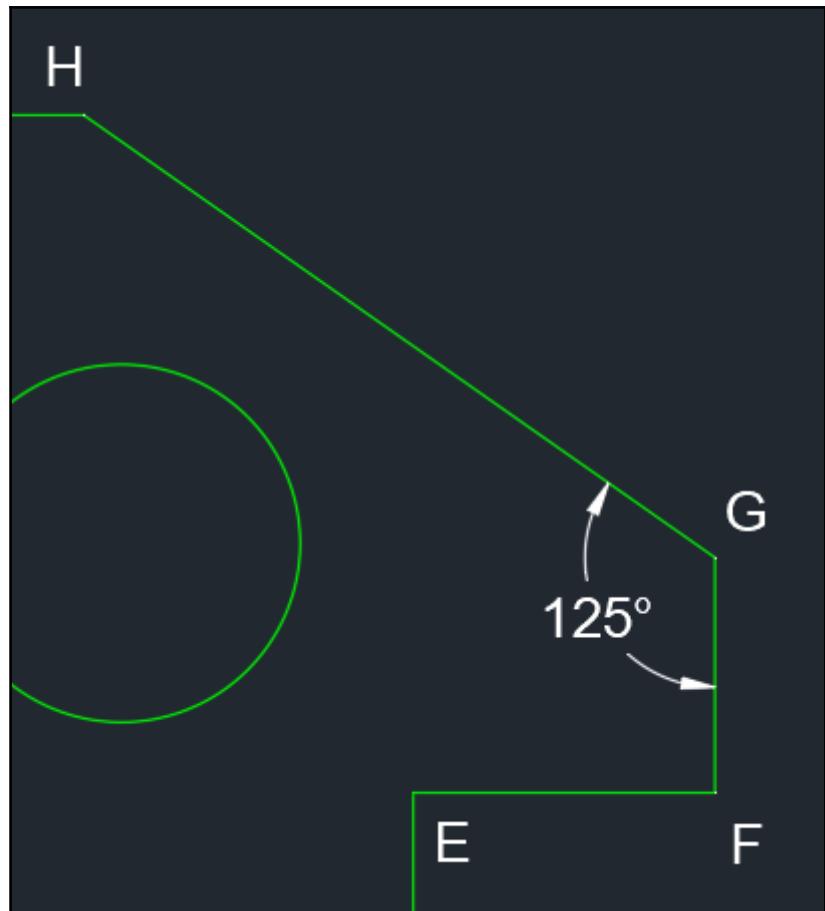


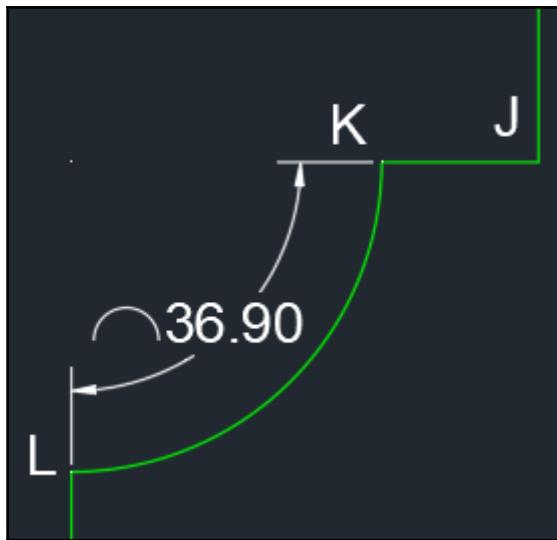


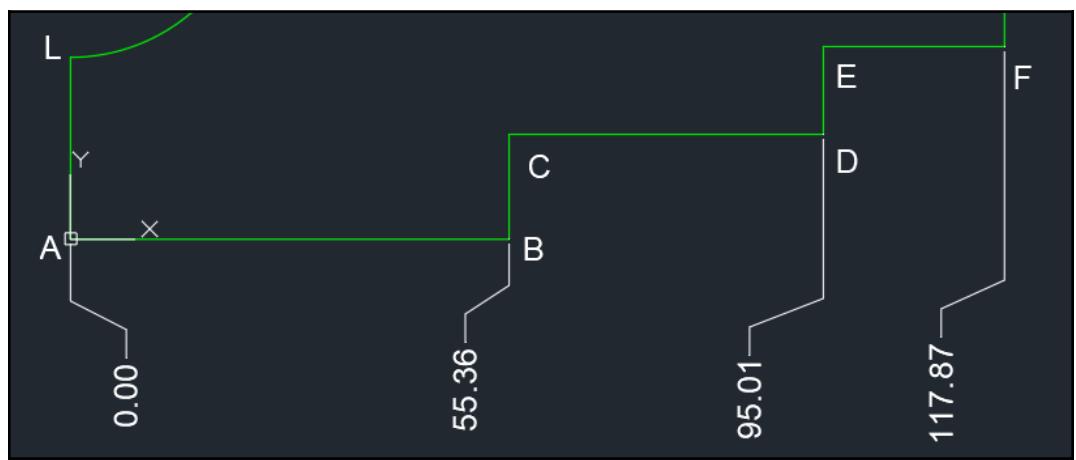
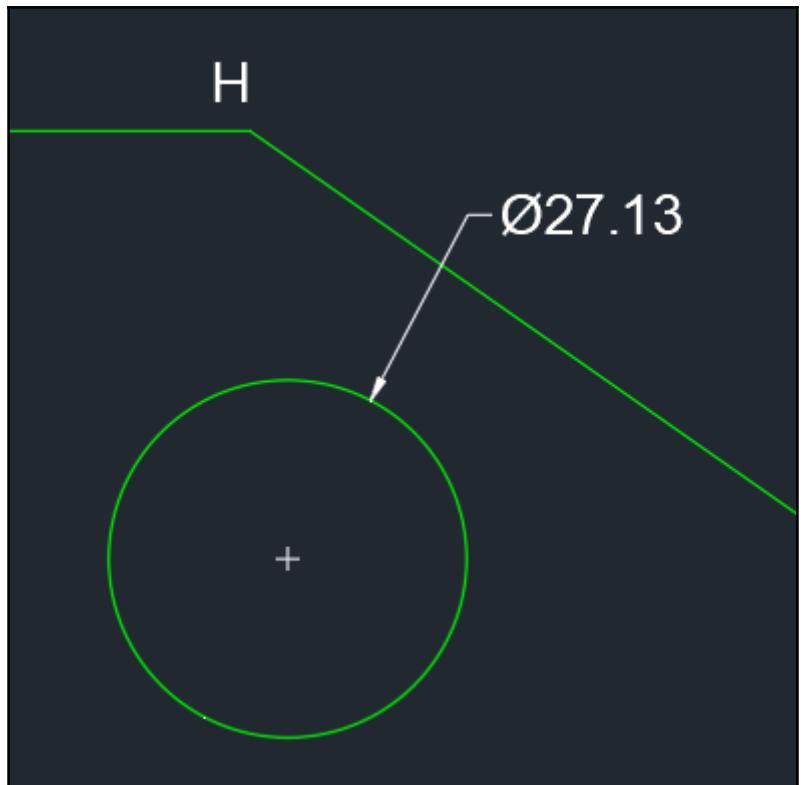


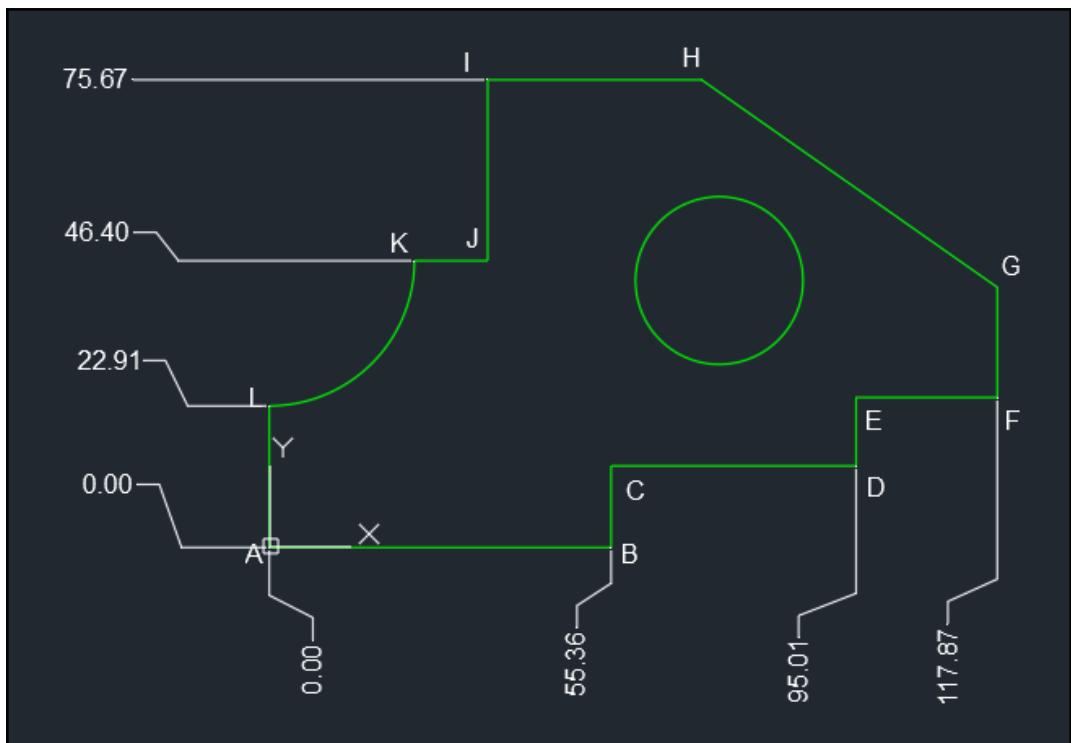




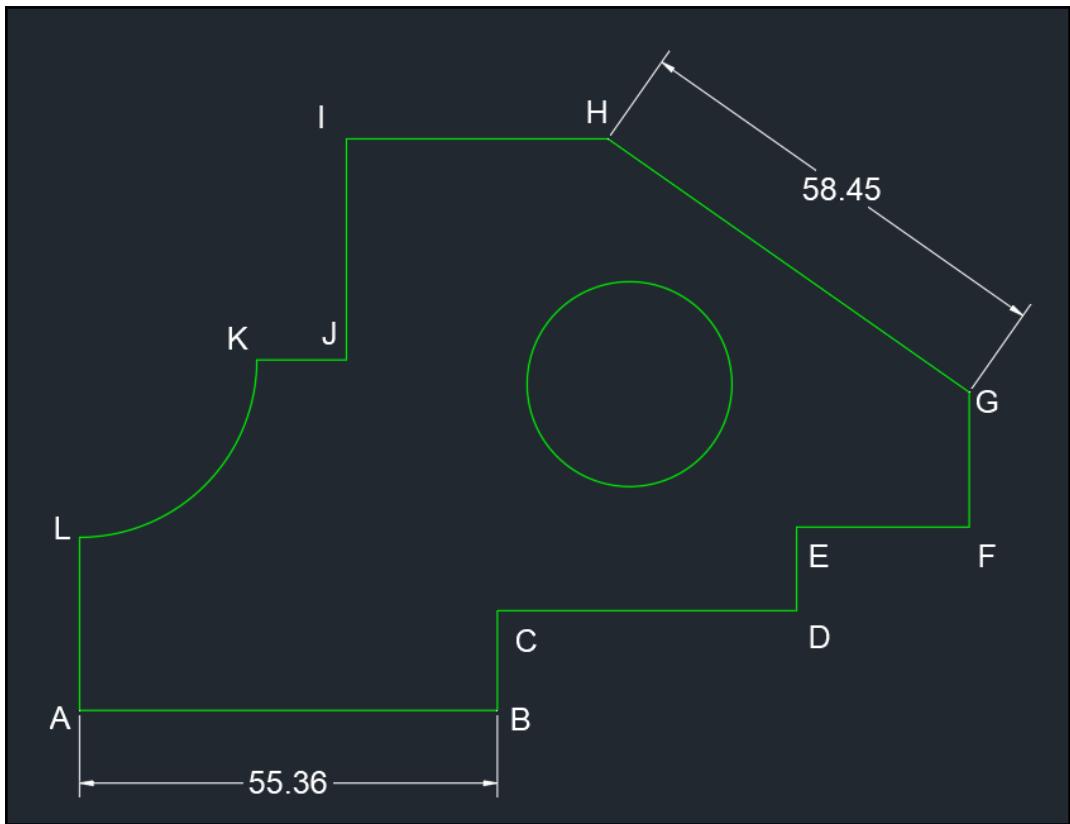






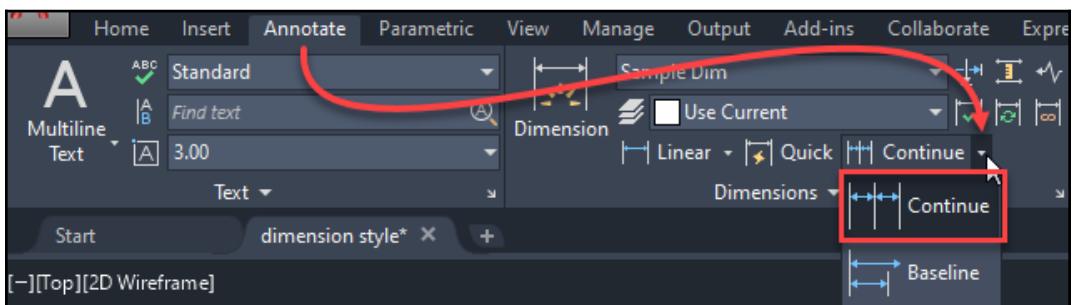


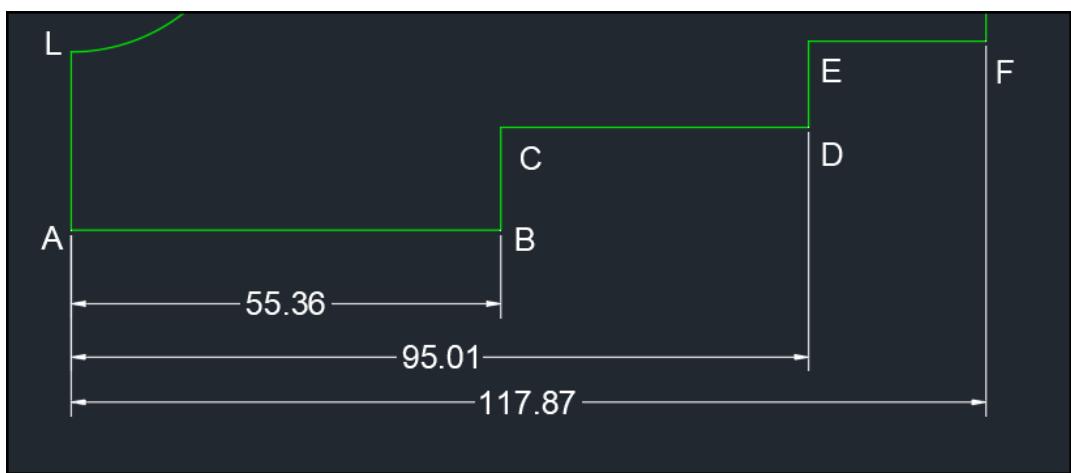
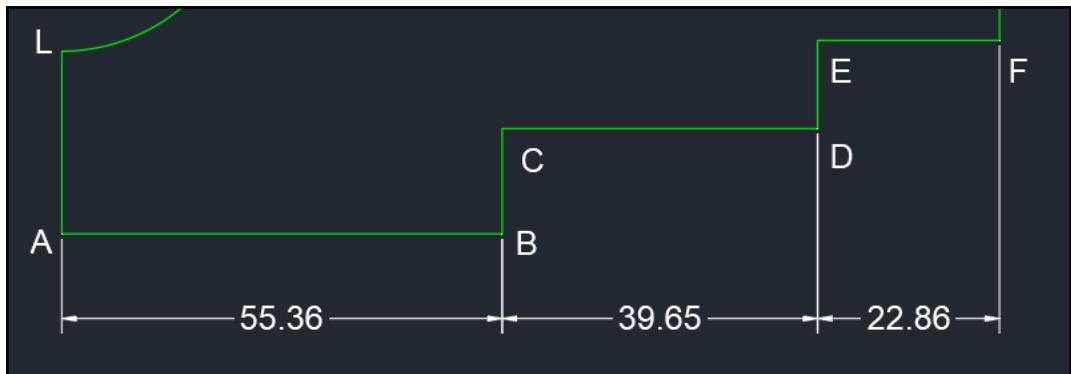


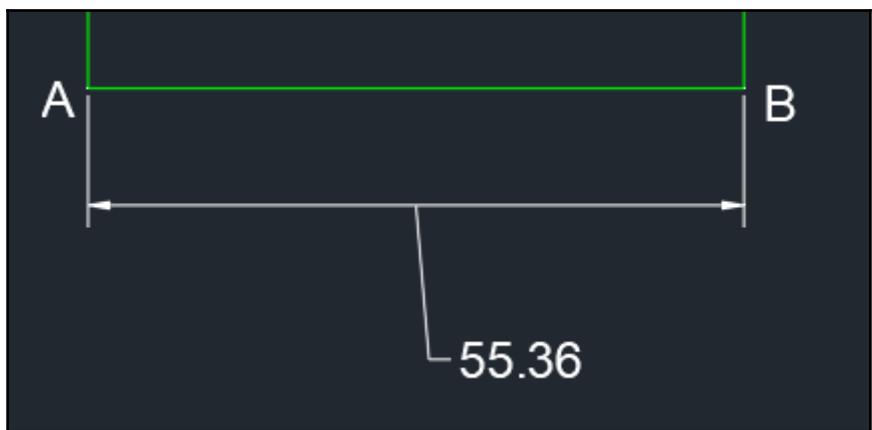


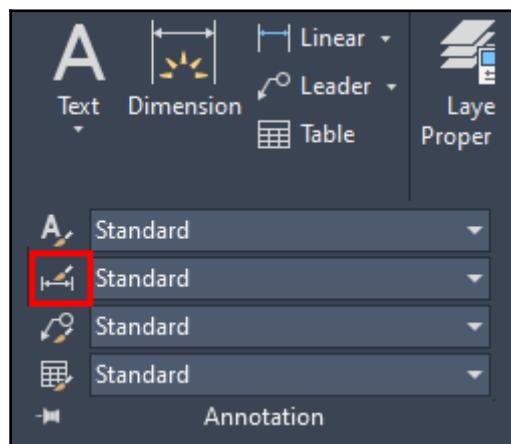
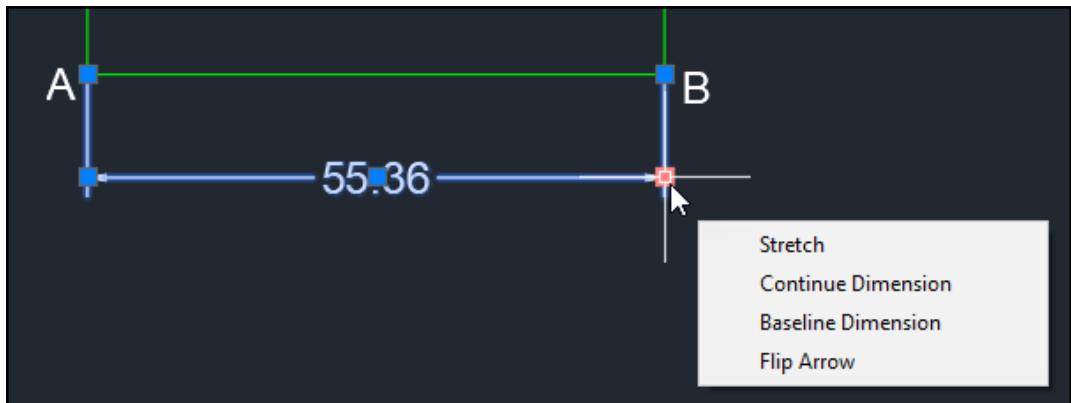
X Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/align/Distribute/Layer/Undo]:
DIM Select arc to specify radius or [Diameter Dogged arc Length Angular]:

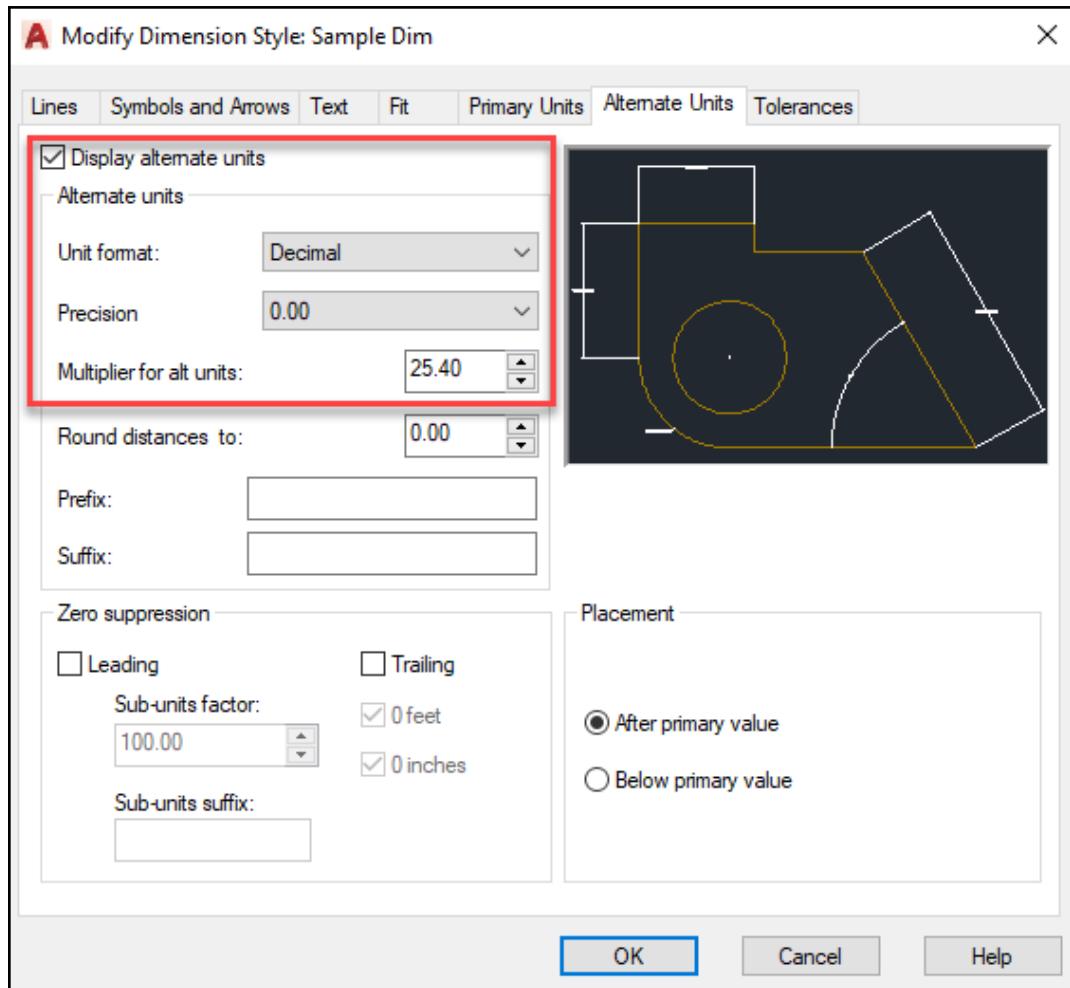
X Select objects or specify first extension line origin or [Angular/Baseline/Continue/Ordinate/align/Distribute/Layer/Undo]:
DIM Select objects or specify first extension line origin or [Angular Baseline Continue Ordinate align Distribute Layer Undo]:

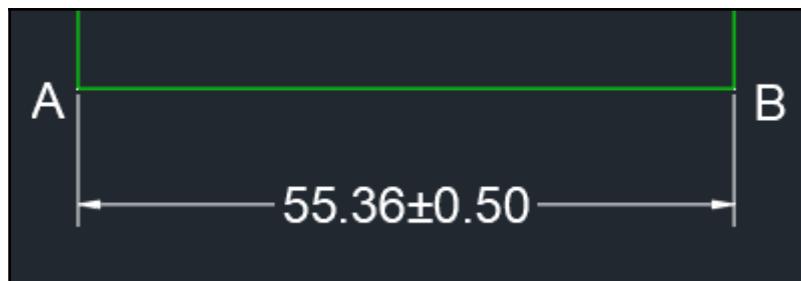
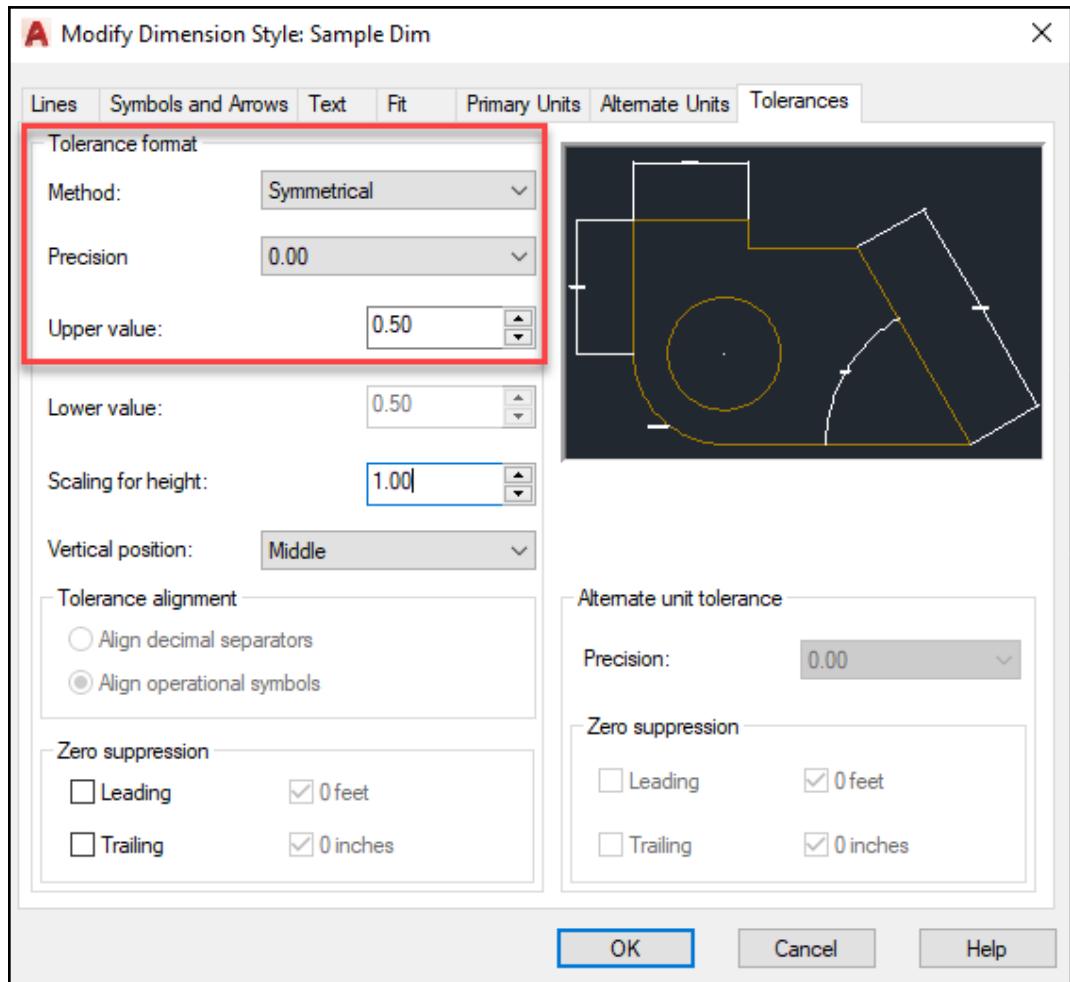












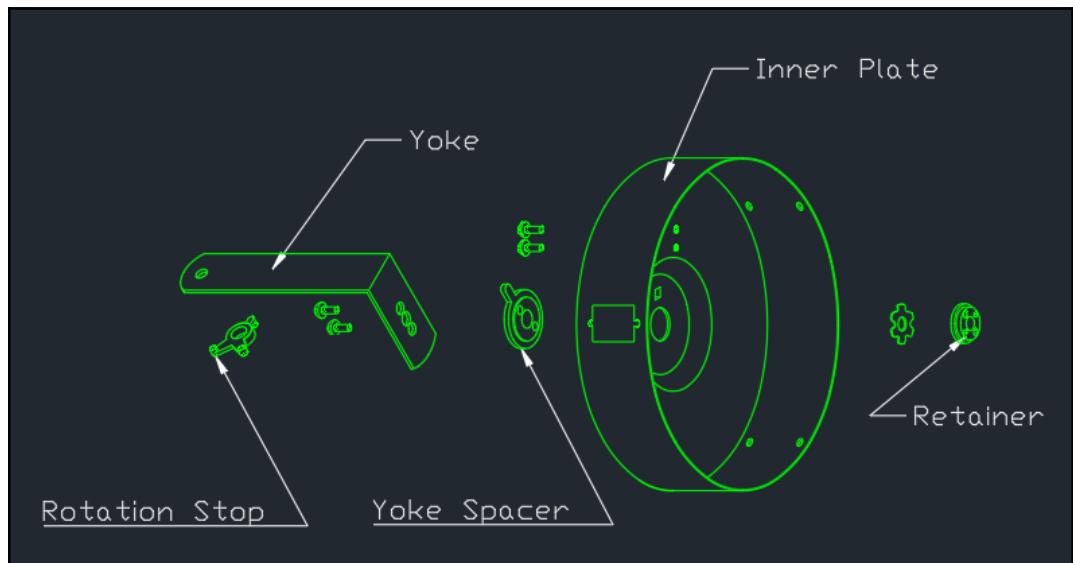
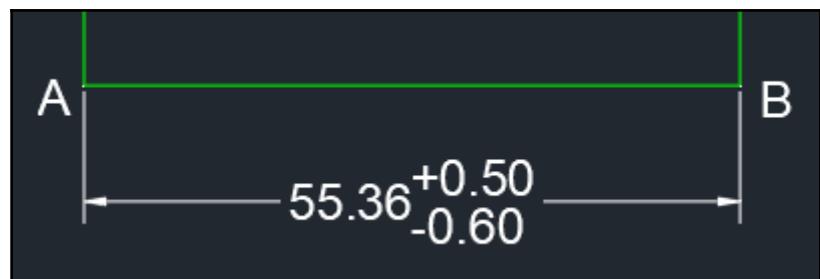
Tolerance format

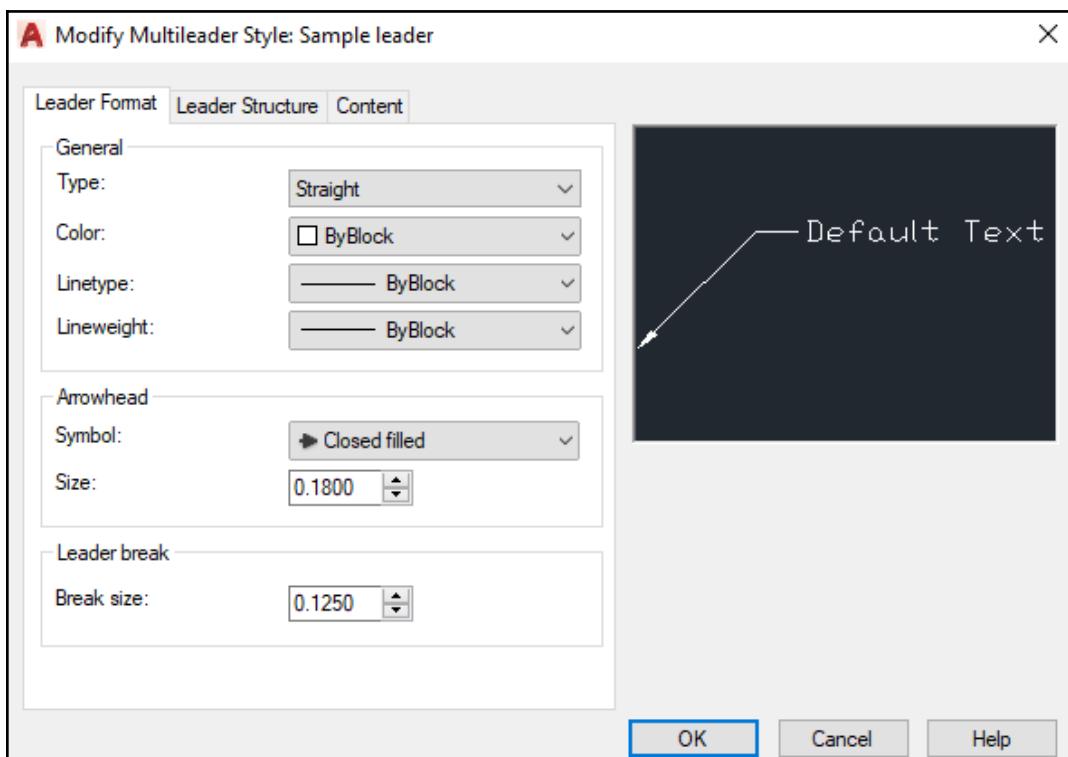
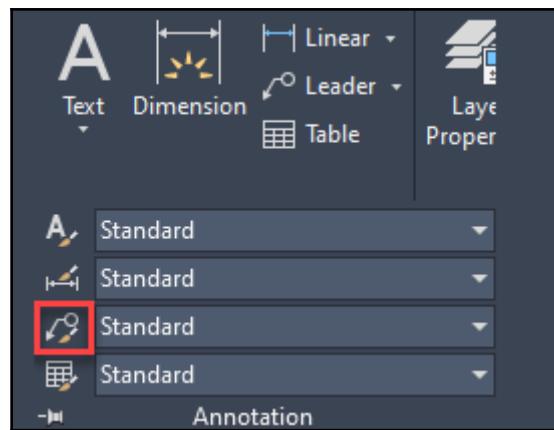
Method: Deviation

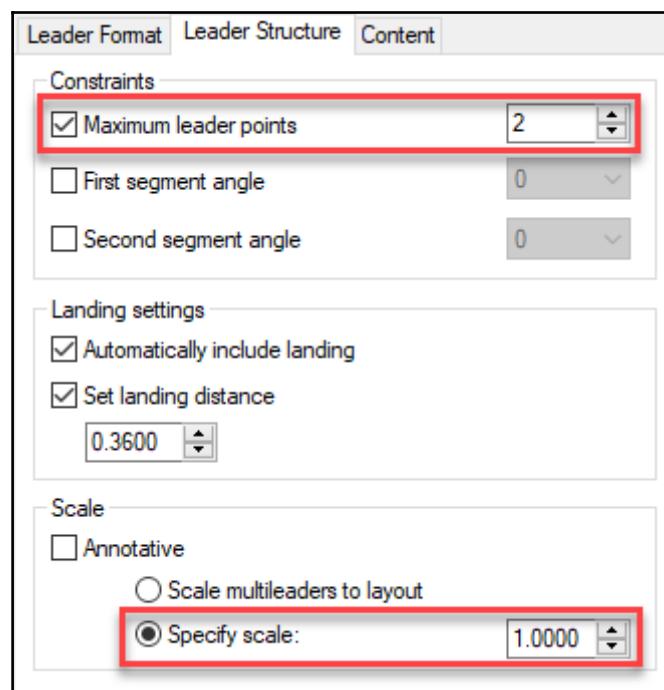
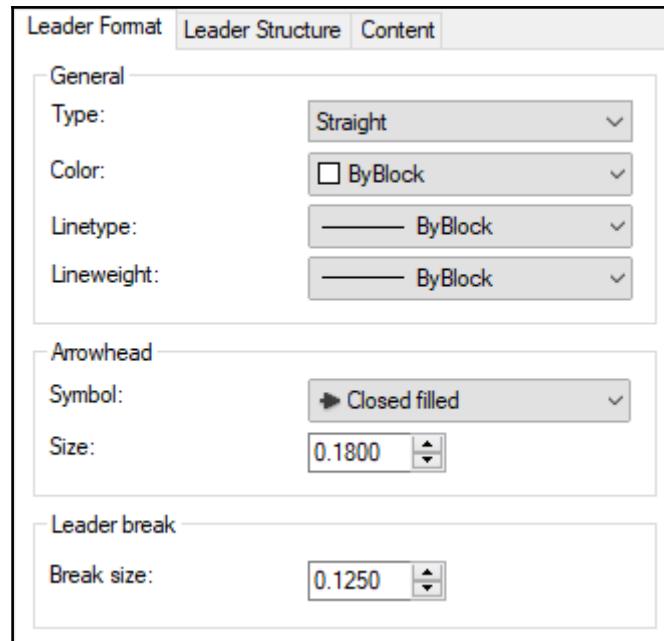
Precision: 0.00

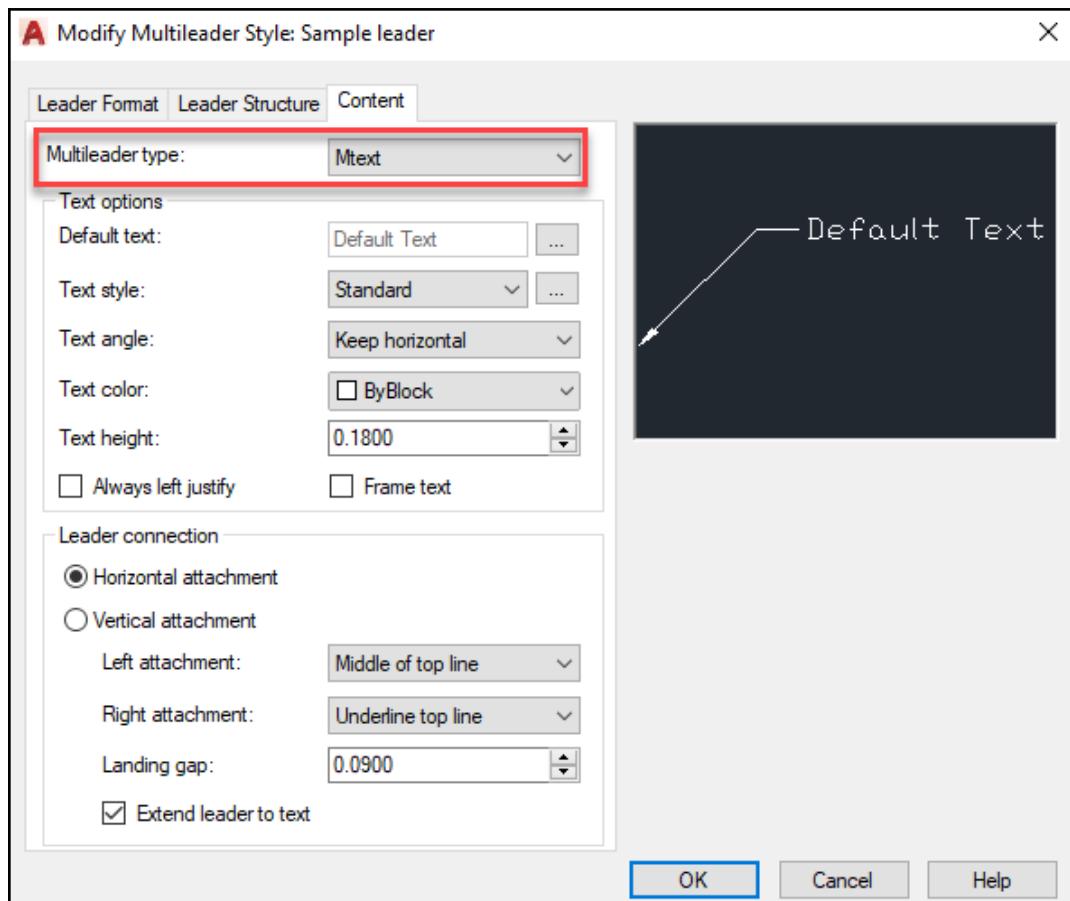
Upper value: 0.50

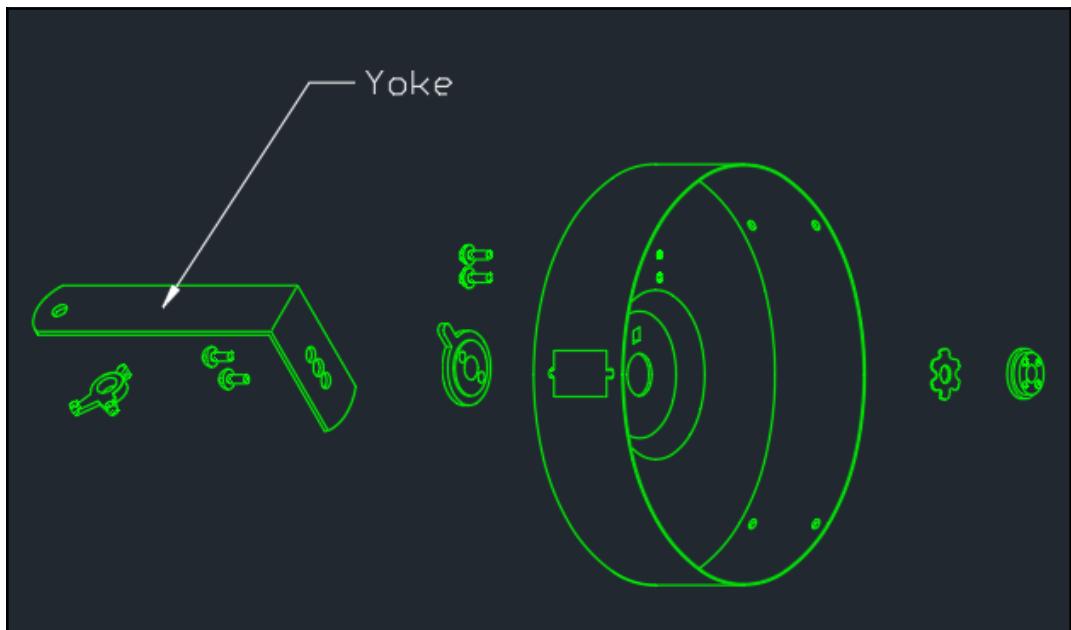
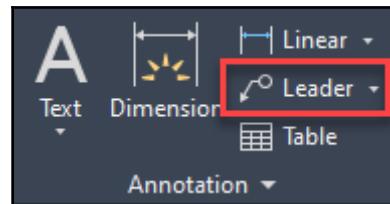
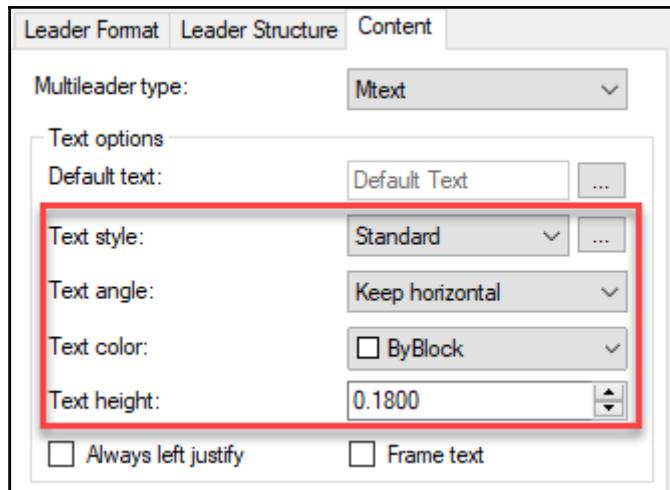
Lower value: 0.60



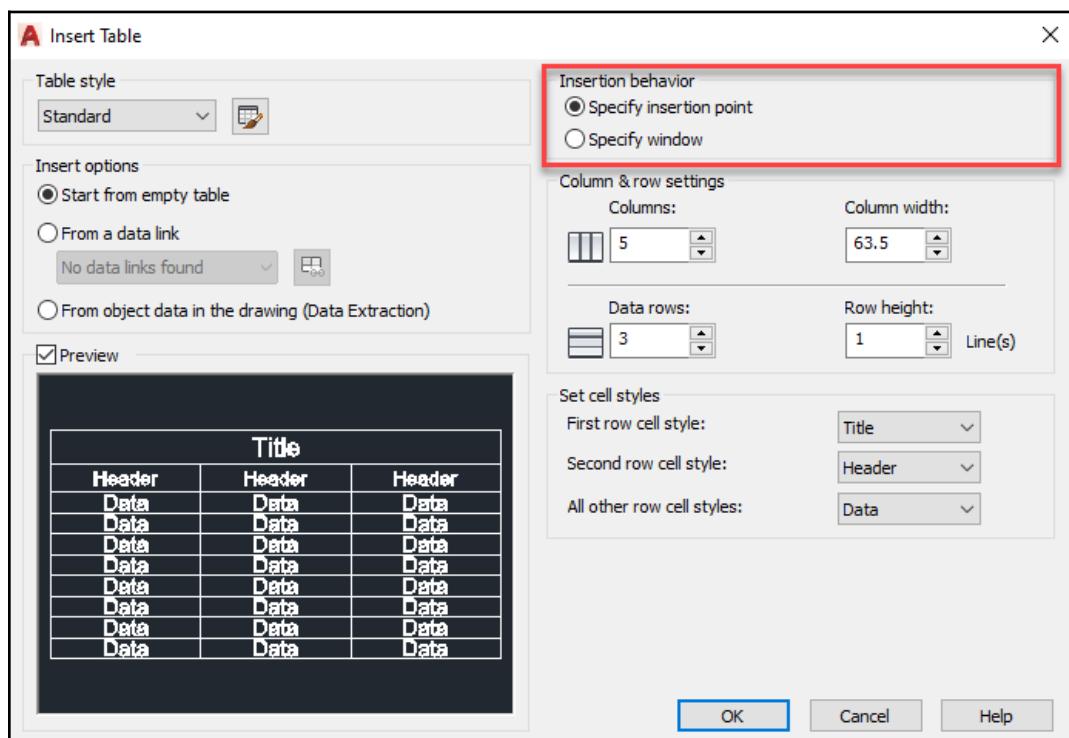
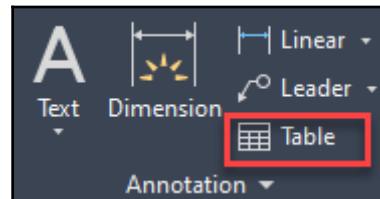


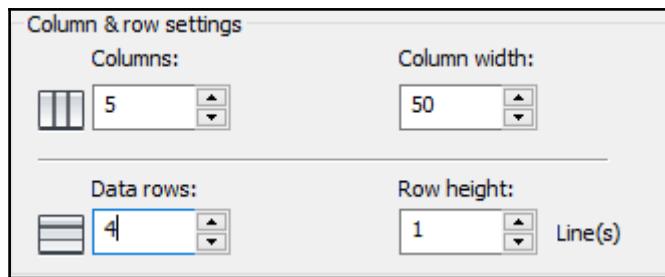


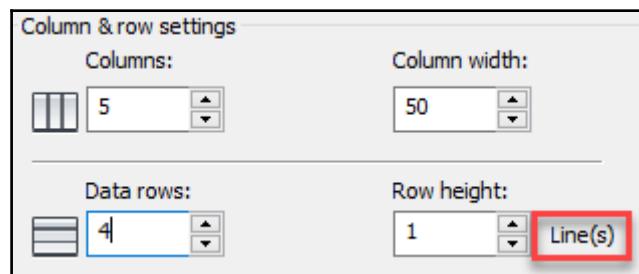


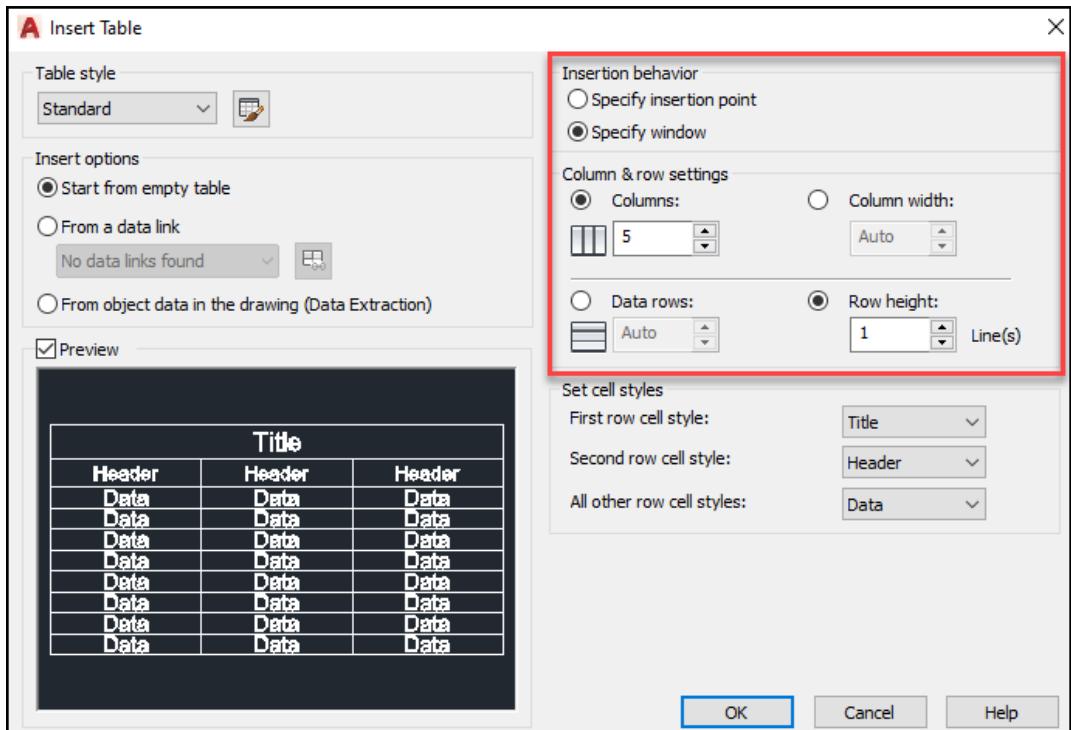


Chapter 7: Tables, Isometric, and Parametric Drawings







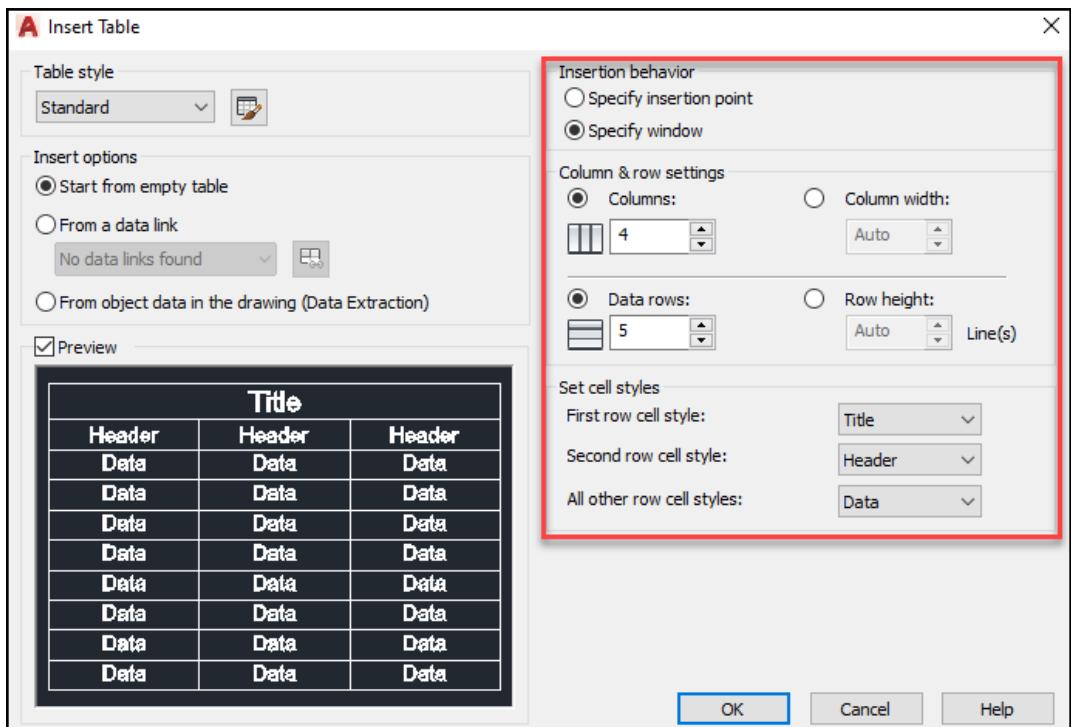


The screenshot shows the Microsoft Excel ribbon with the 'Table Cell' tab selected. The 'Merge' section is active, displaying tools for matching cell styles and merging cells. A dropdown menu for 'Cell Styles' is open, showing 'By Row/Column' and 'None'. The 'Cell Format' section contains various options for cell locking, data formats, and managing cell contents. The 'Insert' section includes options for inserting rows and columns.

A	B	C	D	E
1				
2				
3				
4				
5				
6				

The screenshot shows the Microsoft Word ribbon with the 'Text Editor' tab selected. The 'Formatting' section is active, displaying tools for matching styles, adjusting justification, and changing line spacing. The 'Text Editor' section contains options for bullets and numbering, lists, text, and various editing tools.

A	B	C	D	E
1				
2				
3				
4				
5				
6				



	A	B	C	D
1				
2				
3				
4				
5				
6				
7				

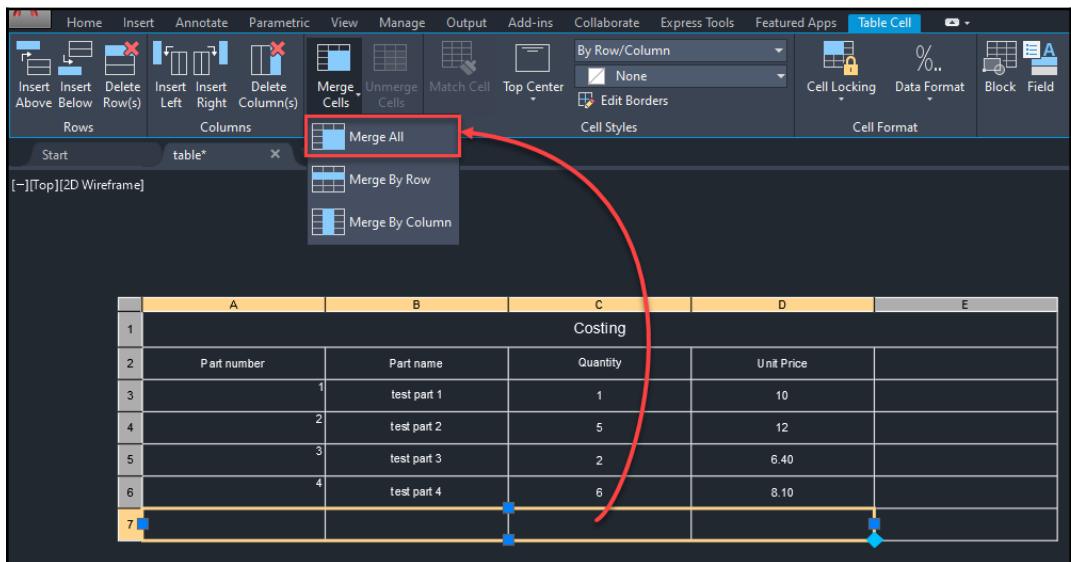
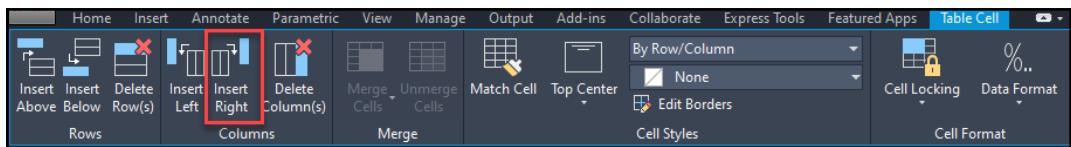
Costing			

Costing				
Part number	Part name	Quantity	Unit Price	
1	test part 1	1	10	
2	test part 2	5	12	
3	test part 3	2	6.40	
4	test part 4	6	8.10	

The screenshot shows a spreadsheet interface with a table titled "Costing". The table structure is as follows:

Costing				
Part number	Part name	Quantity	Unit Price	
1	test part 1	1	10	
2	test part 2	5	12	
3	test part 3	2	6.40	
4	test part 4	6	8.10	

The "Table Cell" tab is selected in the ribbon. A dropdown menu for alignment is open, showing options: By Row/Column, Top Right, Top Left, Top Center, Middle Center (which is highlighted with a red box and arrow), Middle Right, Bottom Left, Bottom Center, and Bottom Right.



Costing				
Part number	Part name	Quantity	Unit Price	Total price
1	test part 1	1	10	
2	test part 2	5	12	
3	test part 3	2	6.40	
4	test part 4	6	8.10	
Total Cost				

C	D	E
Costing		
Quantity	Unit Price	Total price
1	10	10
5	12	
2	6.40	
6	8.10	

Costing		
Quantity	Unit Price	Total price
1	10	10
5	12	60
2	6.40	12.800000
6	8.10	48.600000
Cost		

Costing			
Quantity	Unit Price	Total price	
3	10	30	
5	12	60	
2	6.40	12 800000	
6	8.10	48.600000	
Cost			

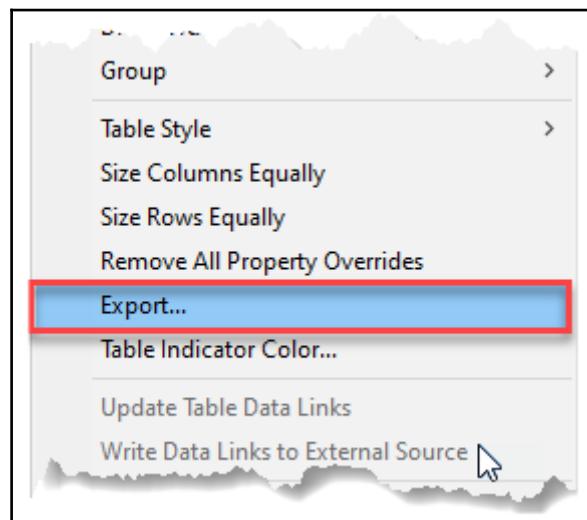
Apps Table Cell

Cell Locking Data Format Block Field Formula Manage Cell Contents Link Cell Download from Source

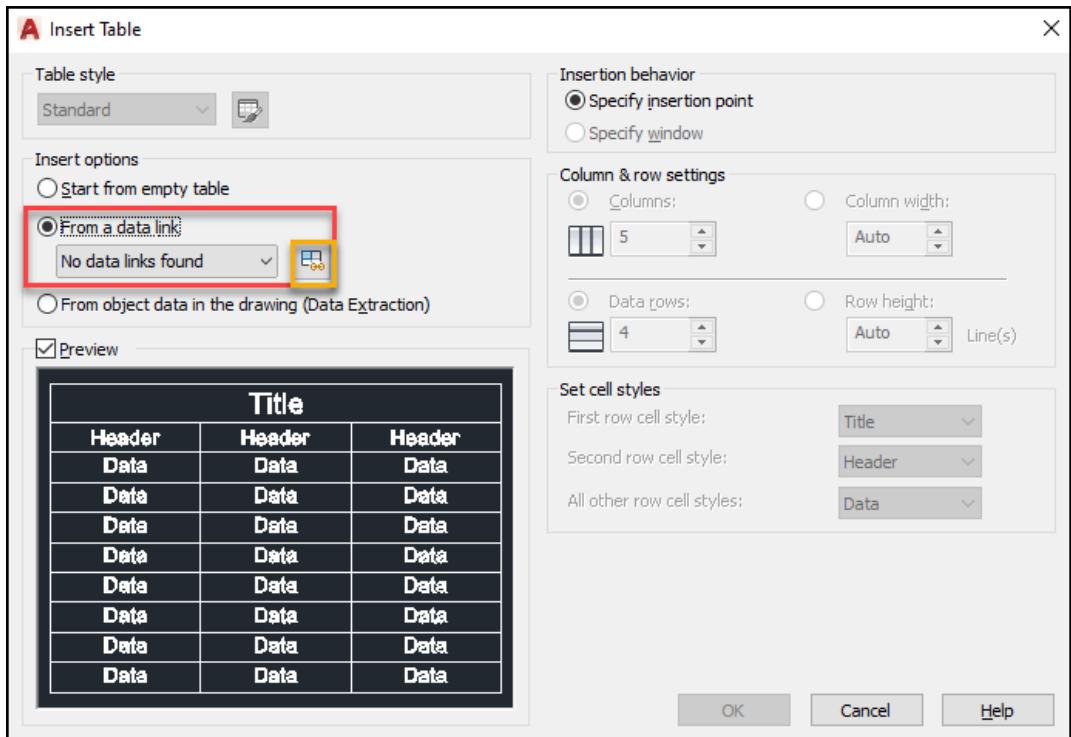
Cell Format Sum Average Count Cell Equation

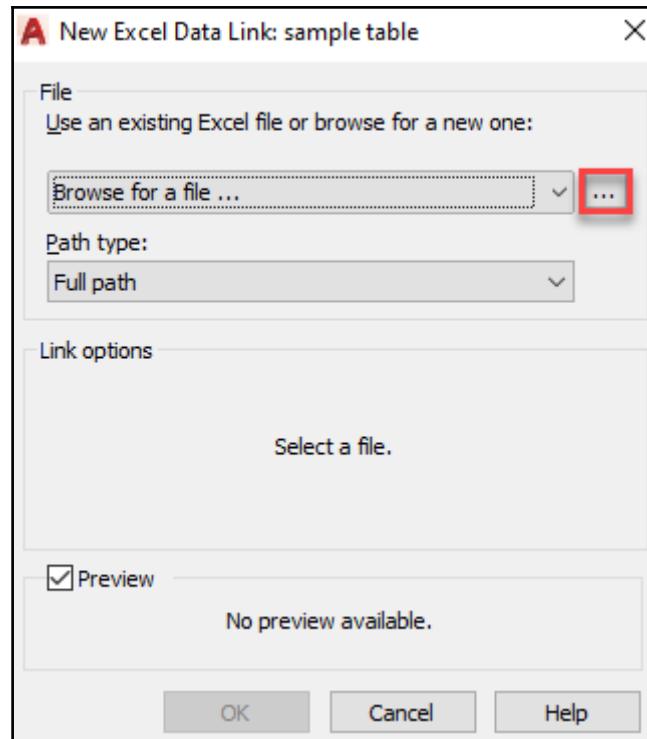
C	D	E
Costing		
Quantity	Unit Price	Total price
3	10	30
5	12	60
2	6.40	12 800000
6	8.10	48.600000

Costing				
Part number	Part name	Quantity	Unit Price	Total price
1	test part 1	3	10	30
2	test part 2	5	12	60
3	test part 3	2	6.40	12.800000
4	test part 4	6	8.10	48.600000
Total Cost				151.400000

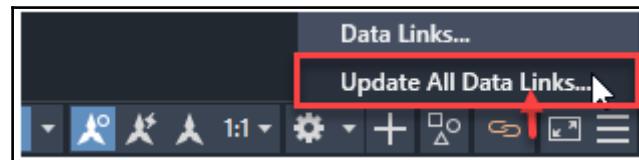


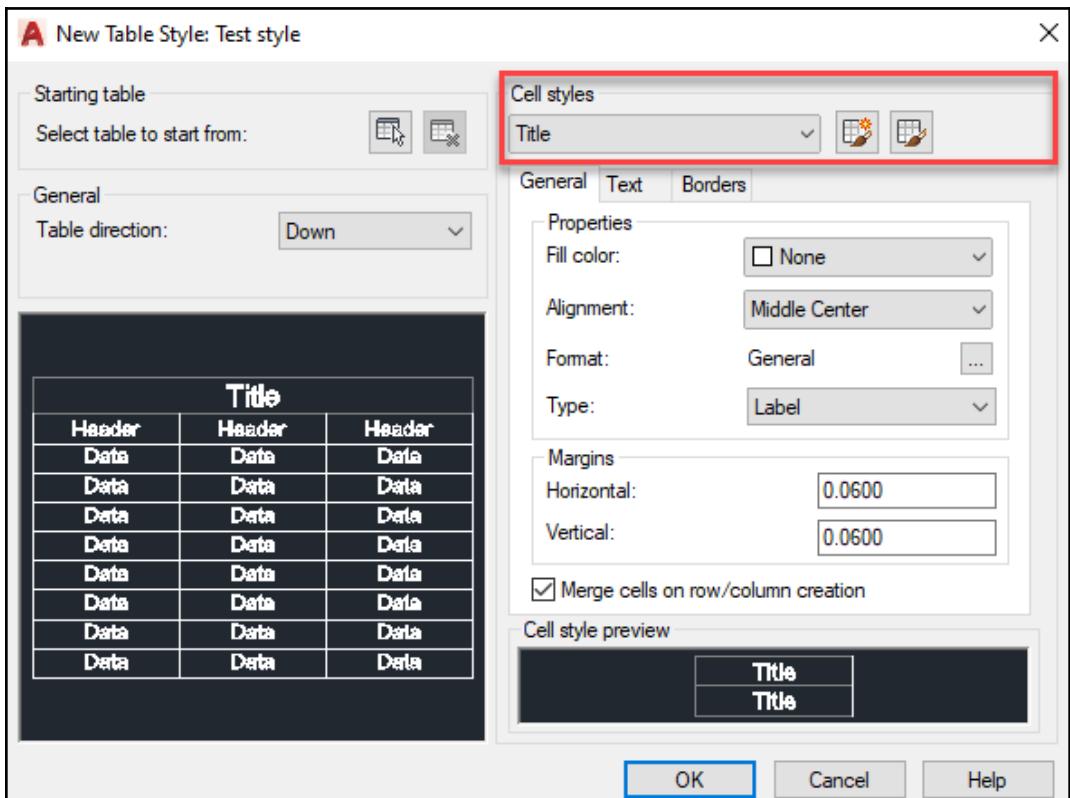
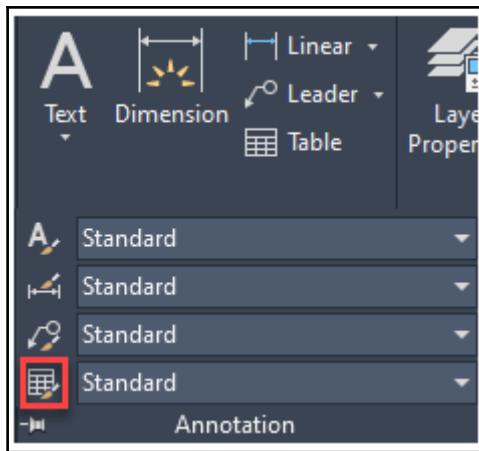
A	B		C	D	E
1	Costing				
2	Part numbt	Part name	Quantity	Unit Price	Total price
3	1	test part 1	3	10	30
4	2	test part 2	5	12	60
5	3	test part 3	2	6.4	12.8
6	4	test part 4	6	8.1	48.6
7	Total Cost				151.4

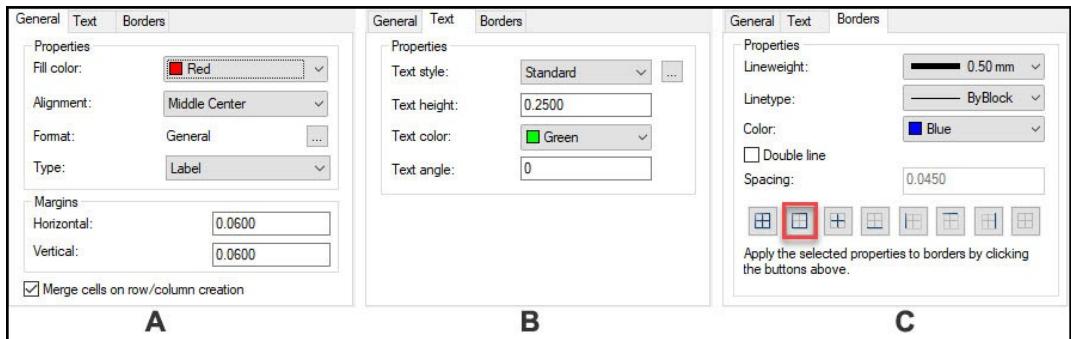




Costing				
Part number	Part name	Quantity	Unit Price	Total price
1	test part 1	3	10	30
2	test part 2	5	12	60
3	test part 3	2	6.4	12.8
4	test part 4	6	8.1	48.6
Total Cost				151.4

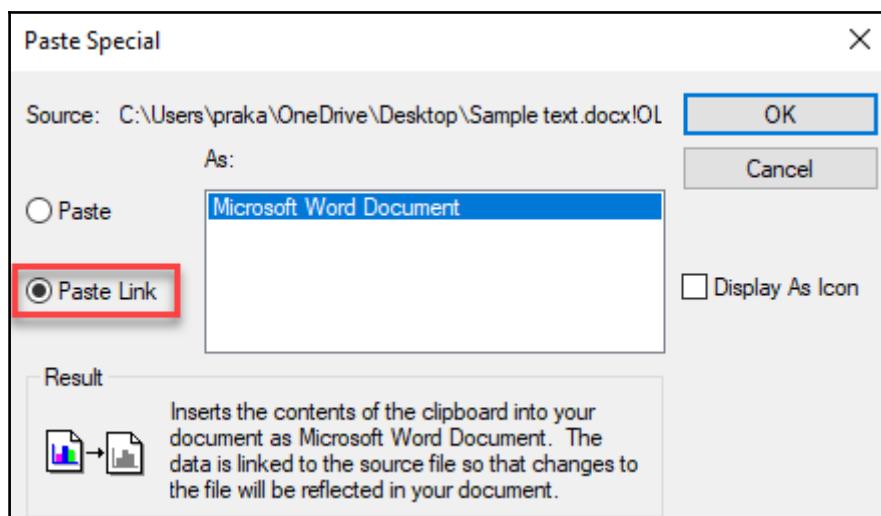
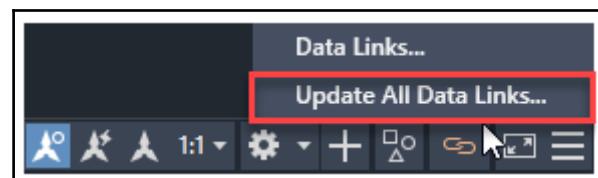
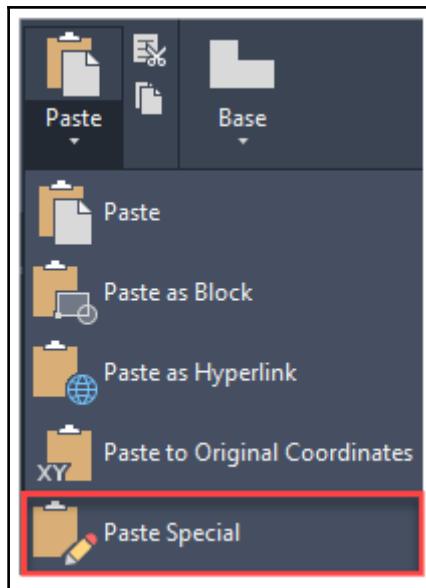


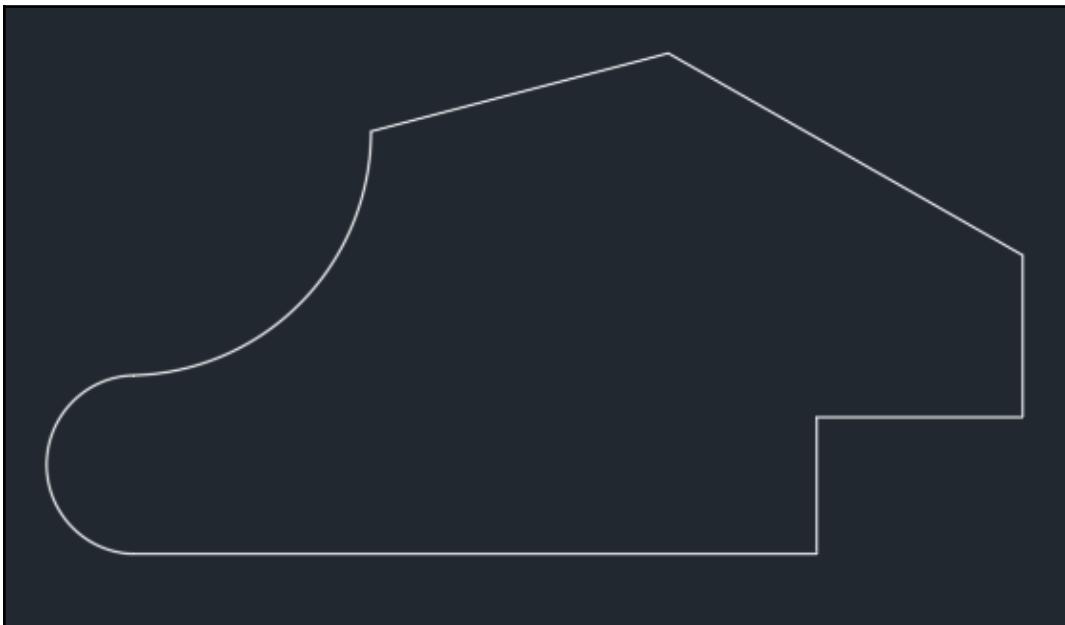
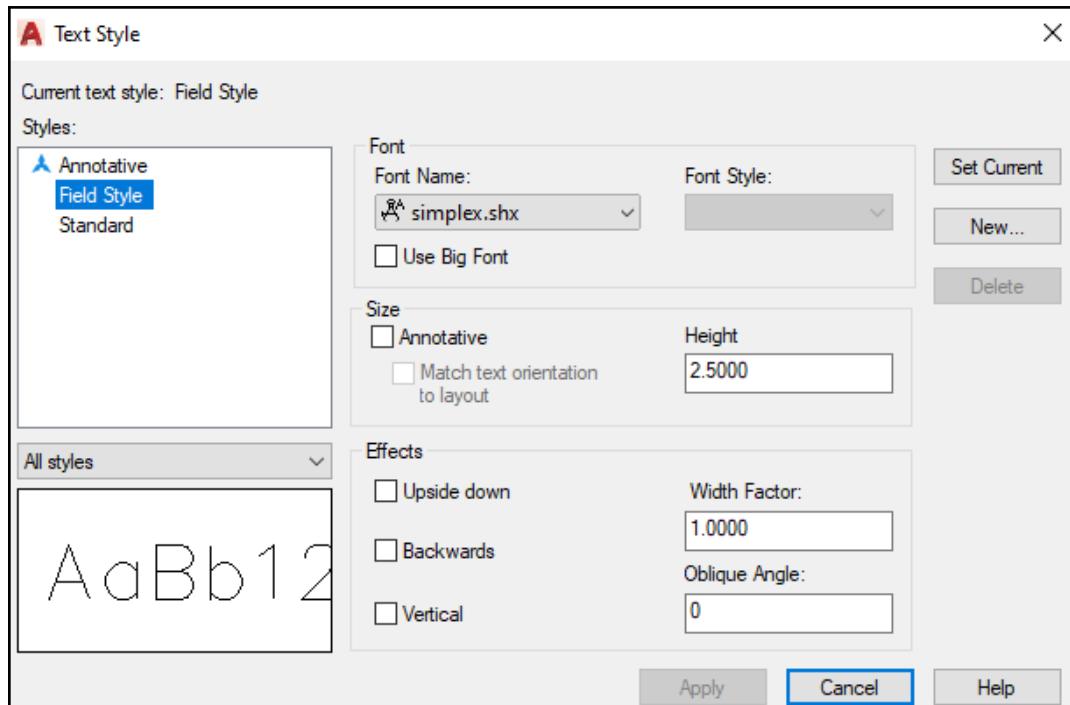


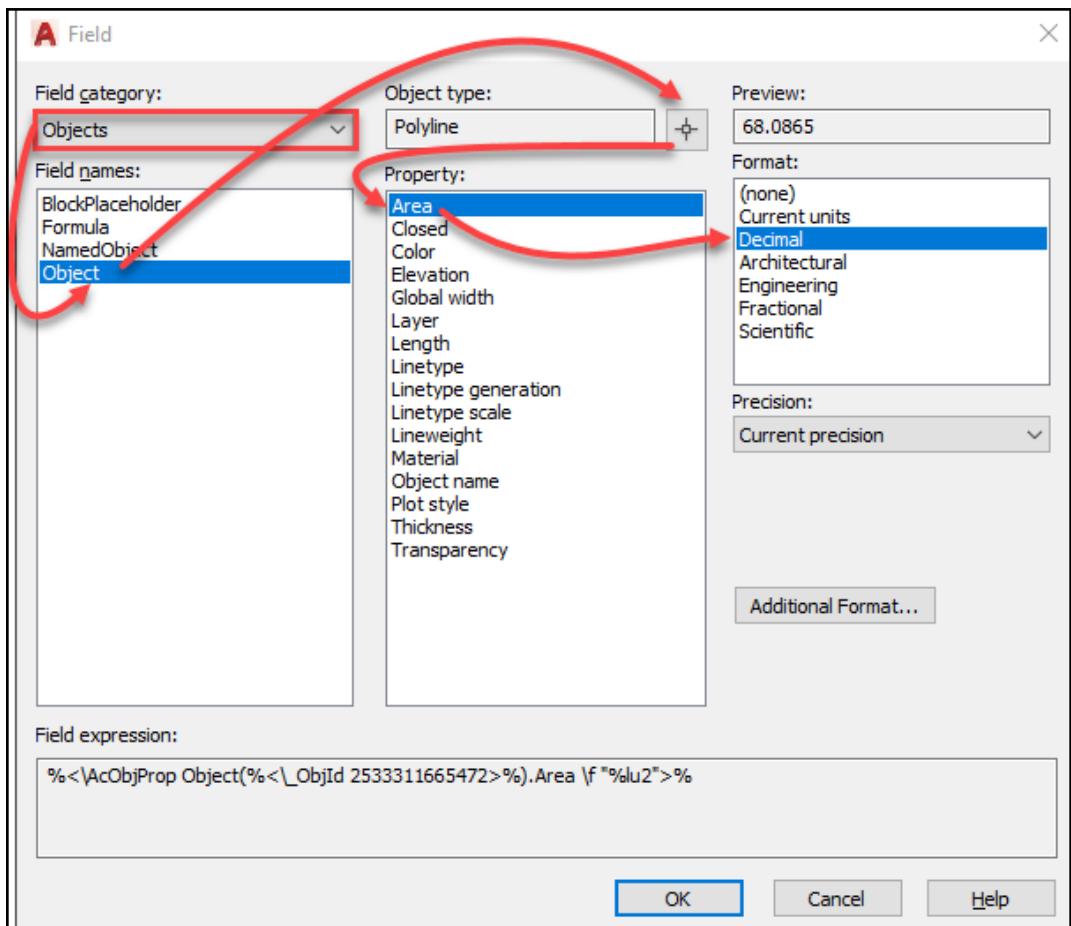


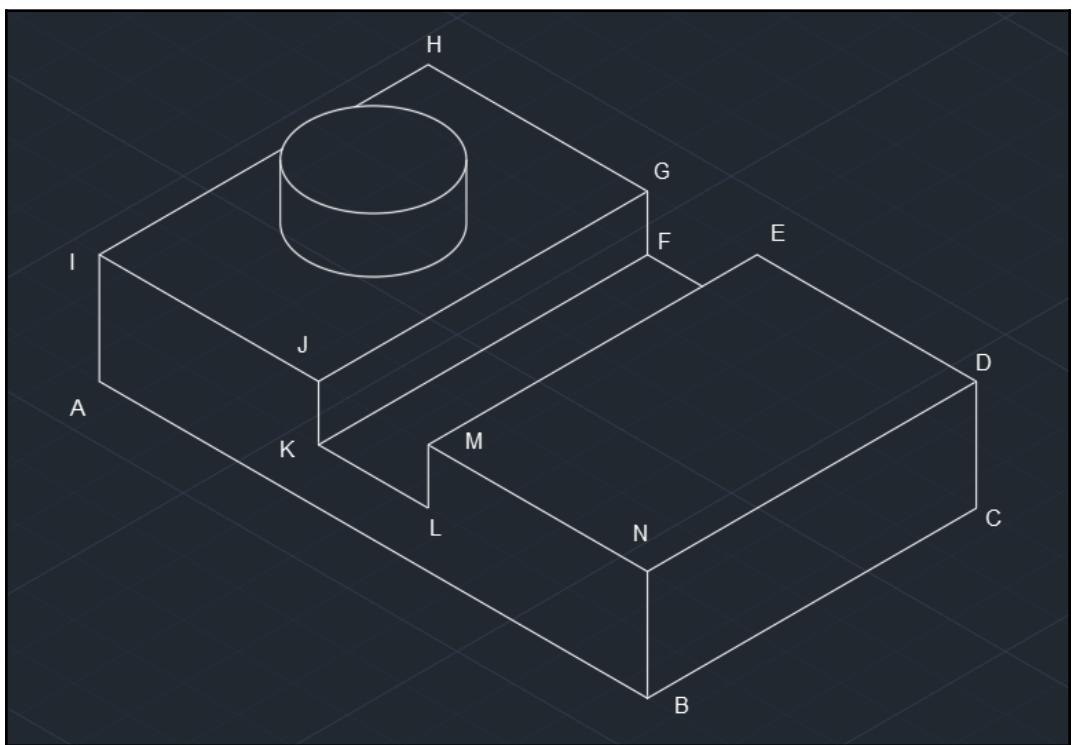
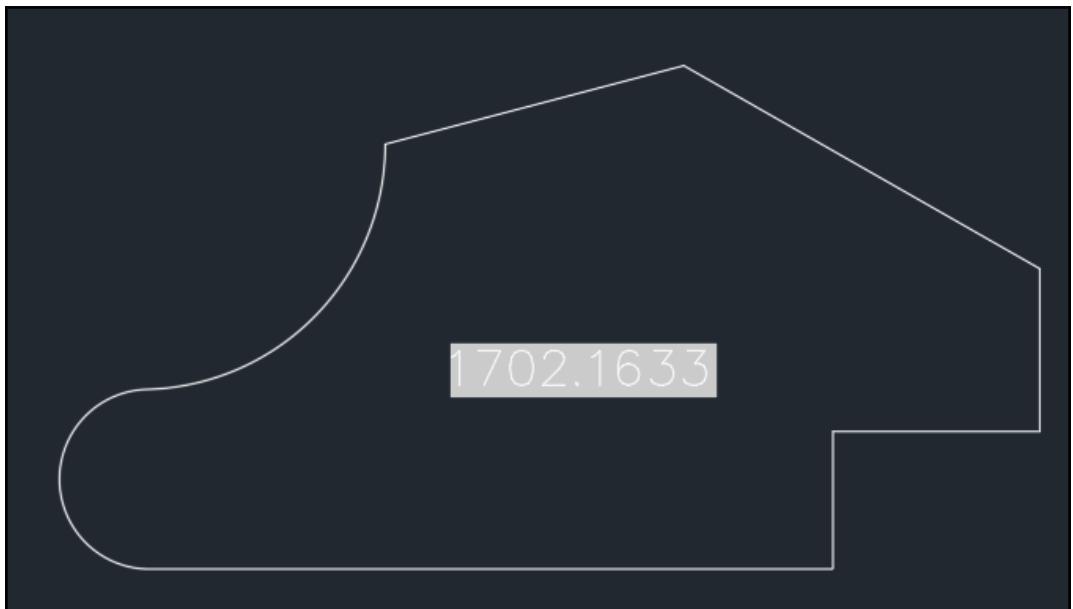
Costing				
Part number	Part name	Quantity	Unit Price	Total price
1	test part 1	3	10	30
2	test part 2	5	12	60
3	test part 3	2	6.40	12.800000
4	test part 4	6	8.10	48.600000
Total Cost				151.400000

A	B	C	D	E
Costing				
1	Part number	Part name	Quantity	Unit Price
2	1	test part 1	3	10
3	2	test part 2	5	12
4	3	test part 3	2	6.4
5	4	test part 4	7	8.1
6	Total Cost			151.4
7				
8				

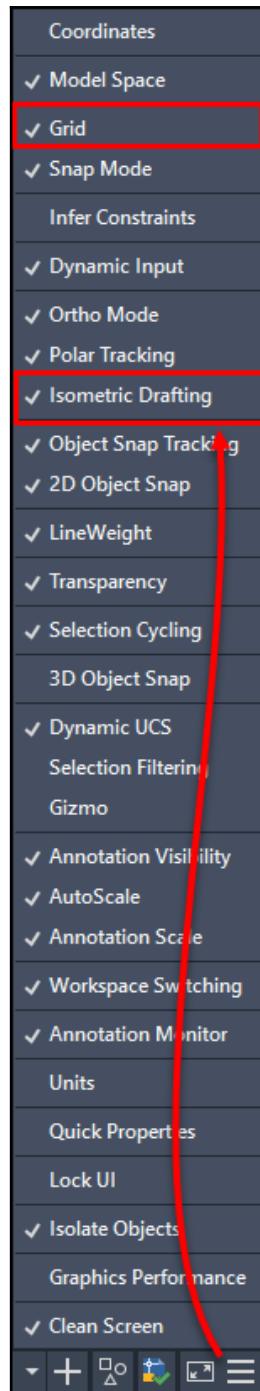


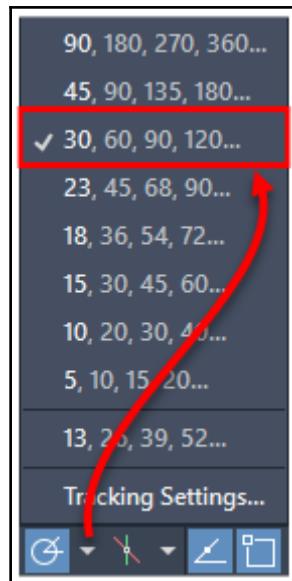


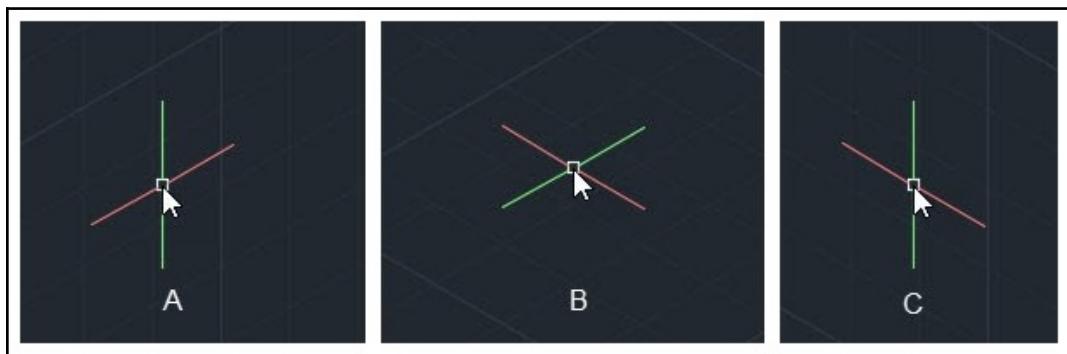
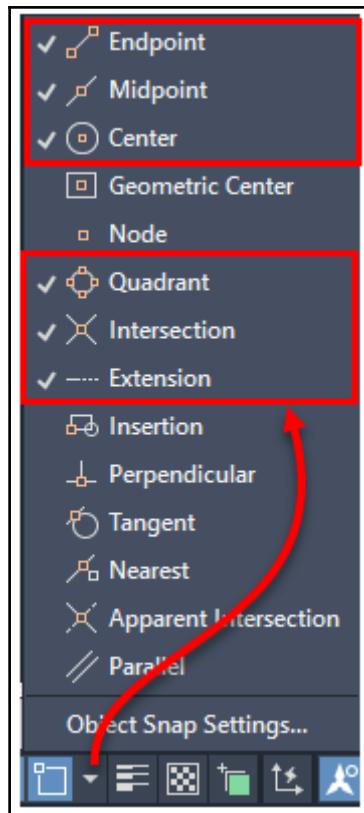




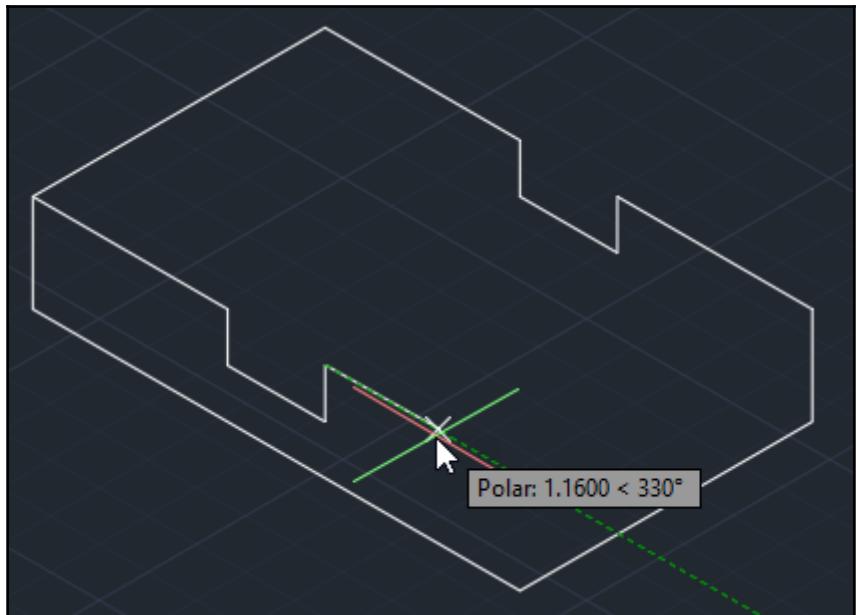
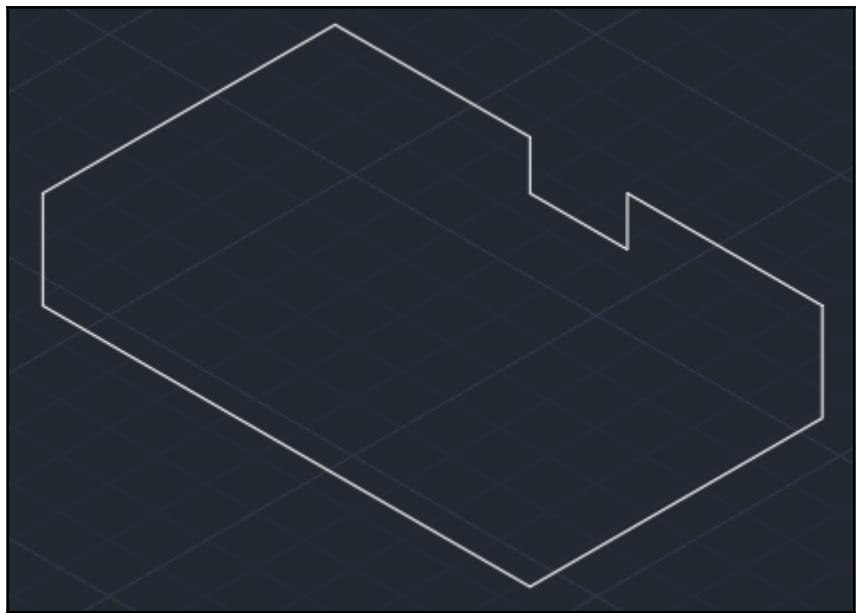


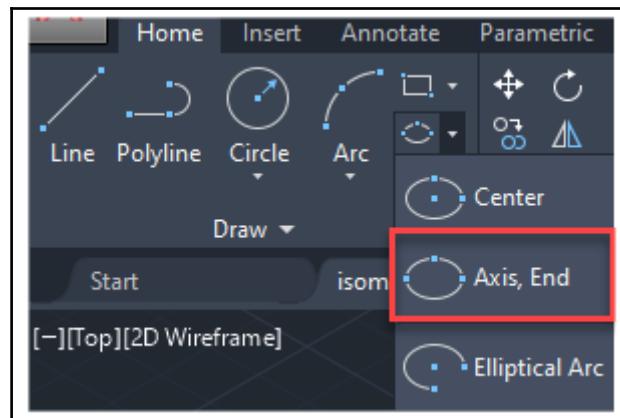
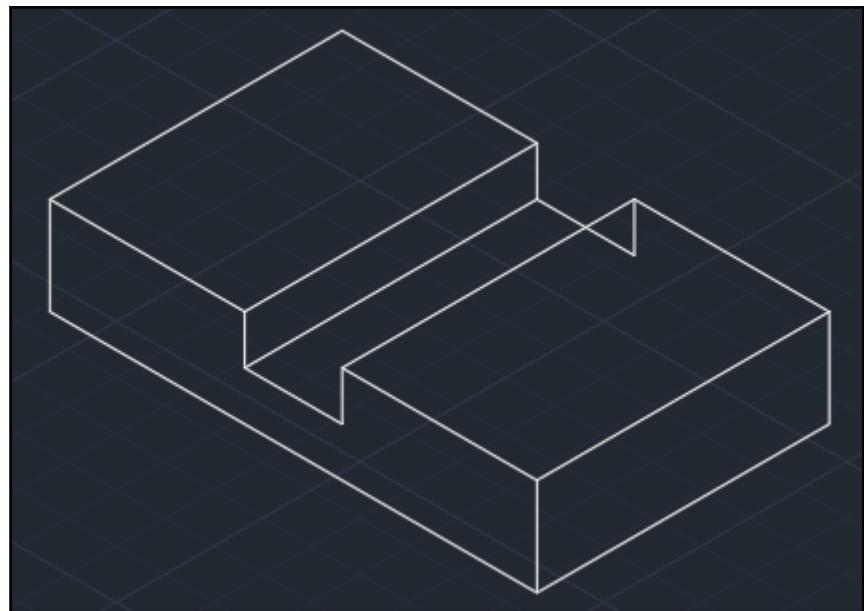




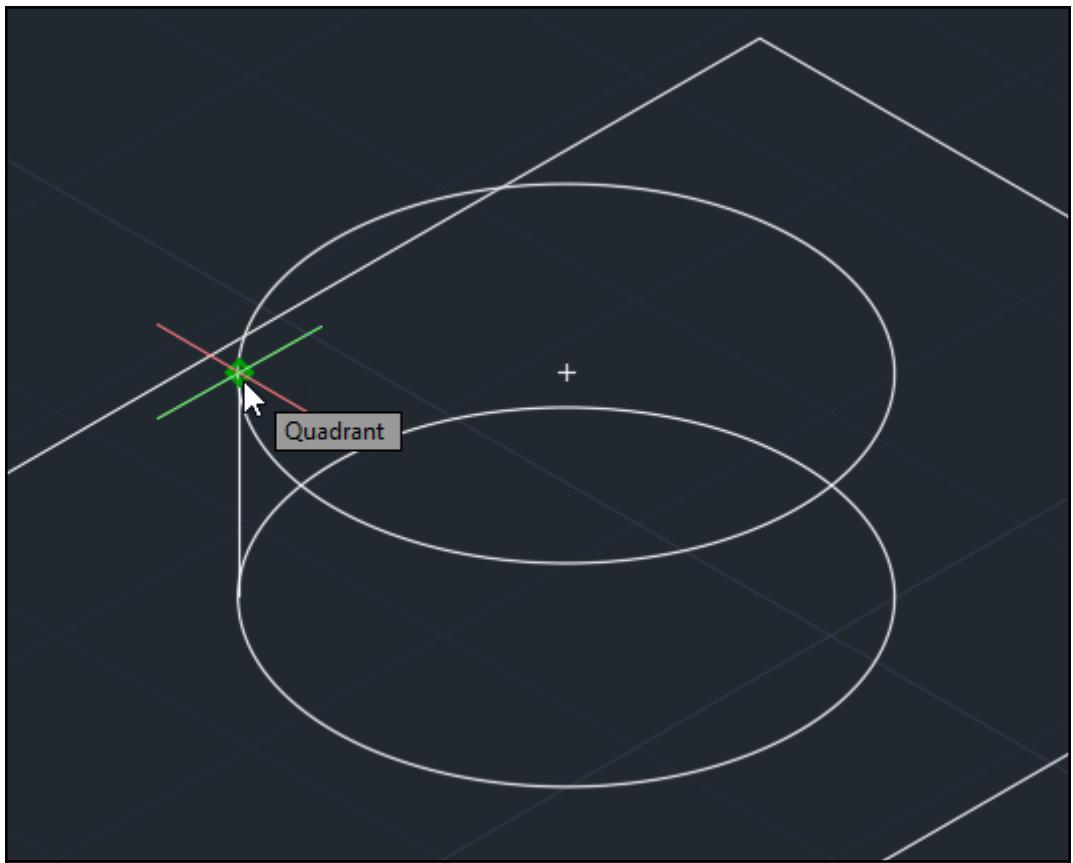


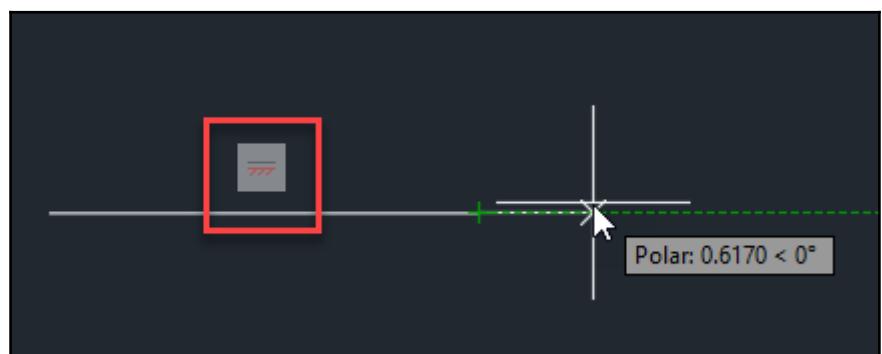
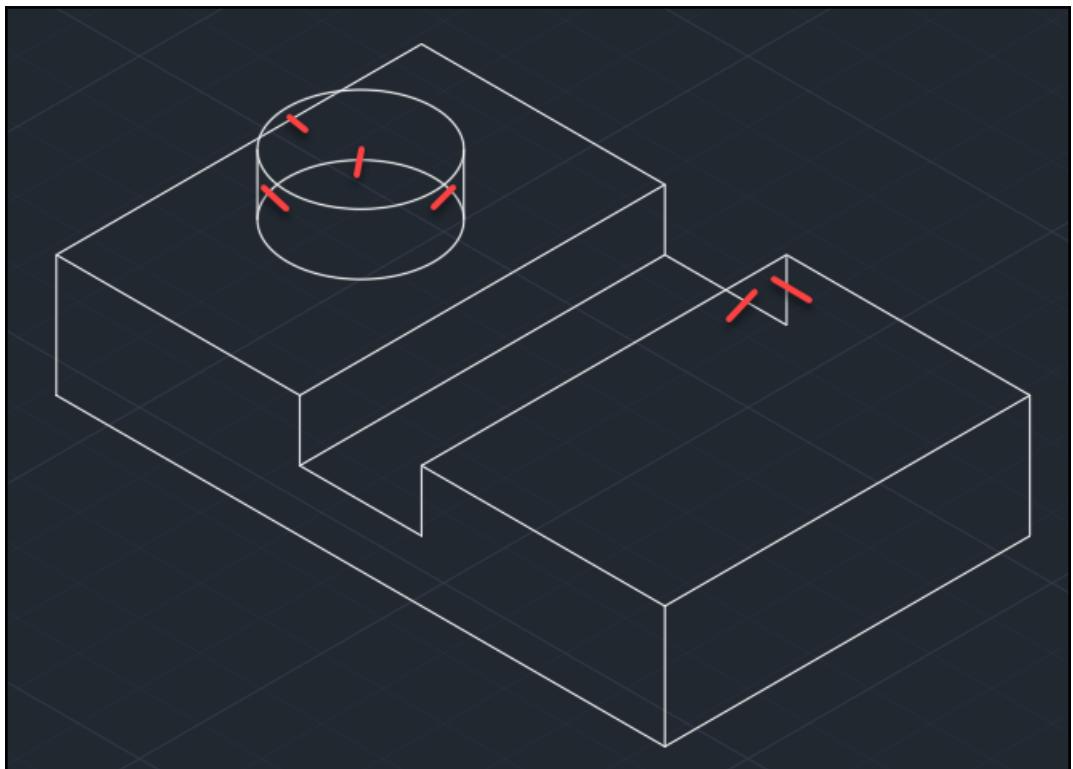


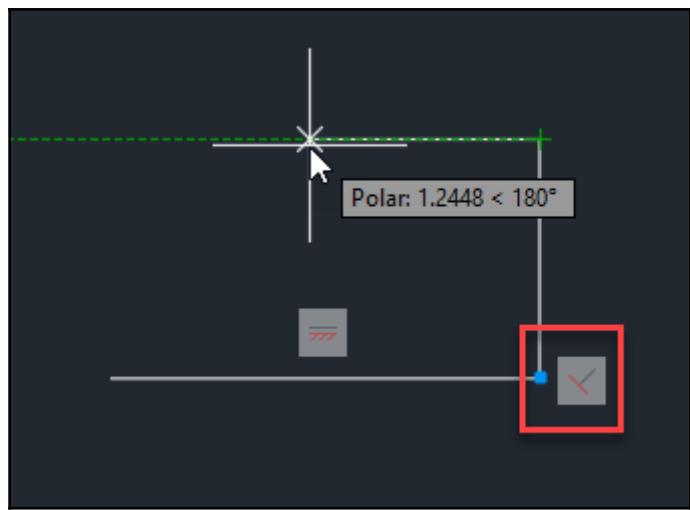


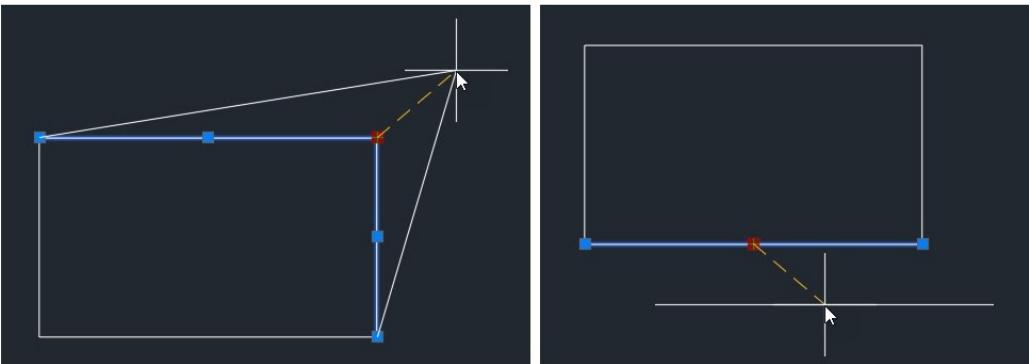


ELLIPSE Specify axis endpoint of ellipse or [Arc Center Isocircle]:

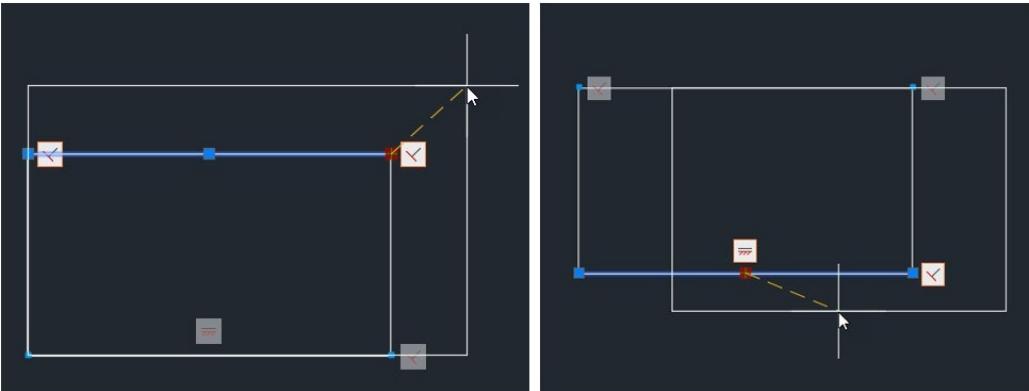




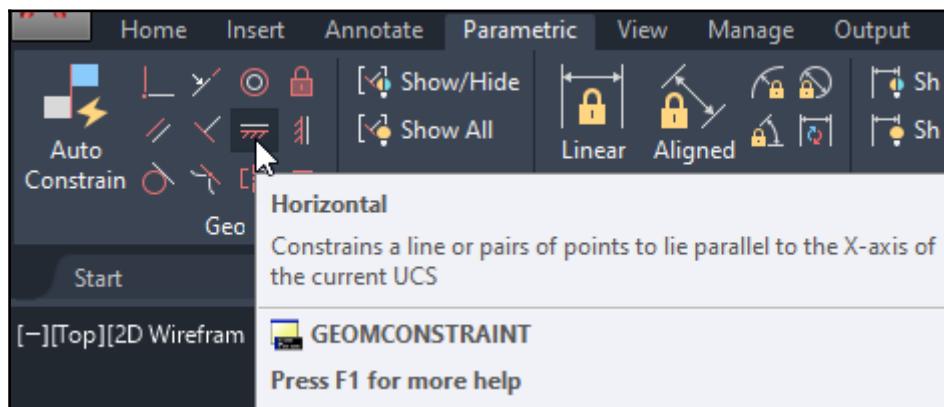
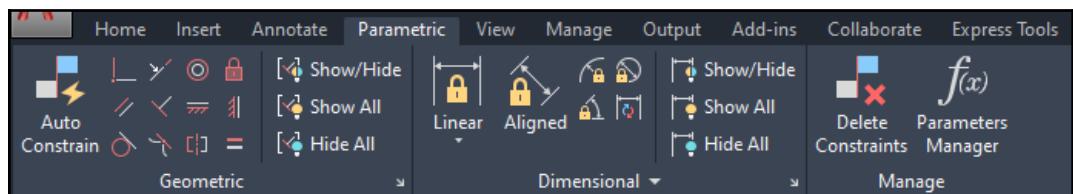


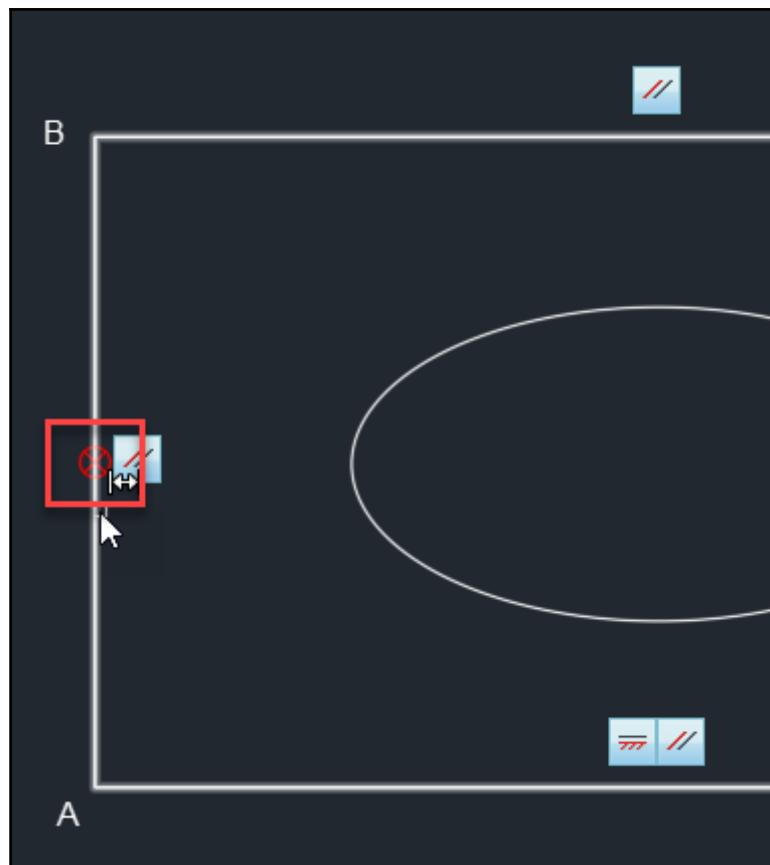


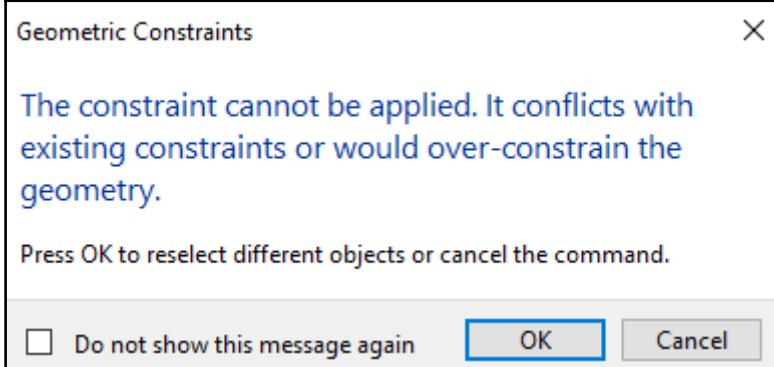
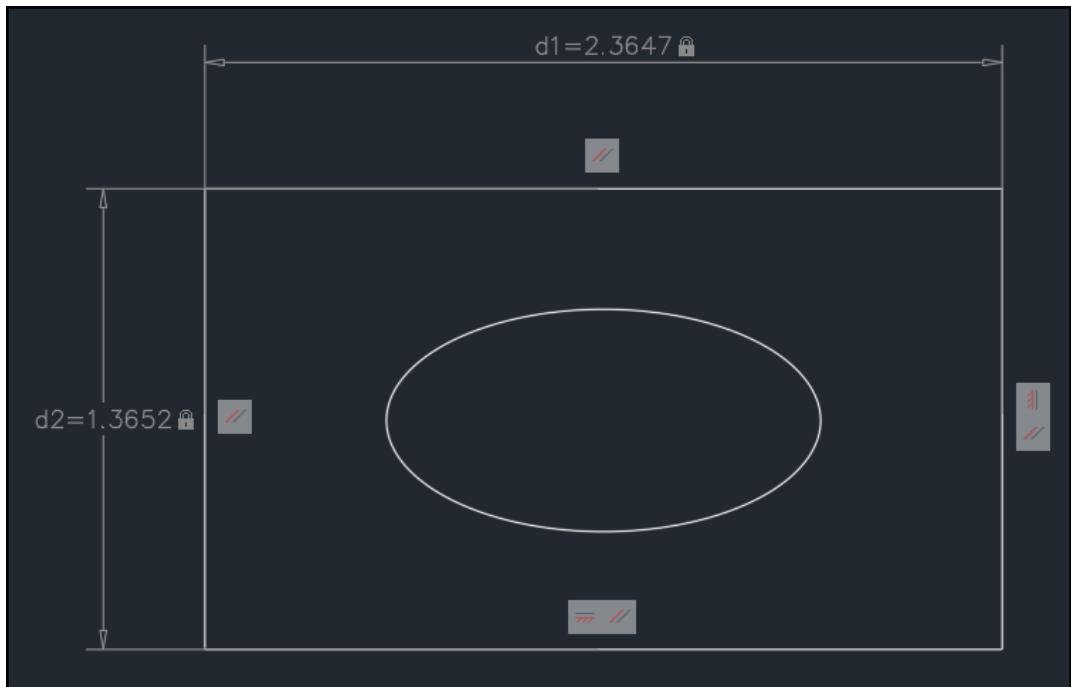
Without constraints

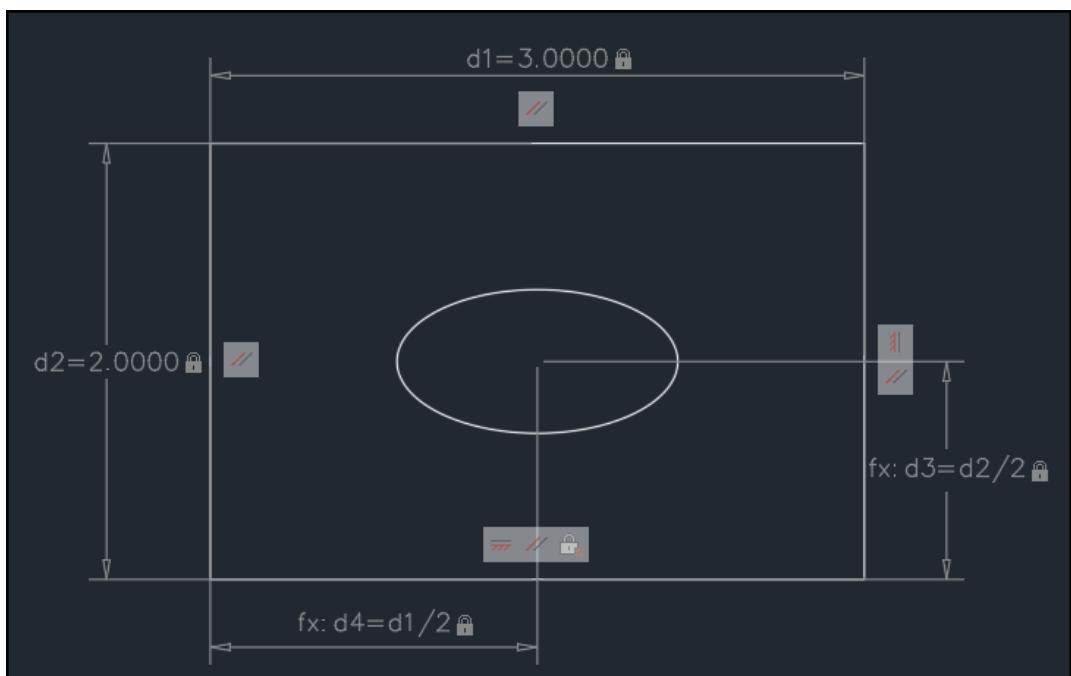
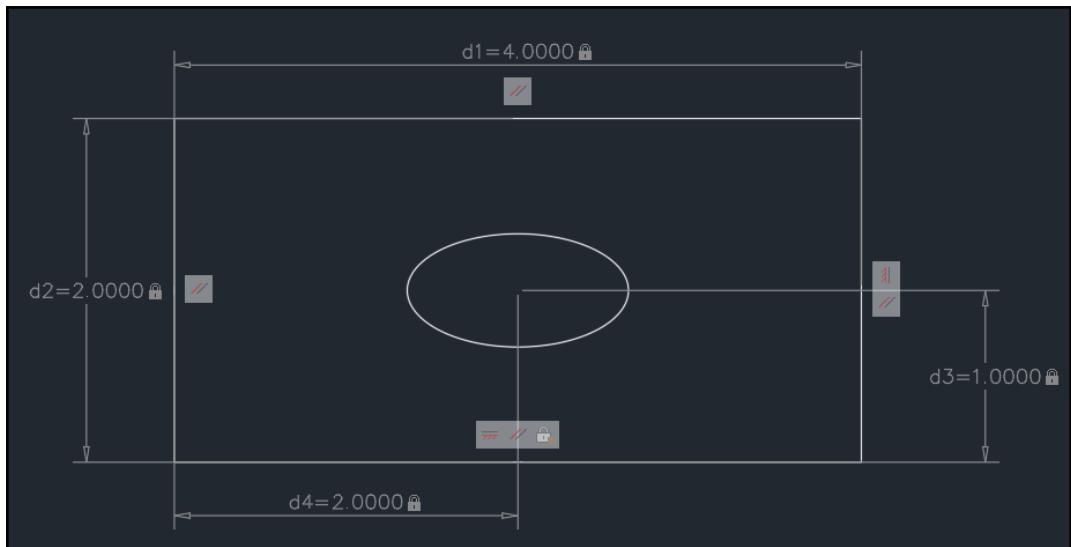


With constraints



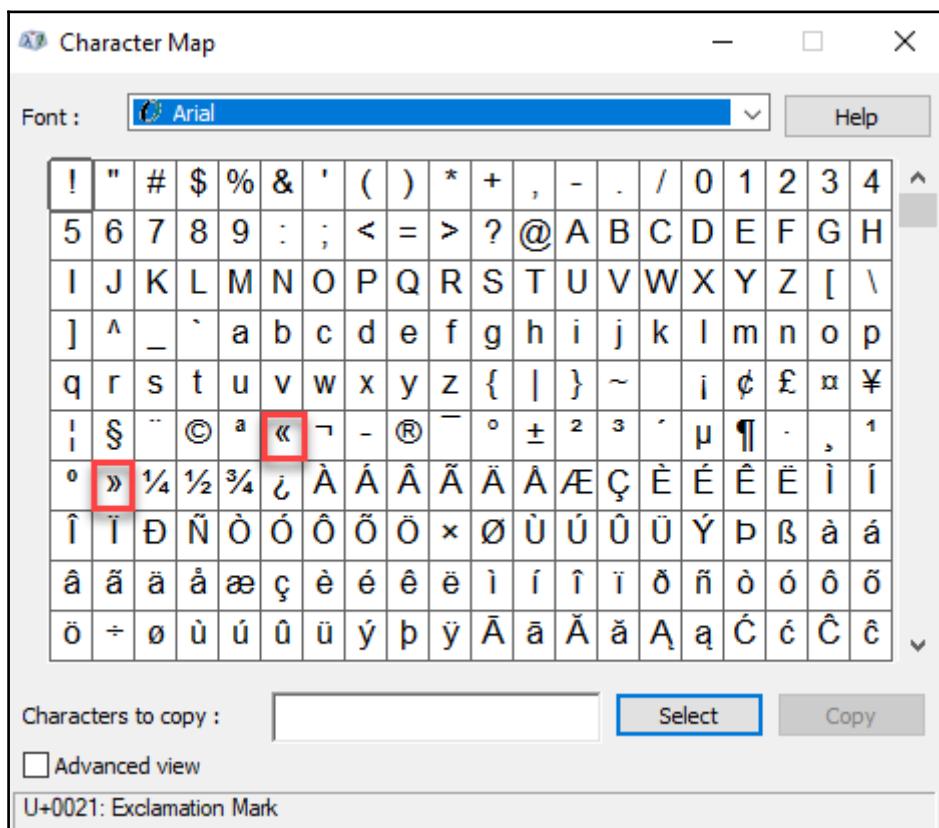


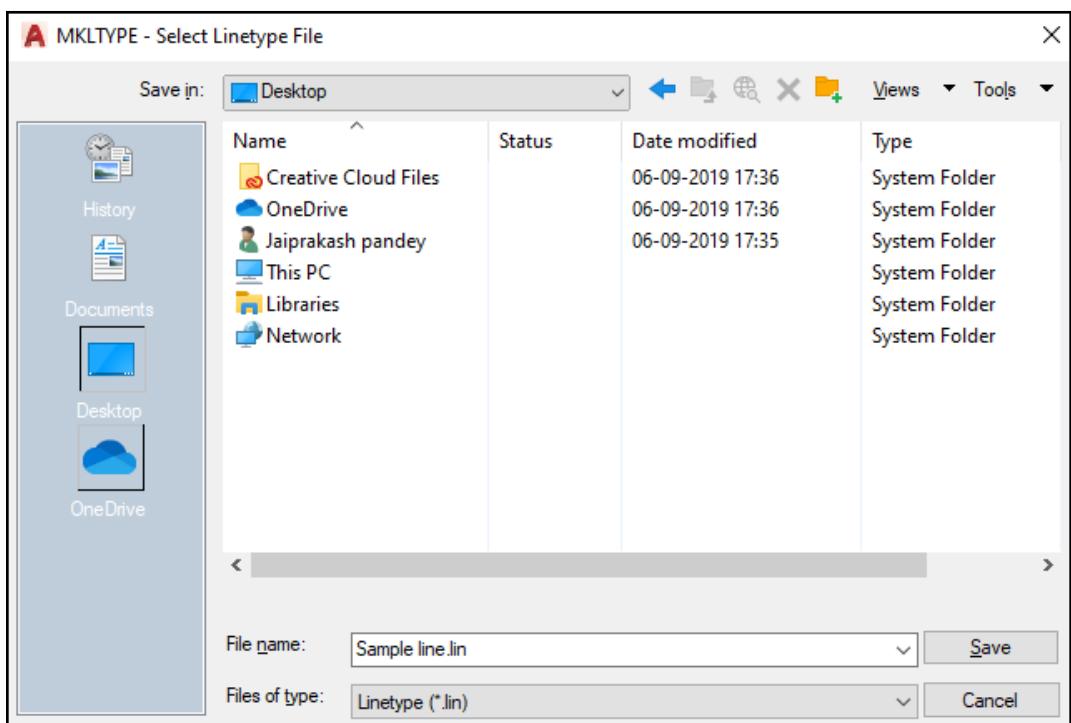
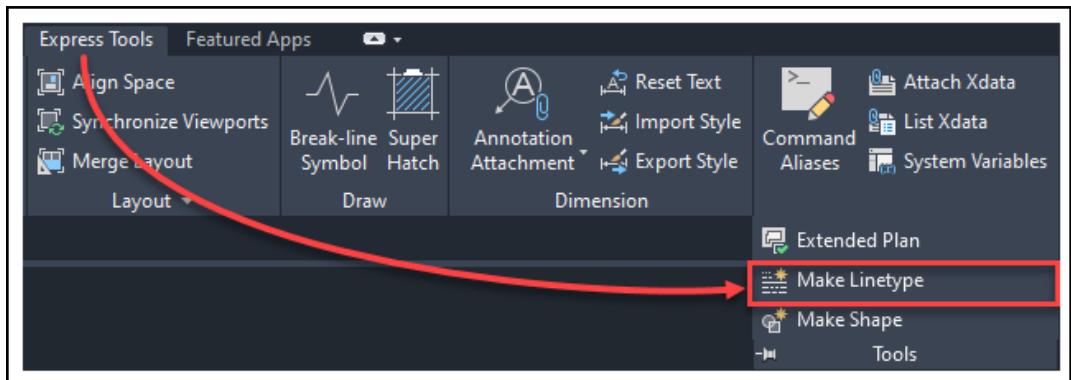


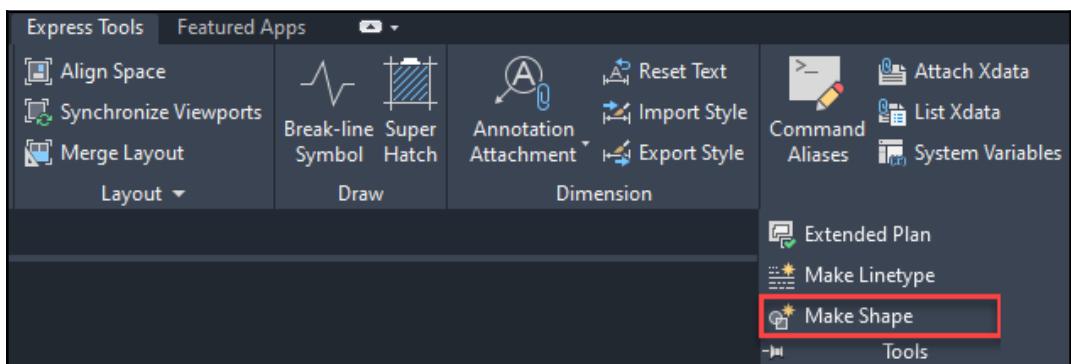
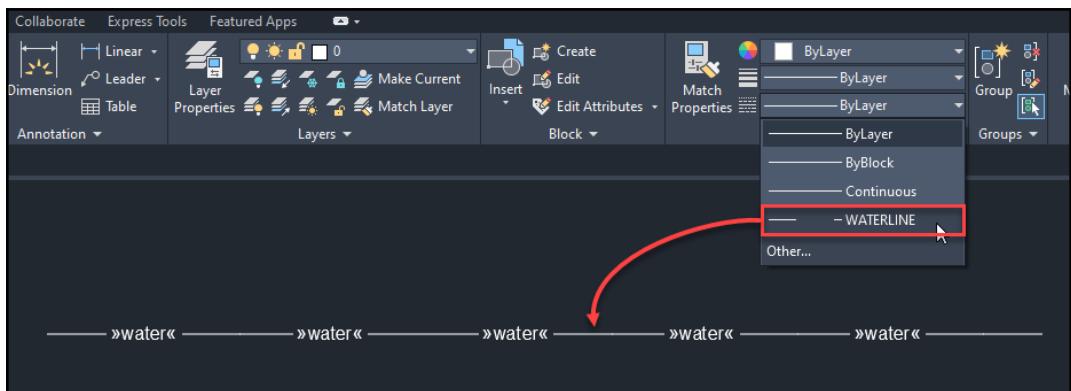


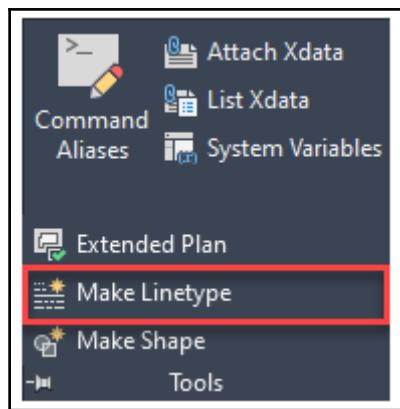
Chapter 8: Customization Tools

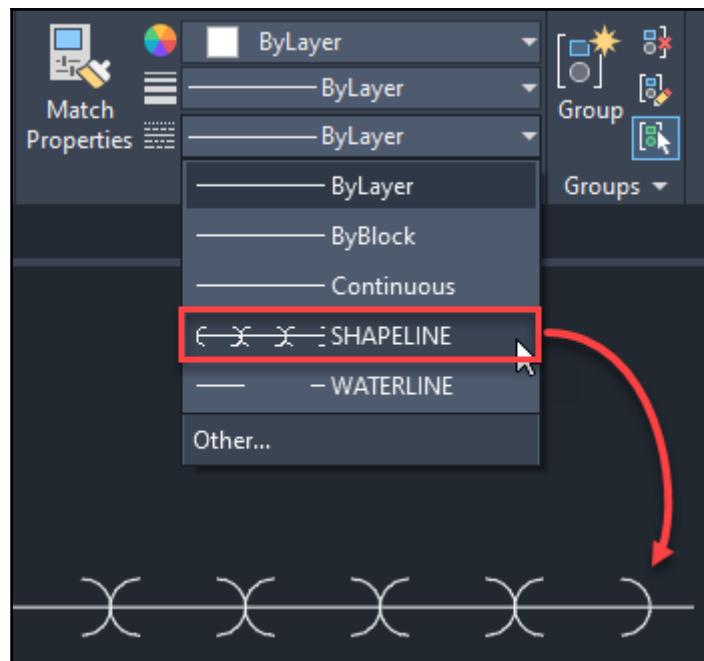
»water«







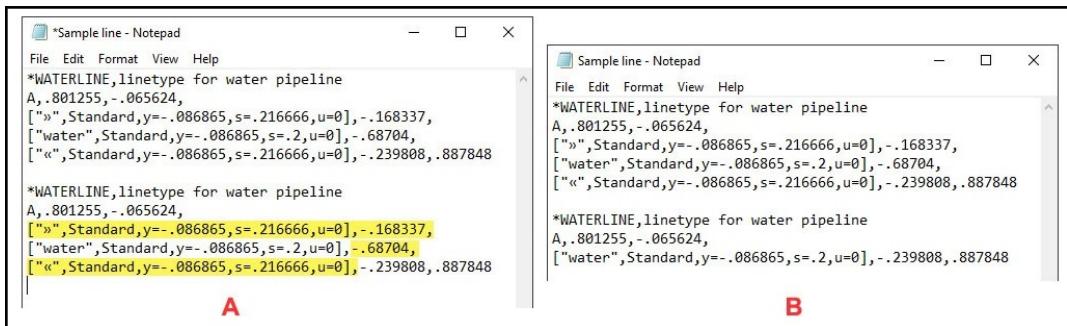




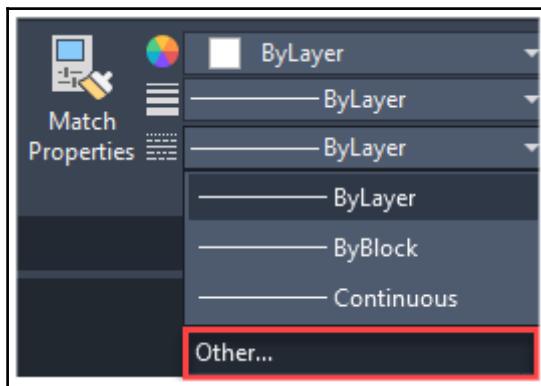
Sample line - Notepad

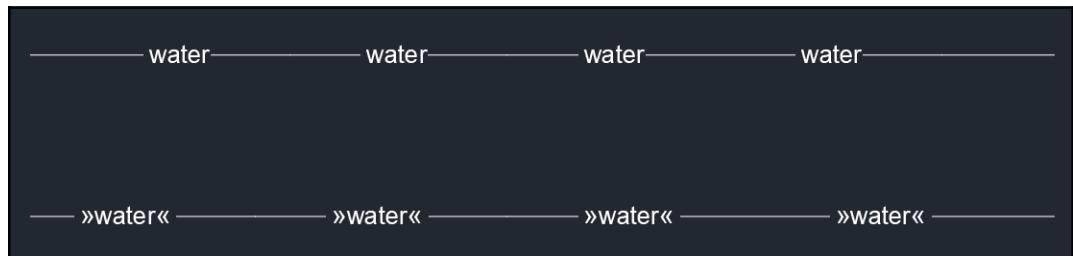
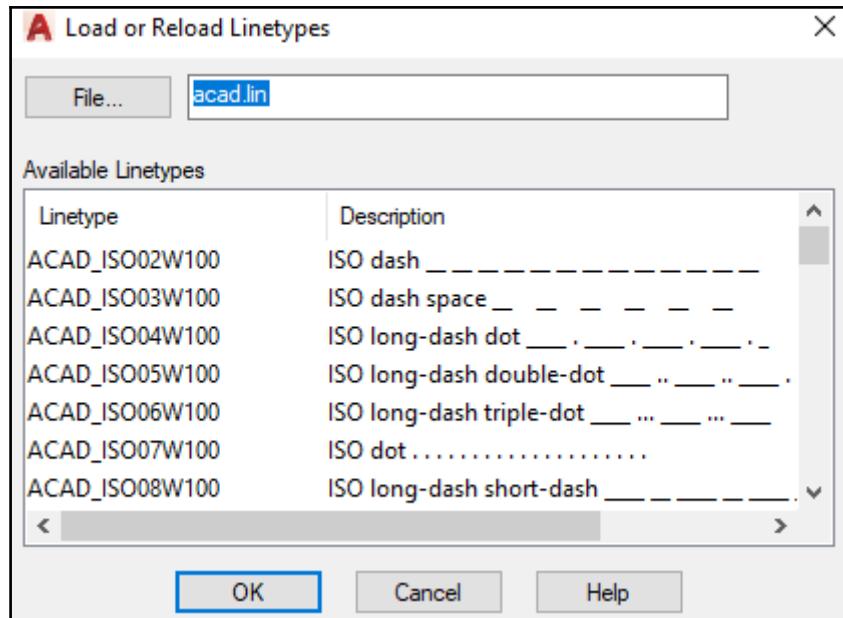
```
*WATERLINE,linetype for water pipeline
A,.801255,-.065624,
[">",Standard,y=-.086865,s=.216666,u=0],-.168337,
[{"water",Standard,y=-.086865,s=.2,u=0},-.68704,
["<",Standard,y=-.086865,s=.216666,u=0],-.239808,.887848
```

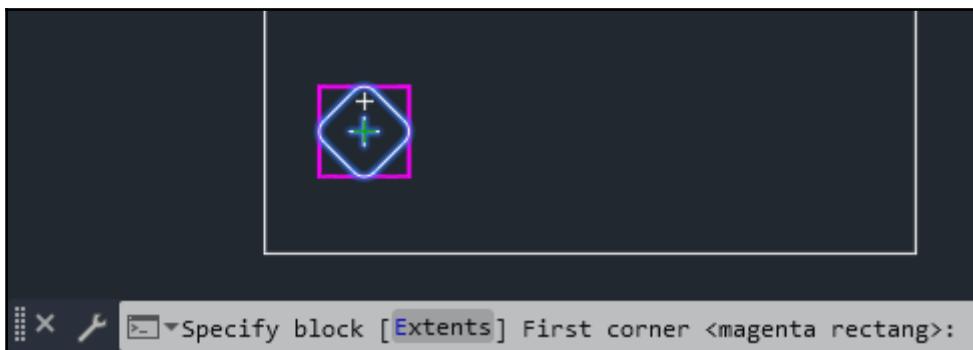
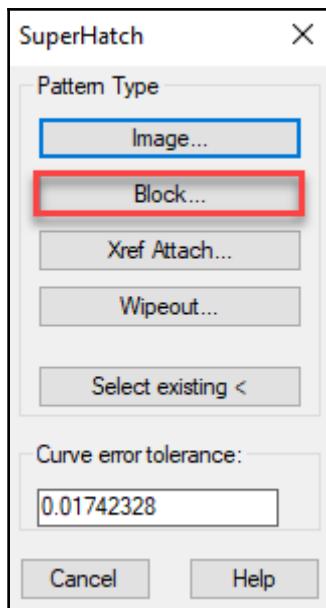
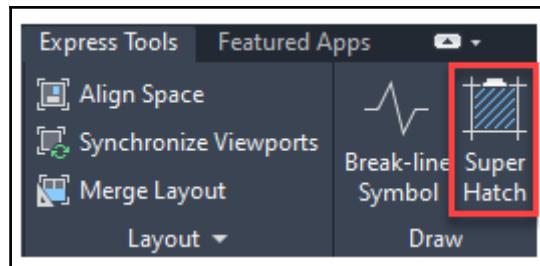
Ln 1, Col 1 100% Windows (CRLF) ANSI

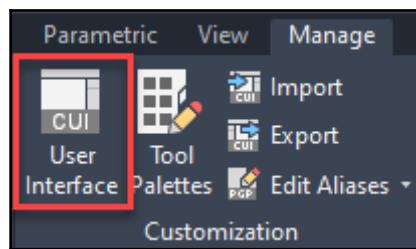
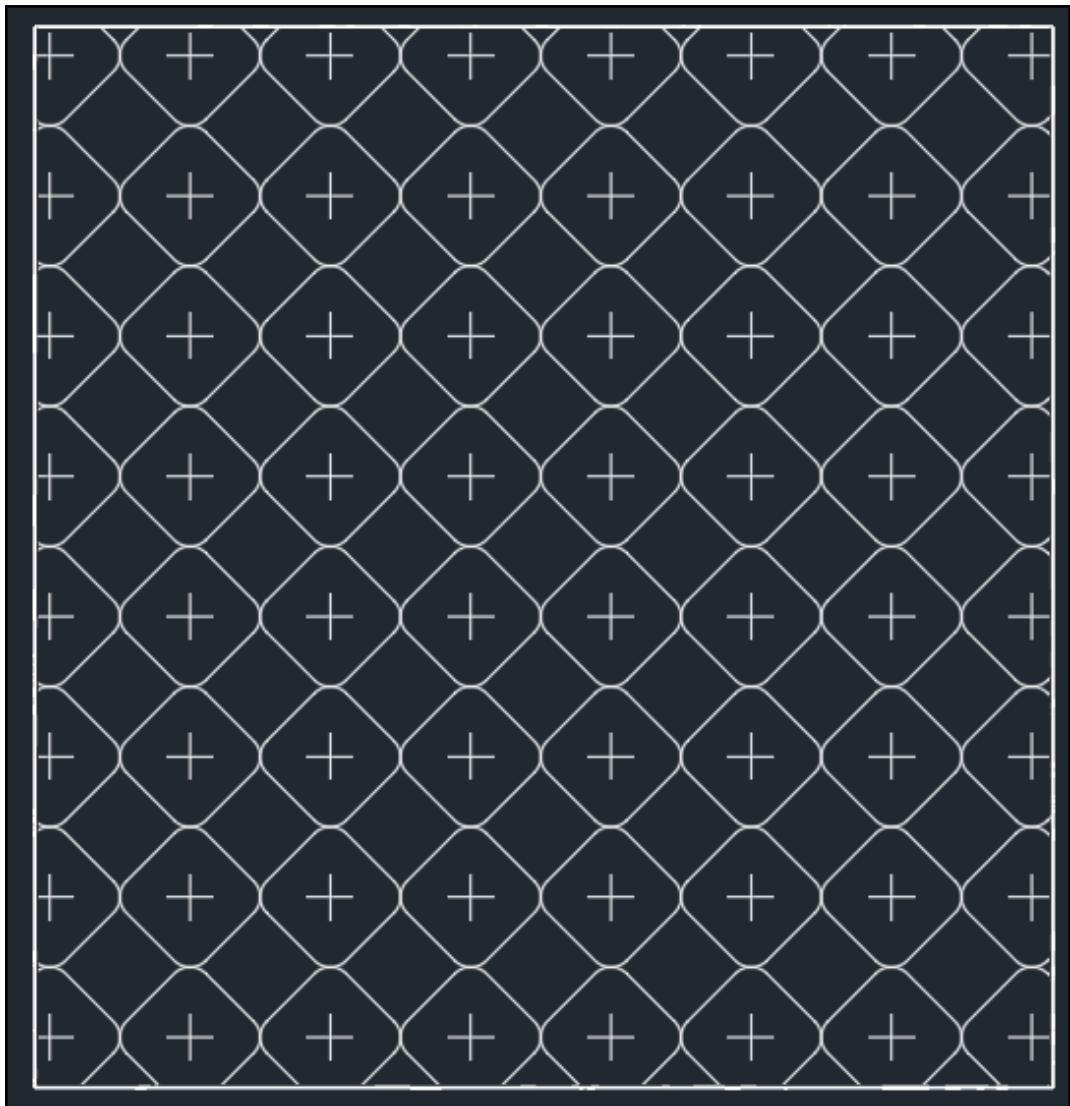


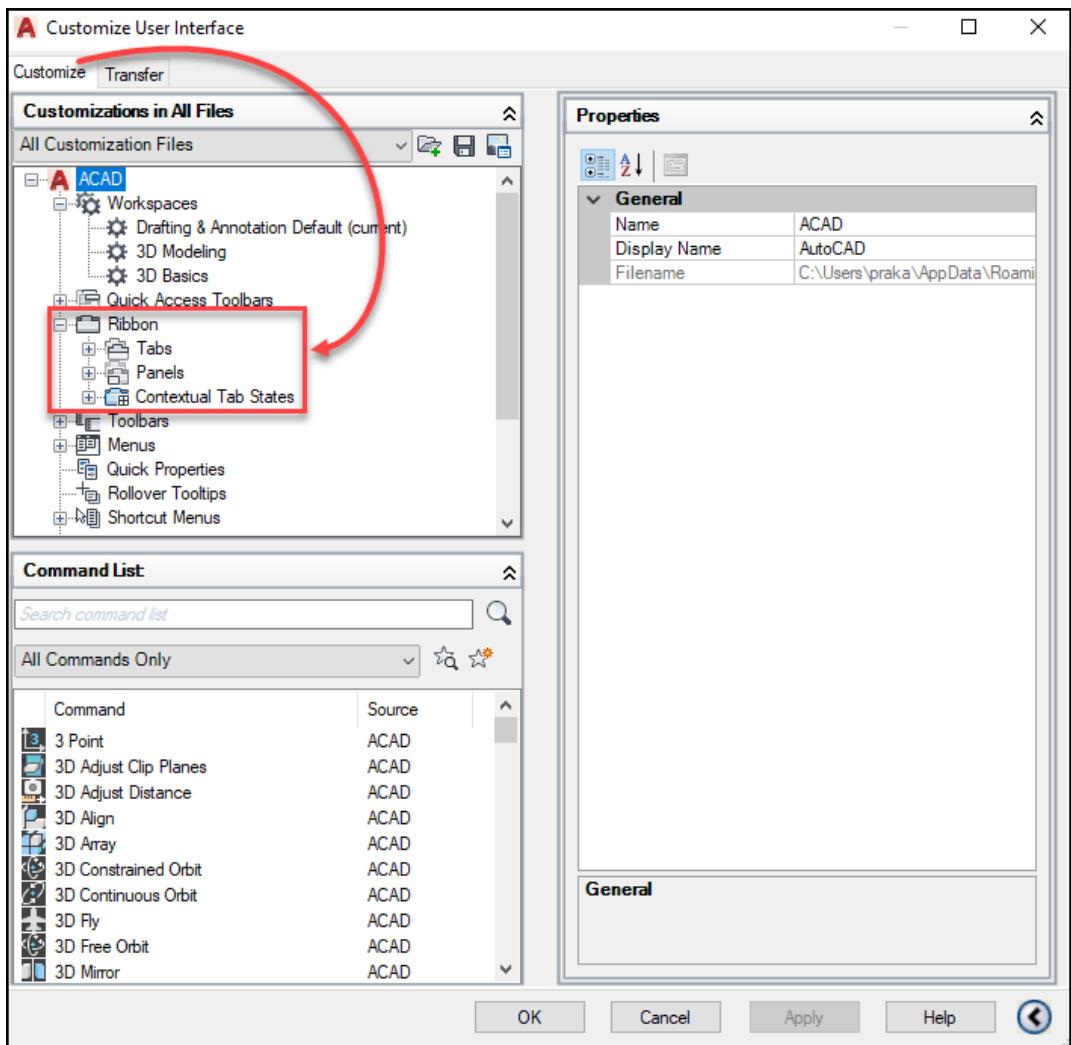
***NEWWATERLINE,linetype for water pipeline**
A,.80,-.07,["water",Standard,y=-.09,s=.2,u=0],-.24,.89

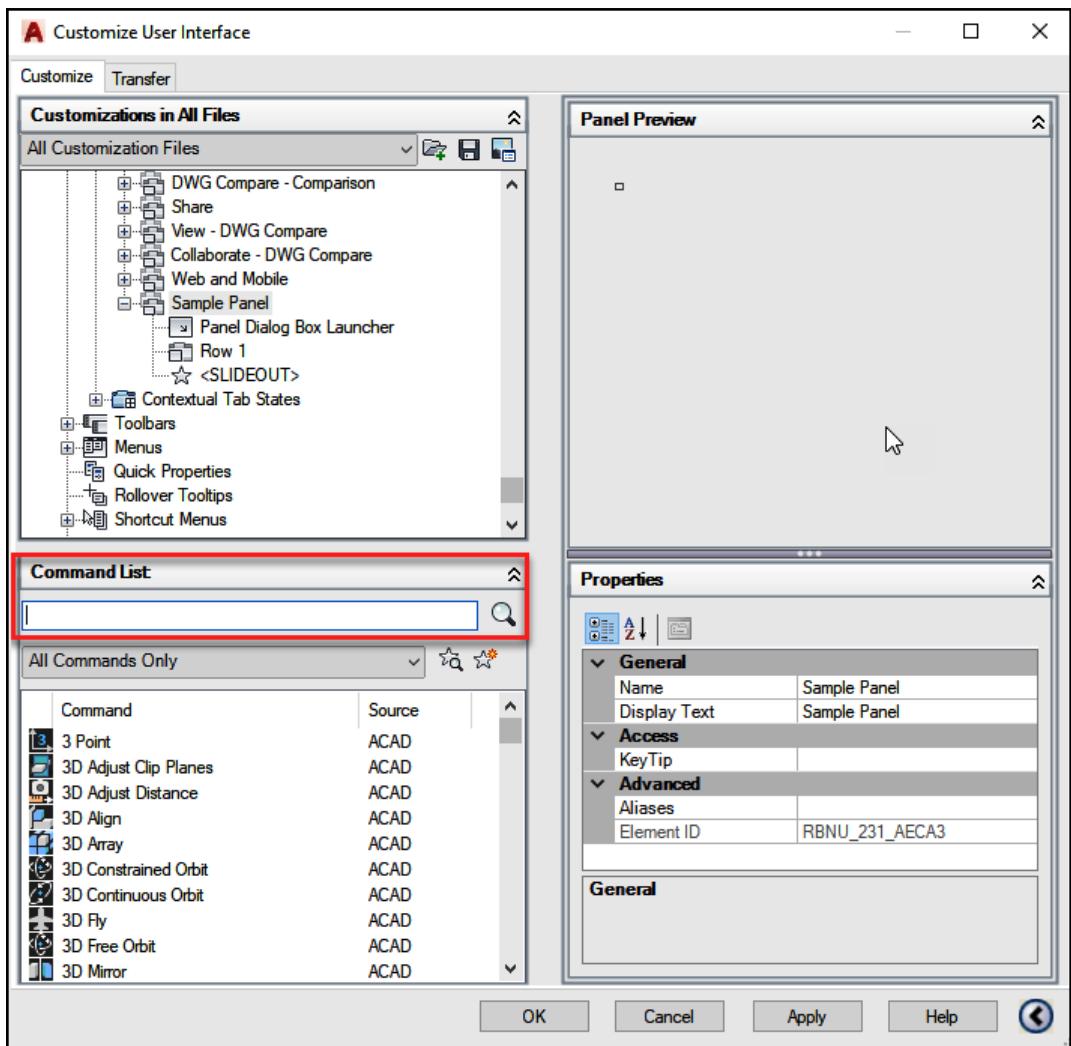


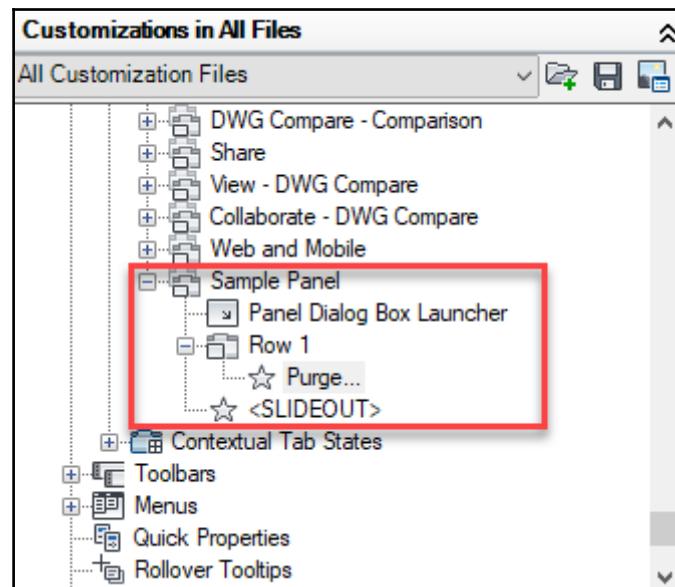
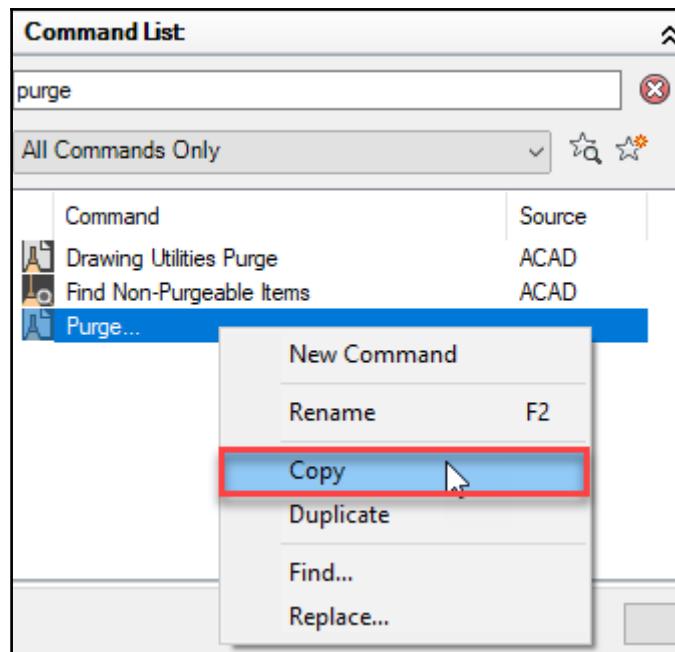


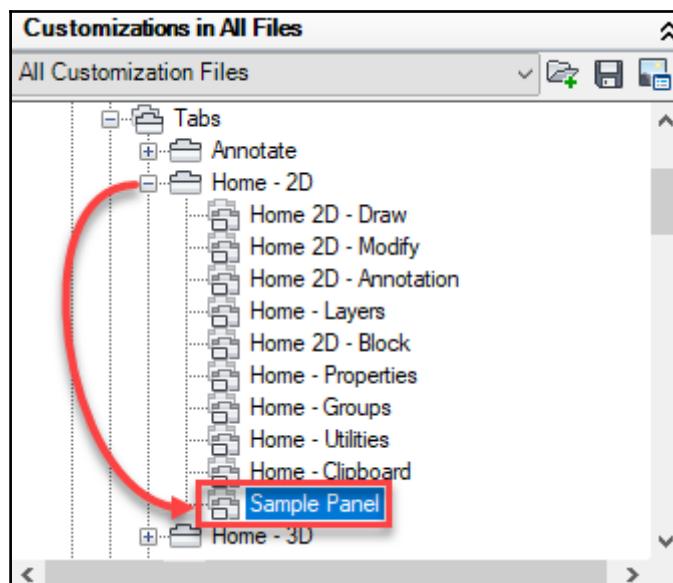
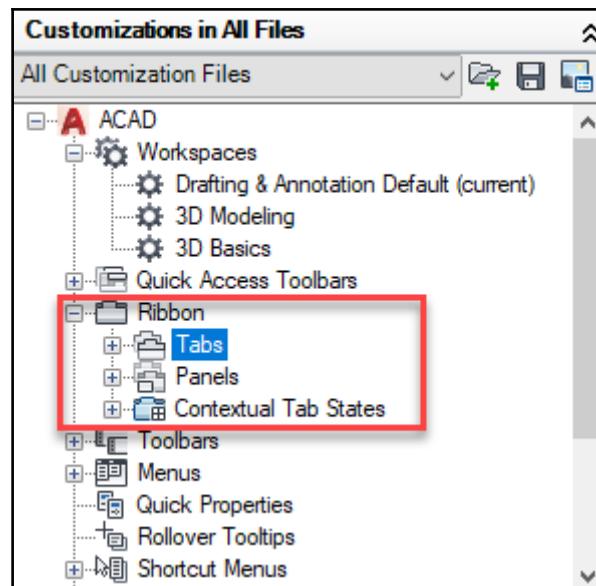


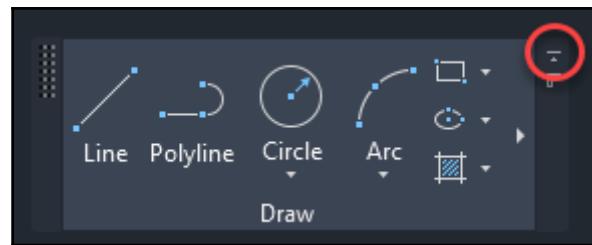
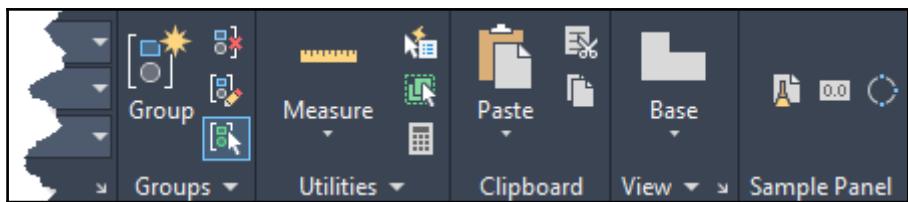


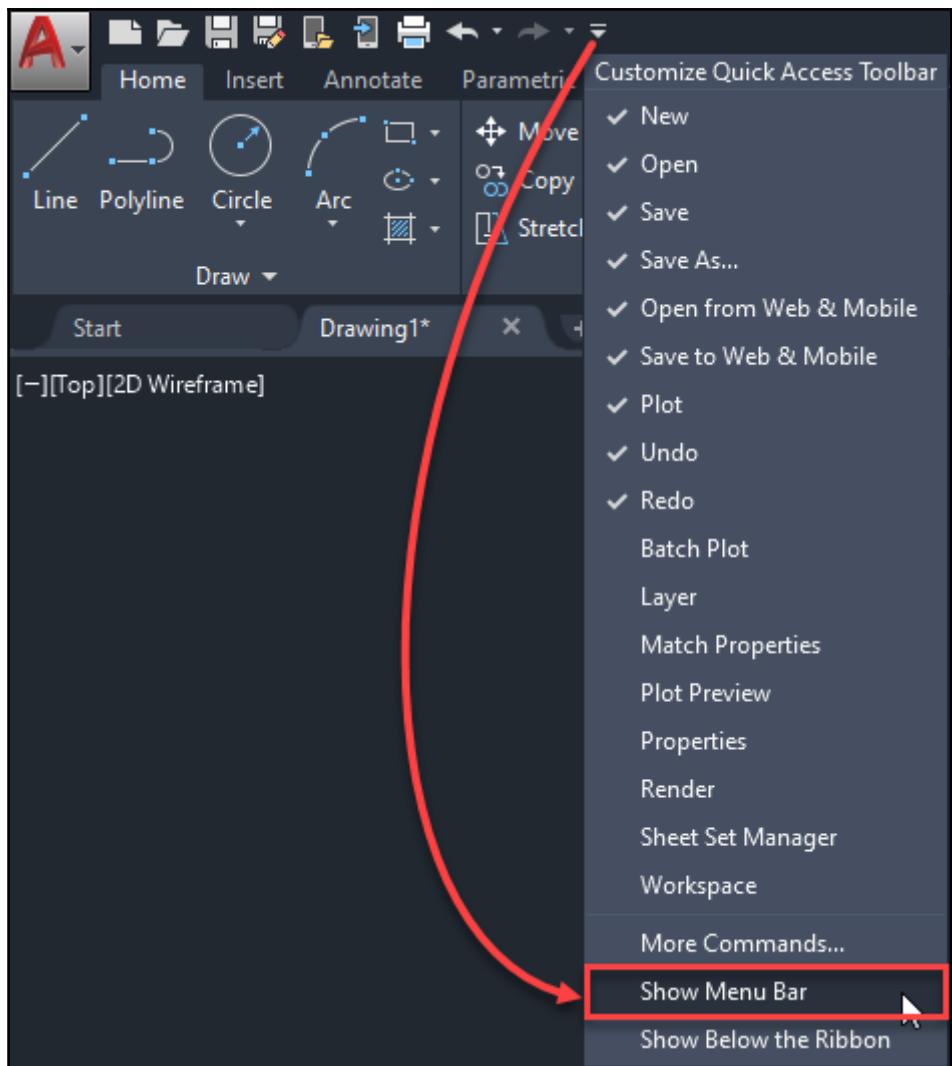


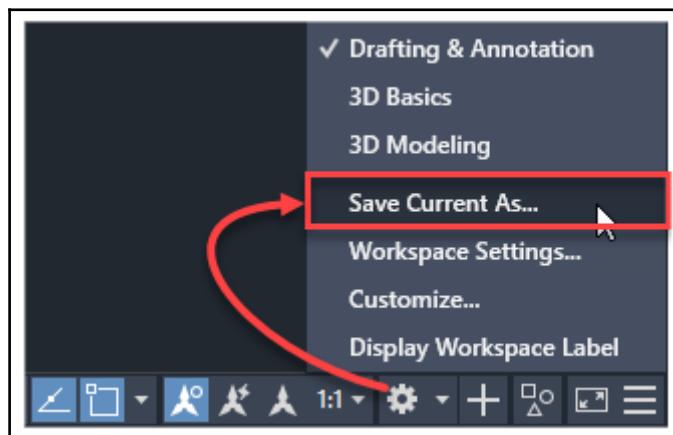
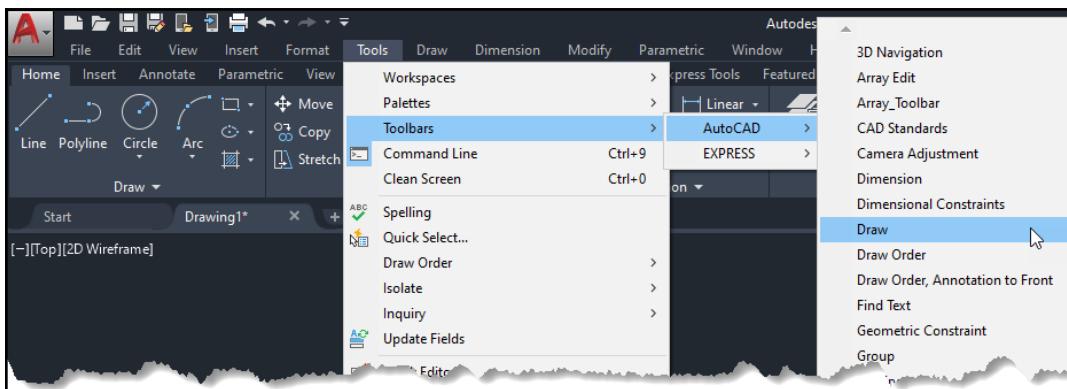


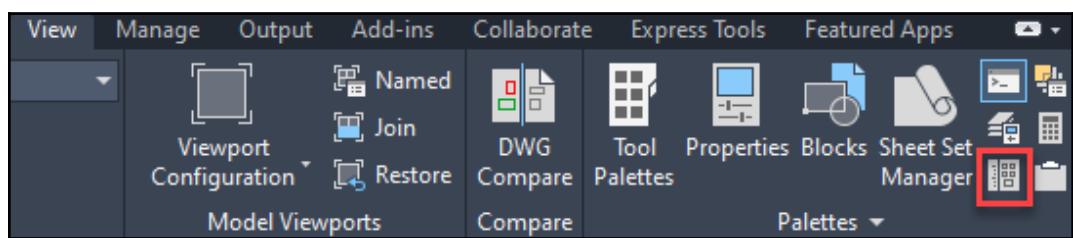
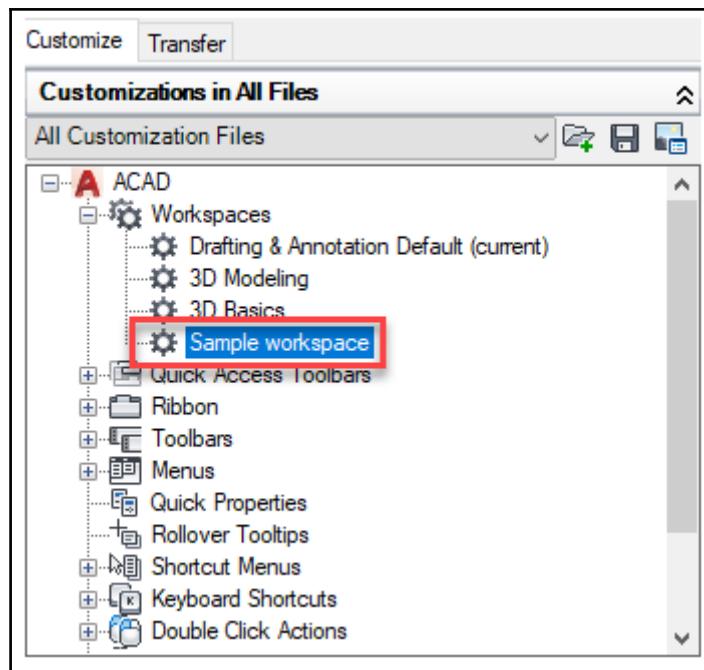


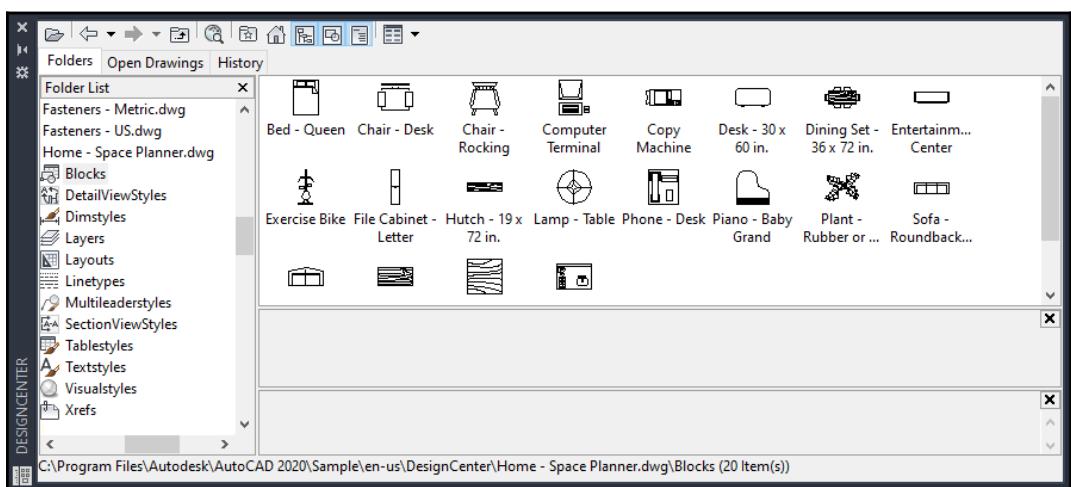
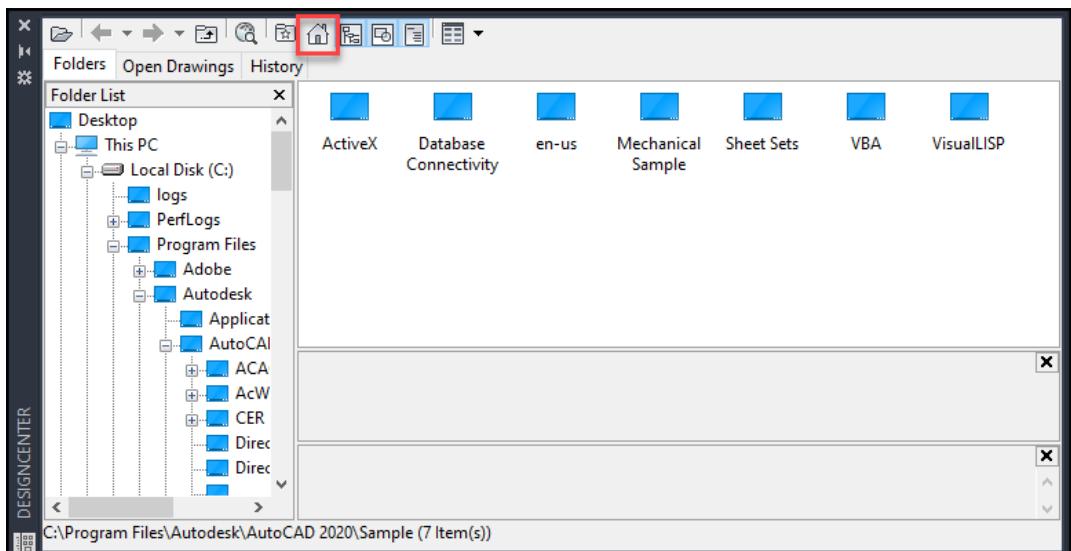


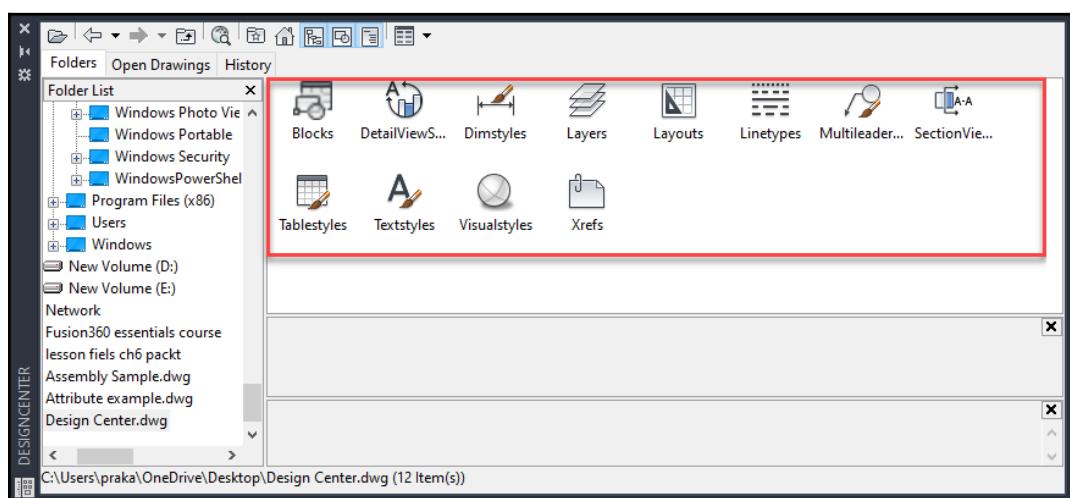
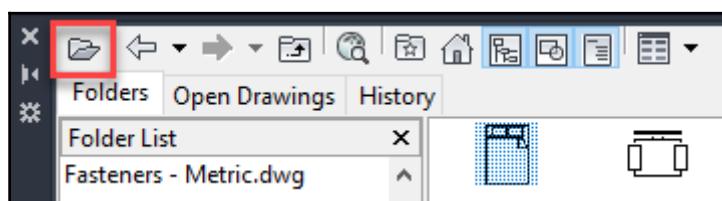
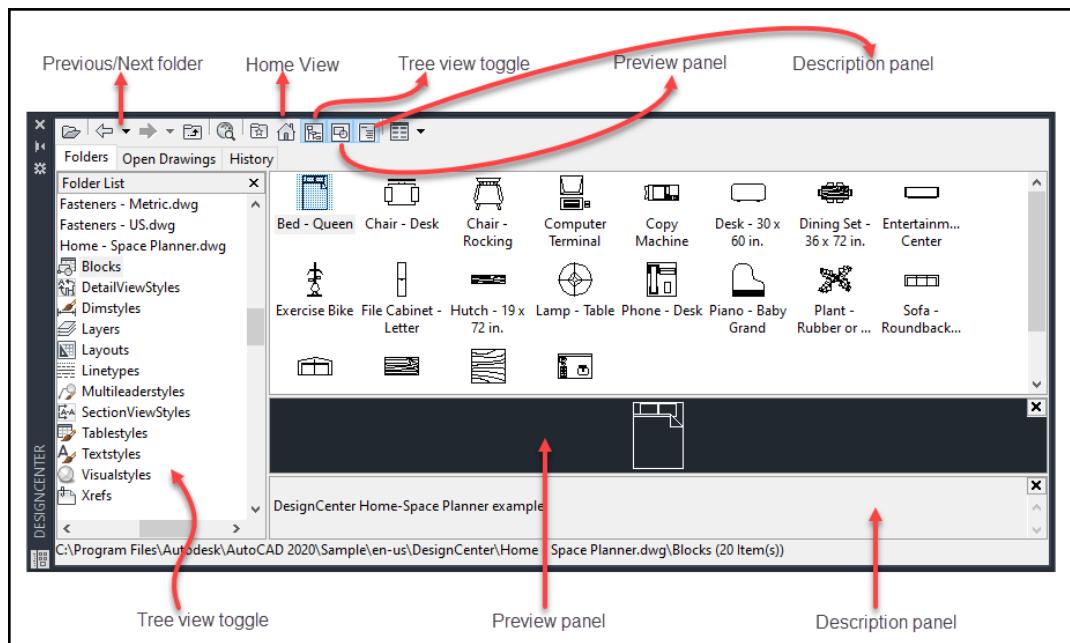


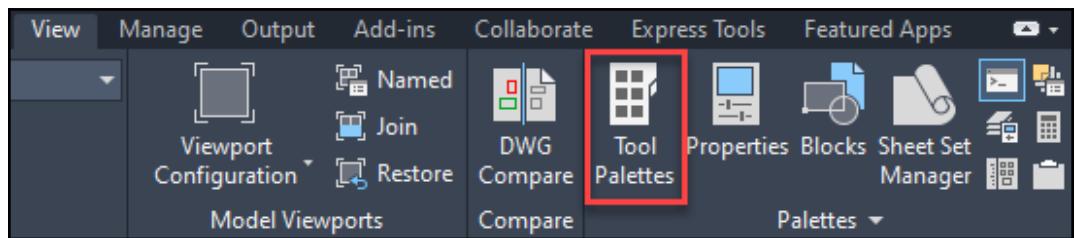


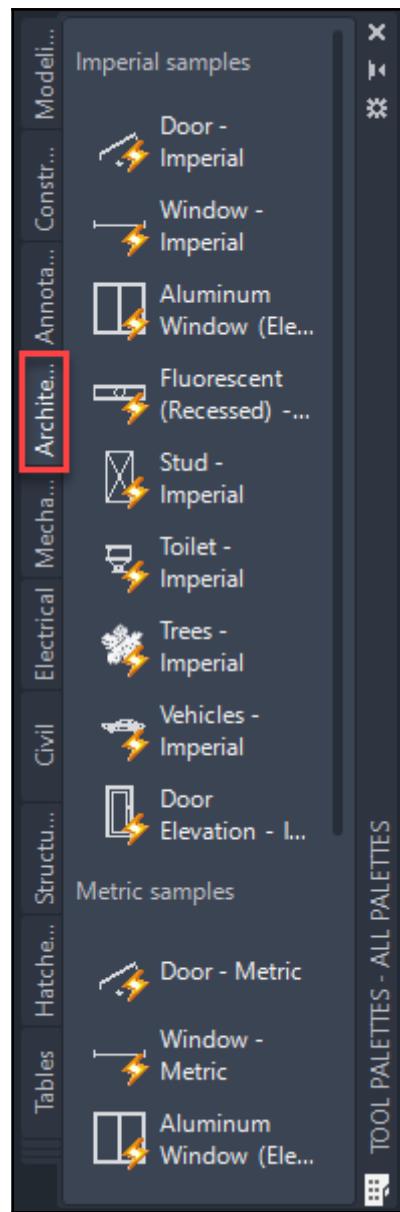


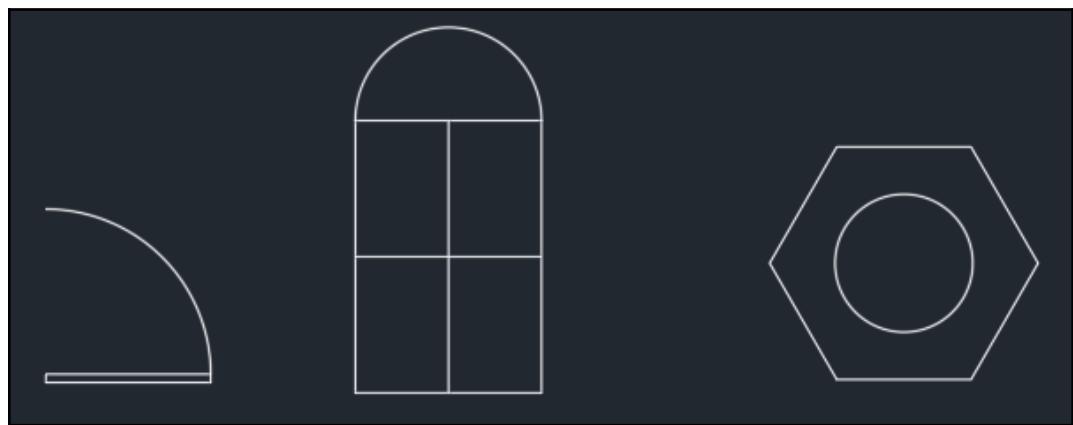


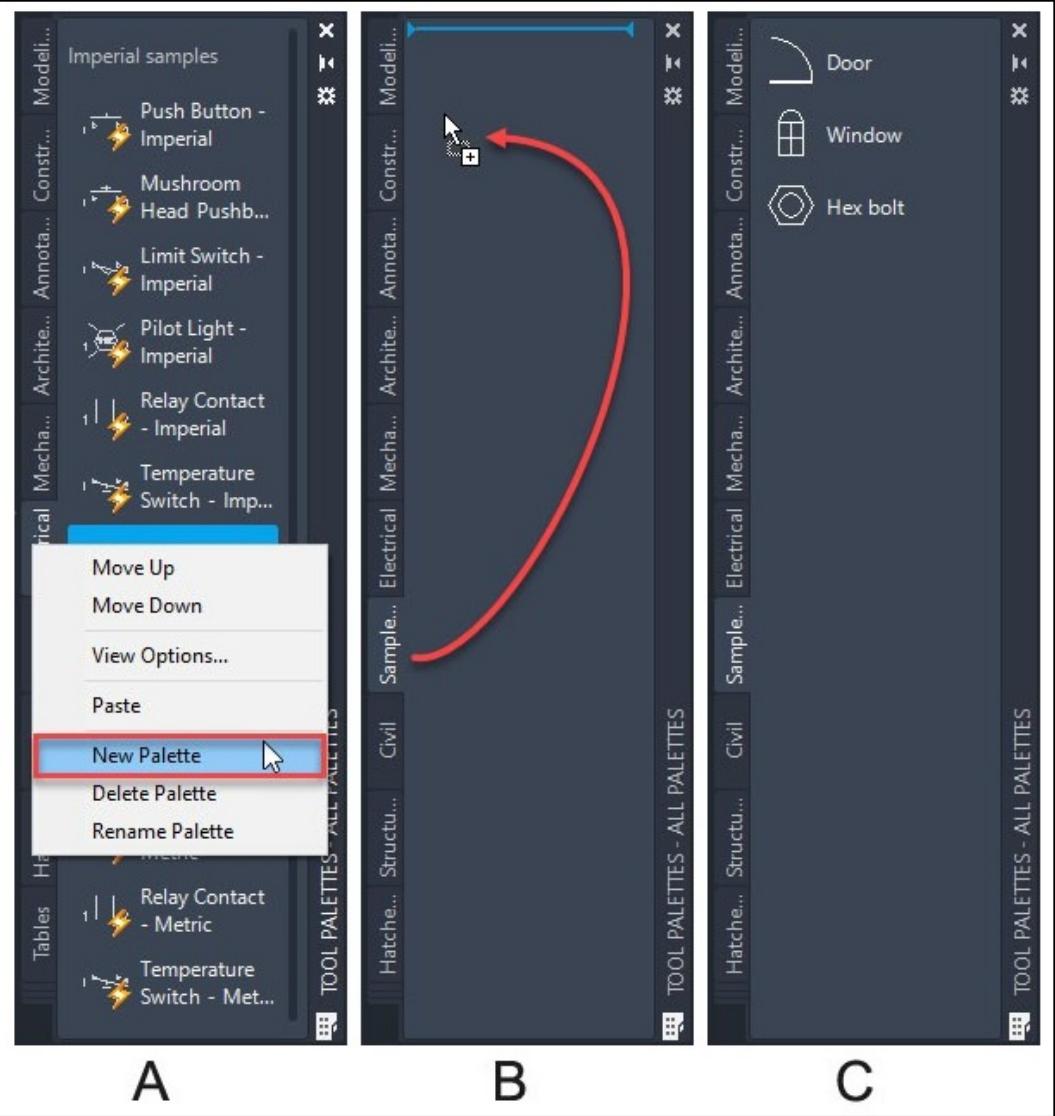








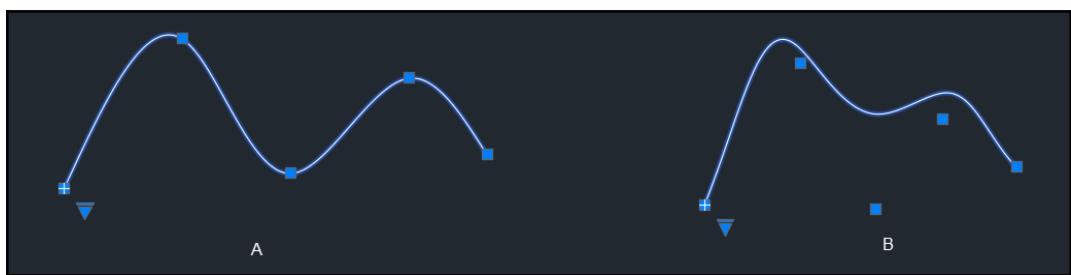
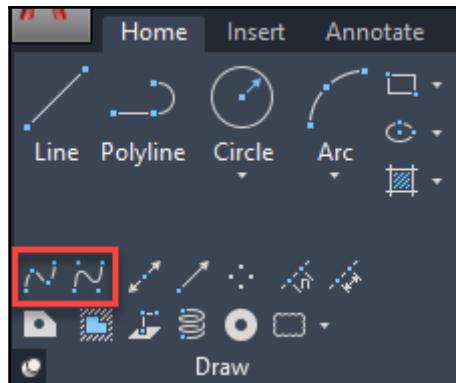




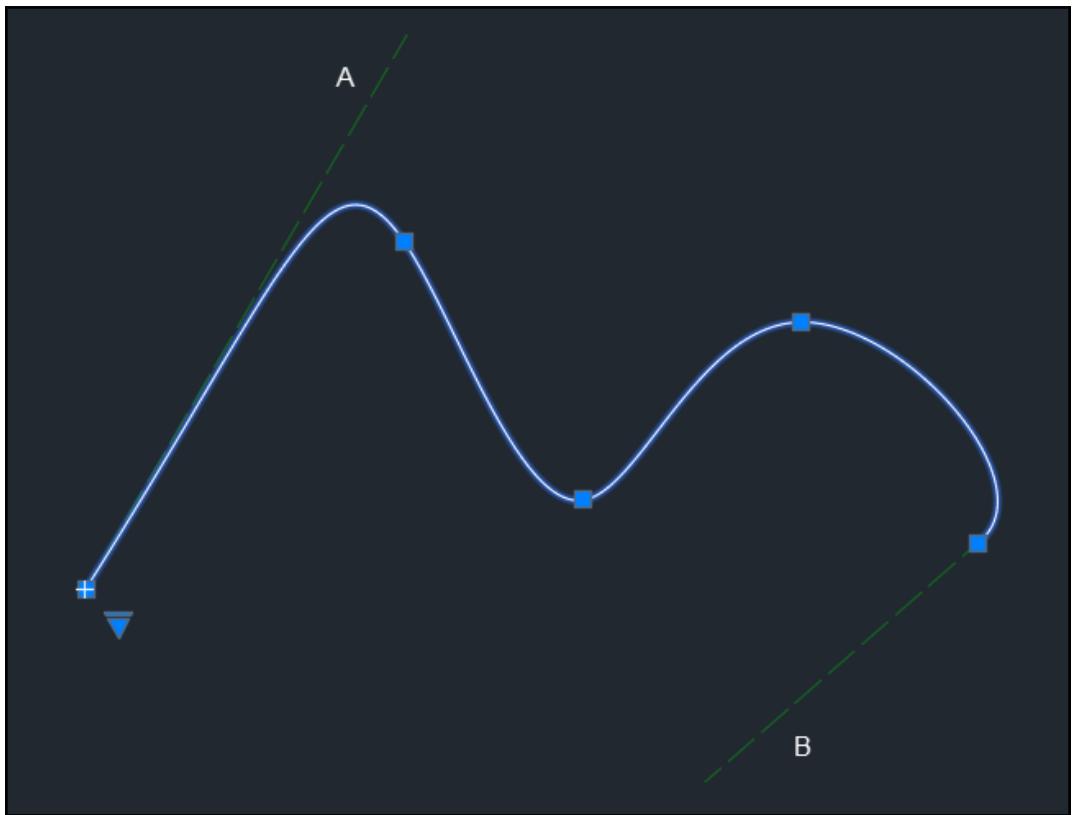
PLINE Specify next point or [Arc Halfwidth Length Undo Width]:

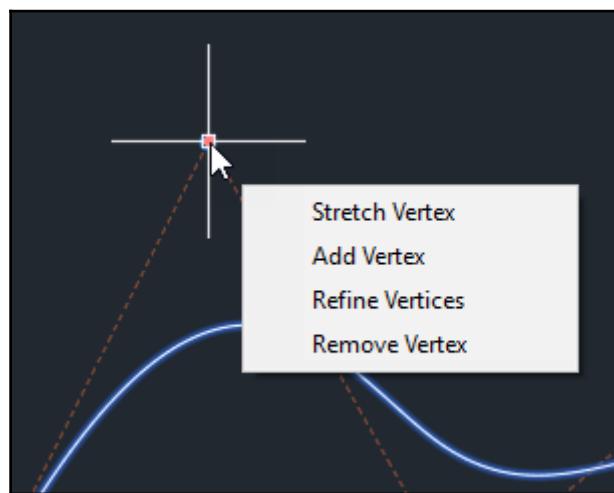
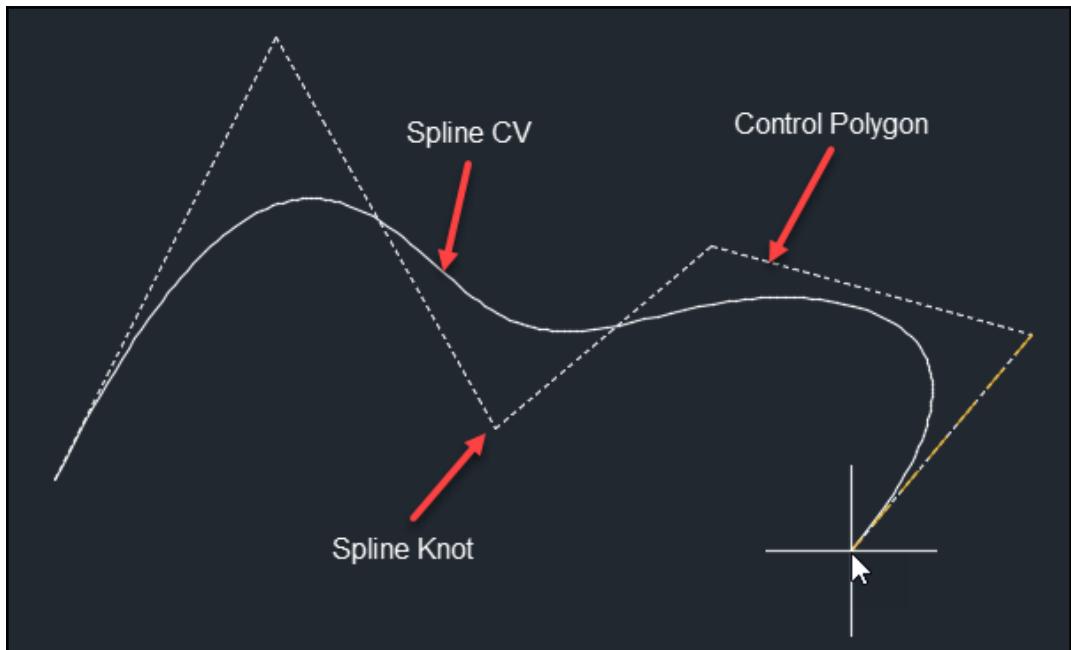


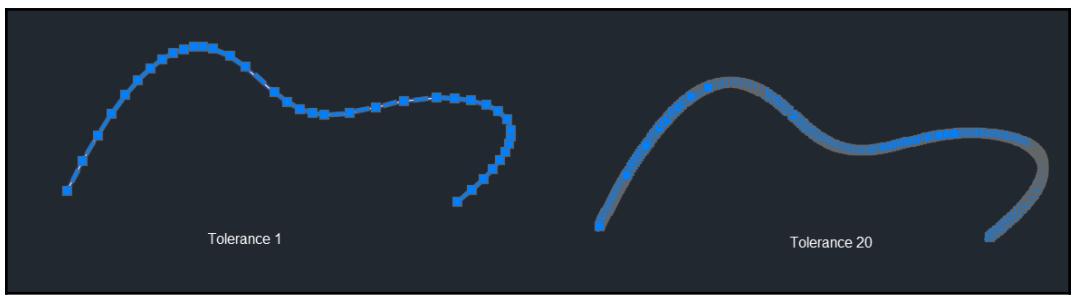
⋮ × ⌂ PEDIT Enter an option [Close Join Width Edit vertex Fit Spline Decurve Ltype gen Reverse Undo]:



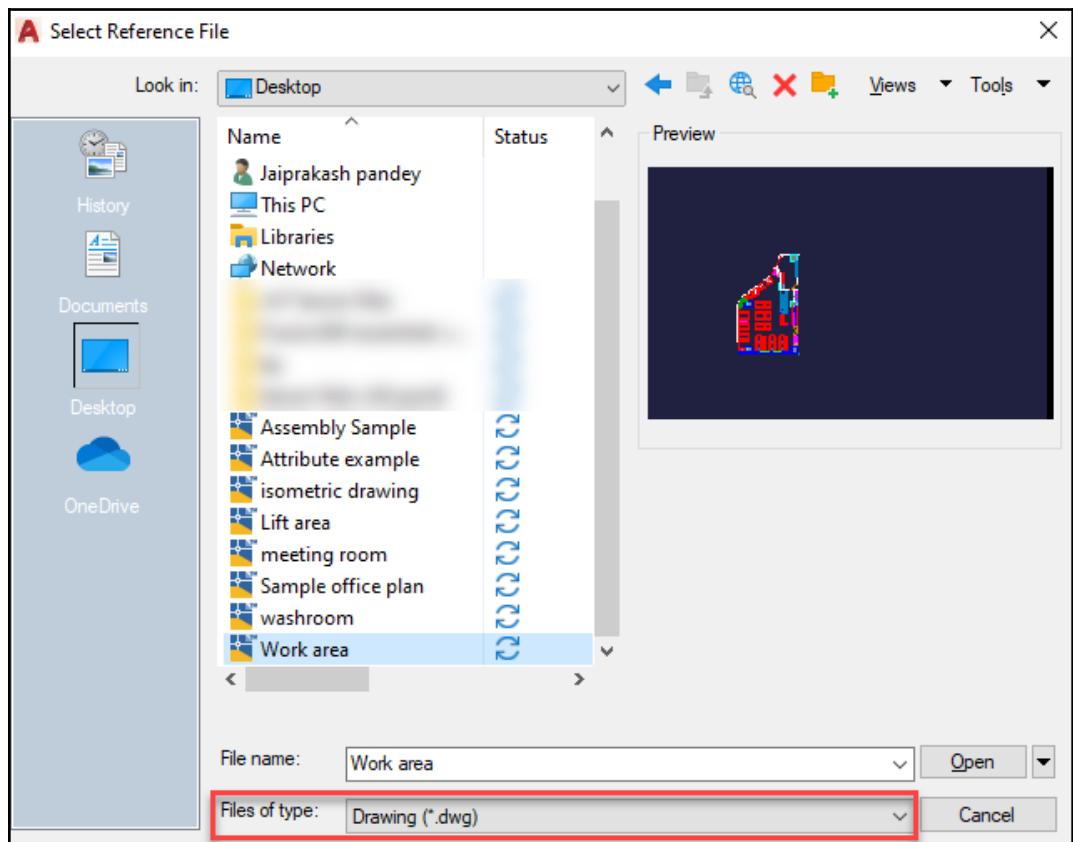
SPLINE Enter next point or [start Tangency toLerance]:

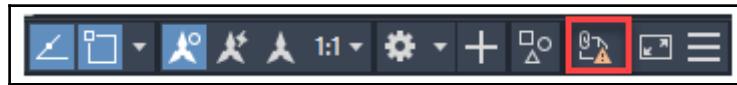
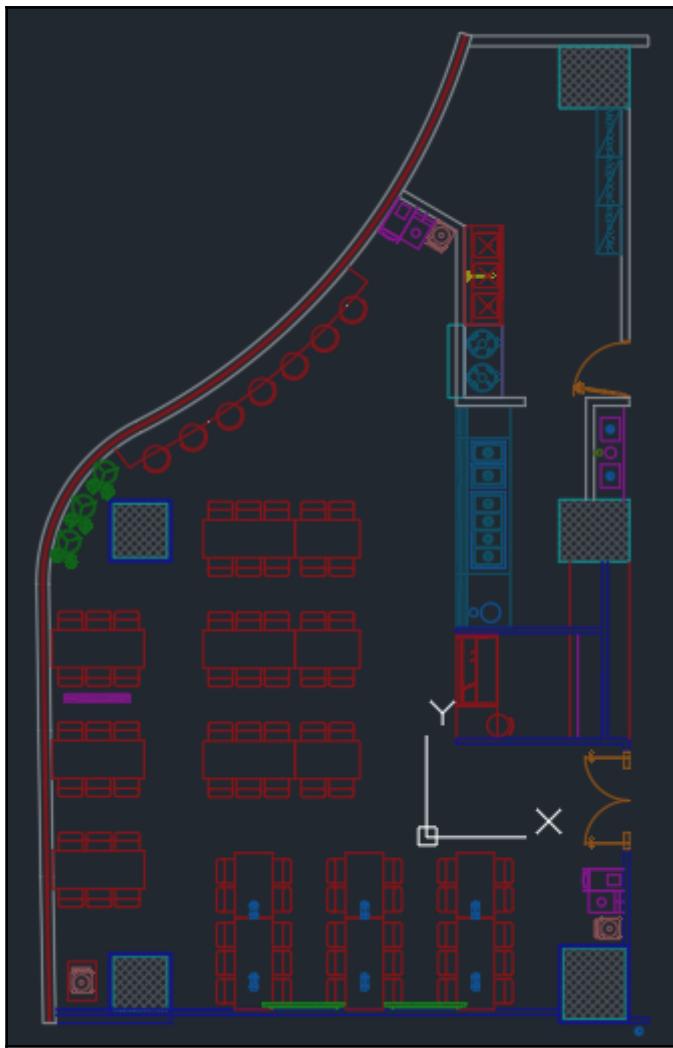


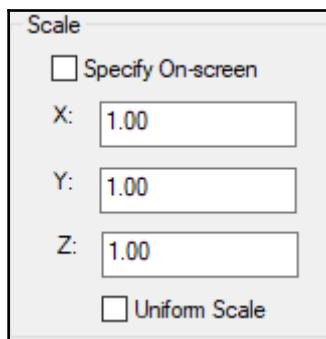
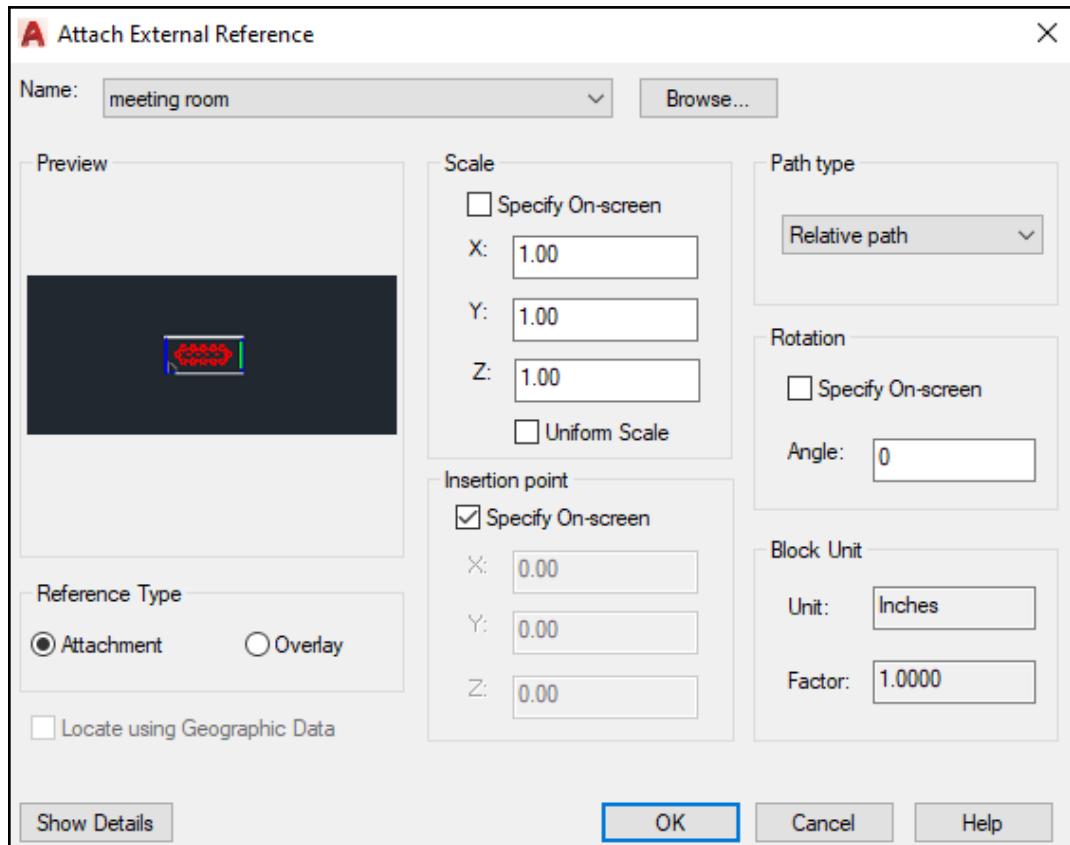


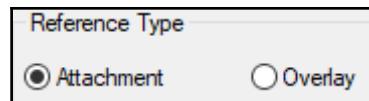
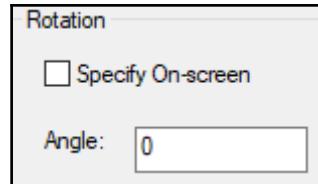
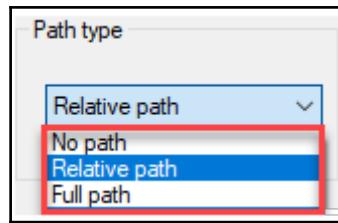


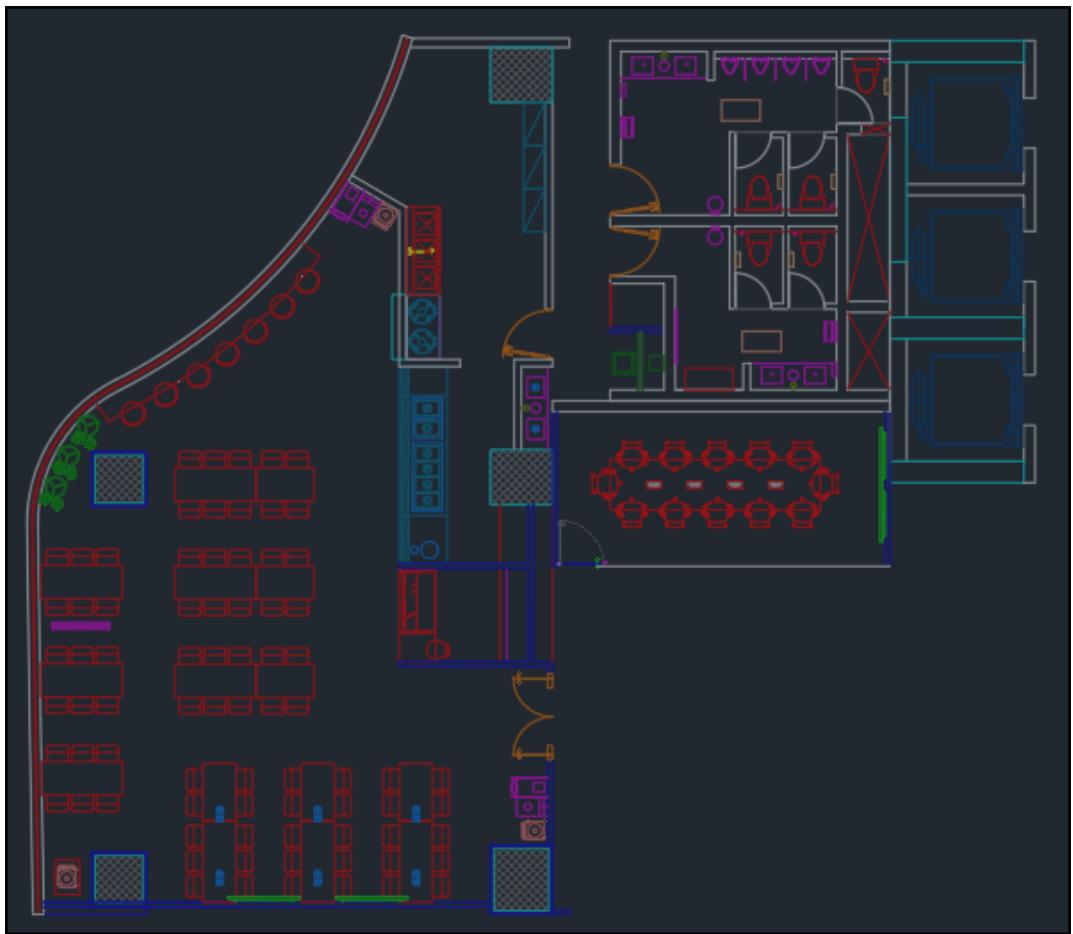
Chapter 9: External References and Dynamic Blocks

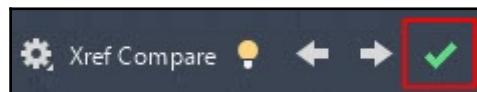
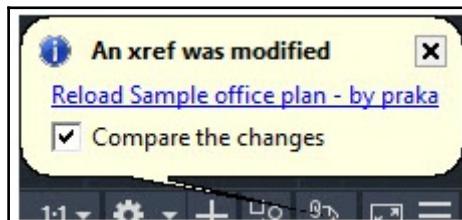
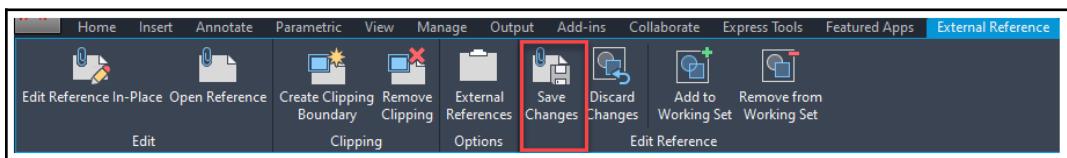
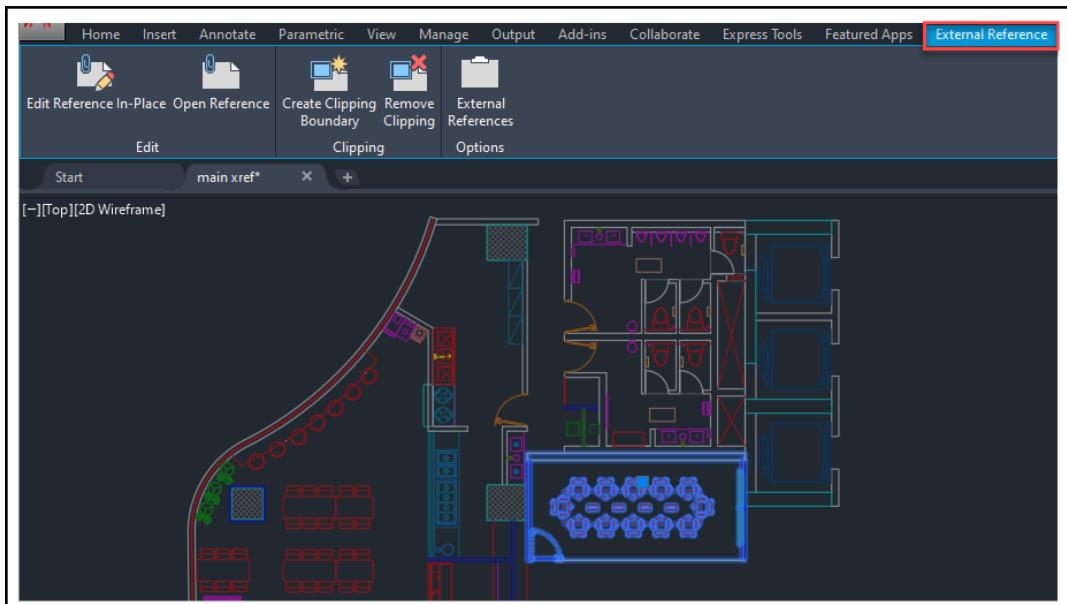


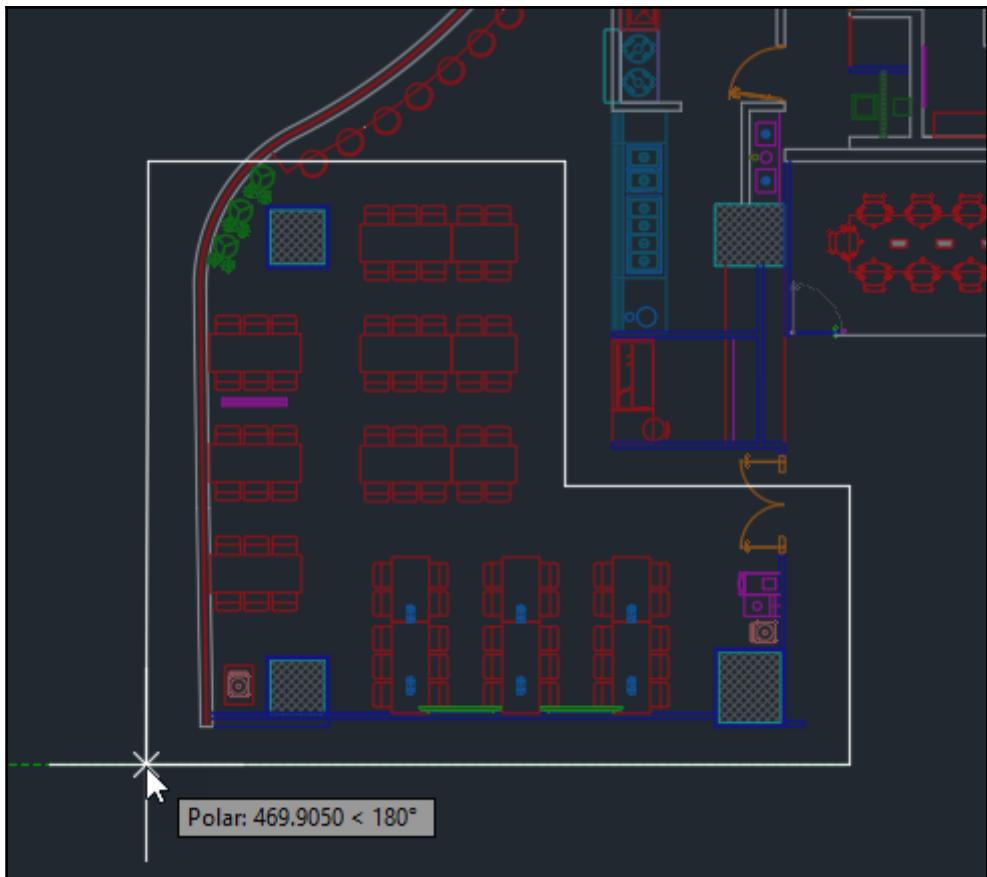


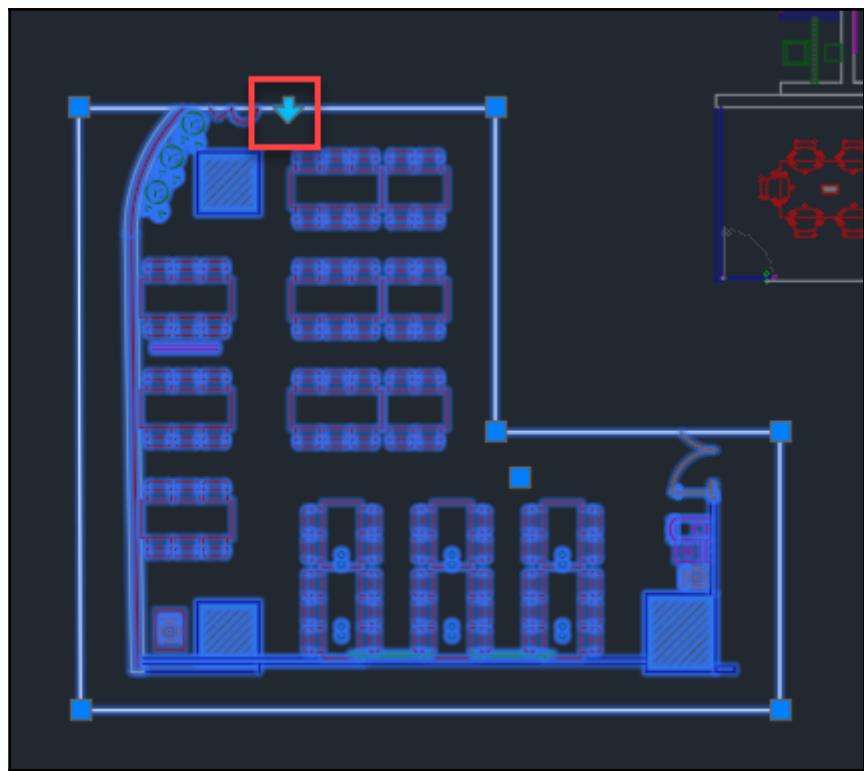


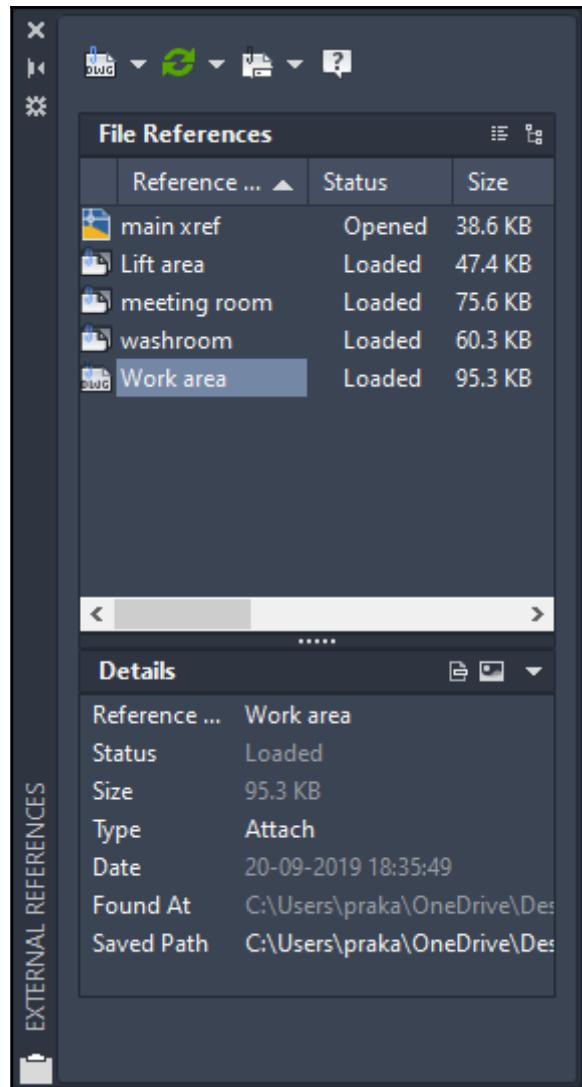


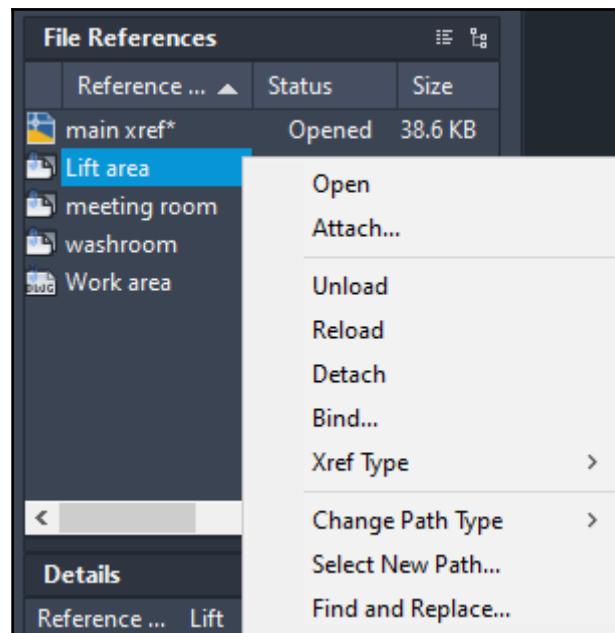
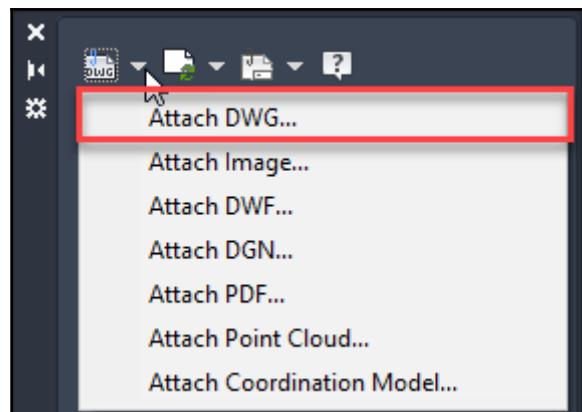


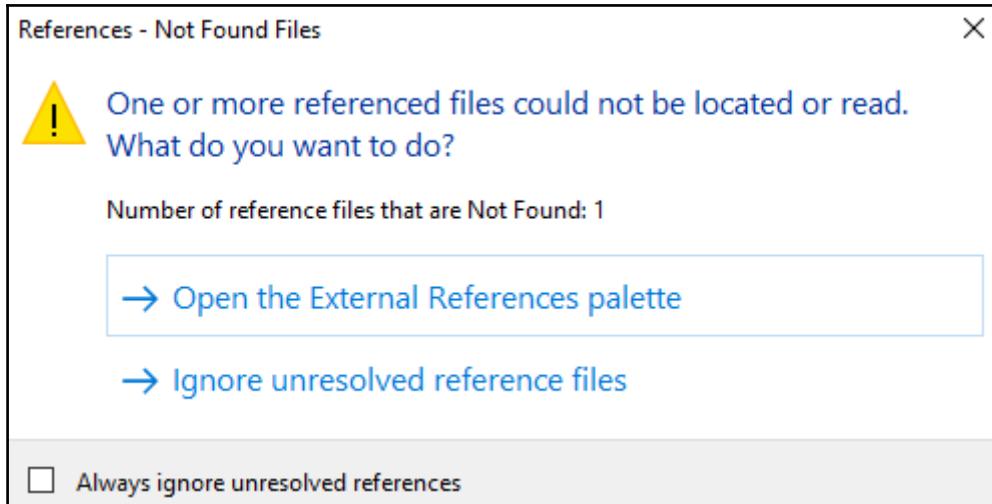
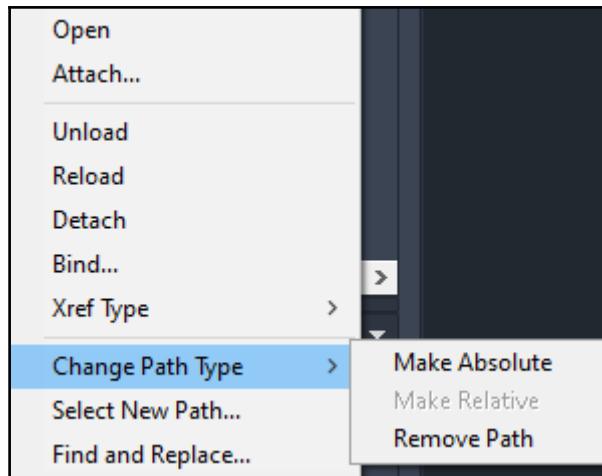




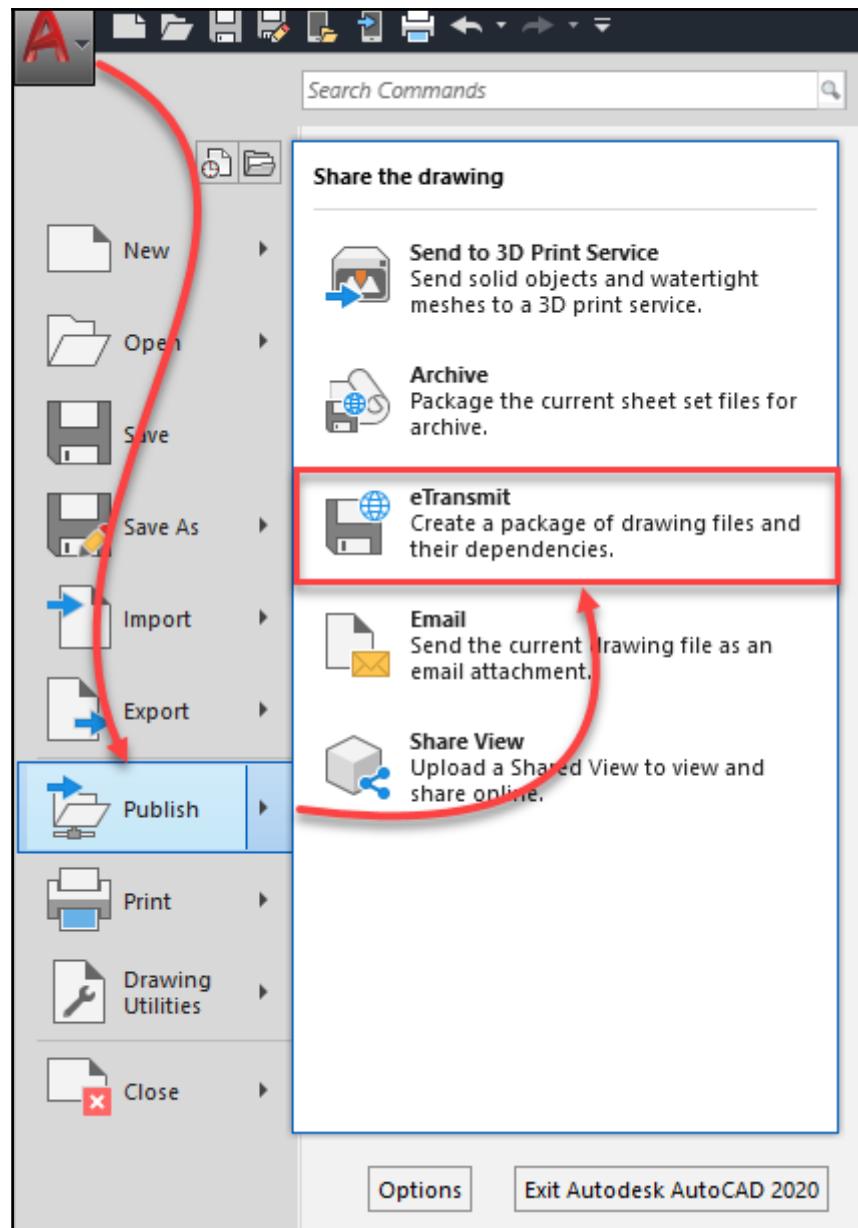


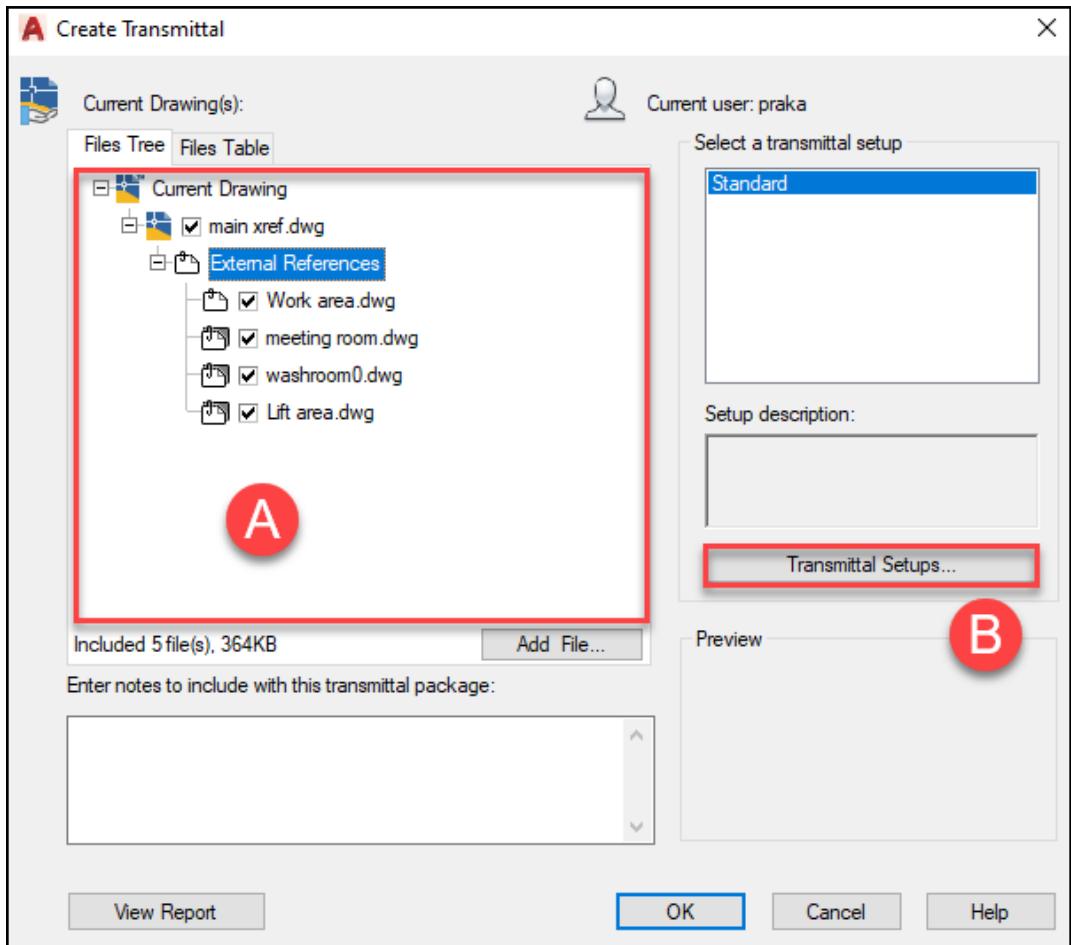


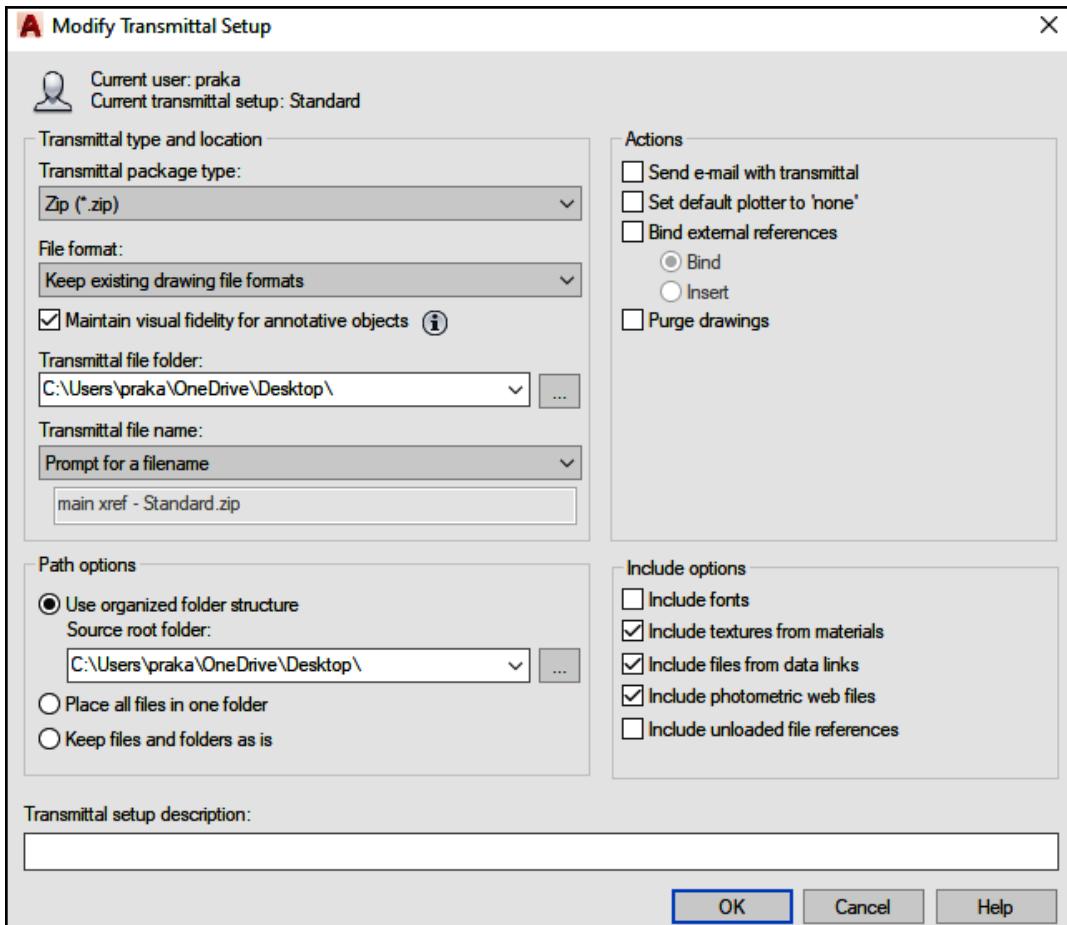


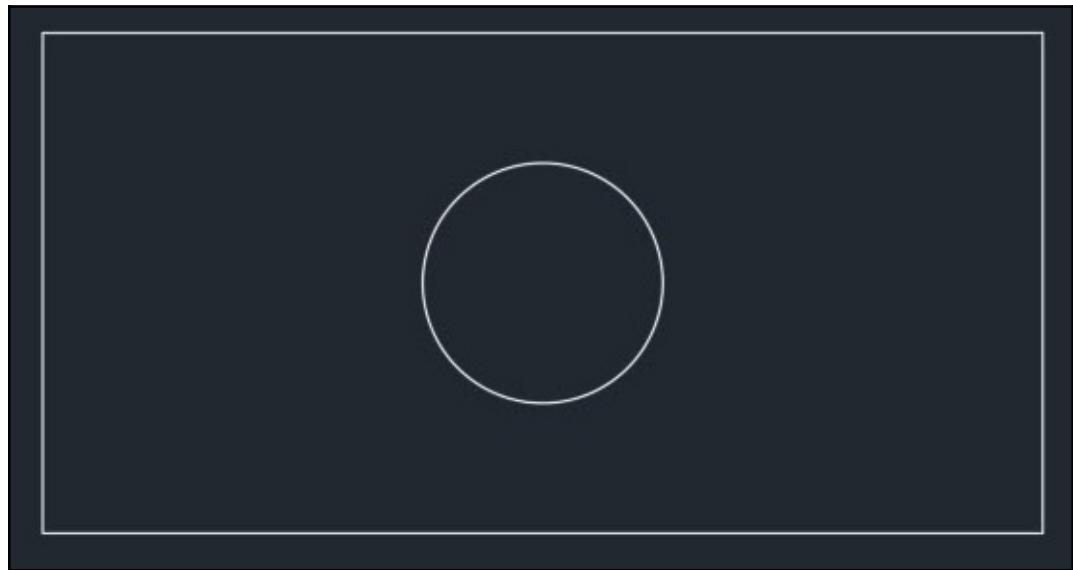
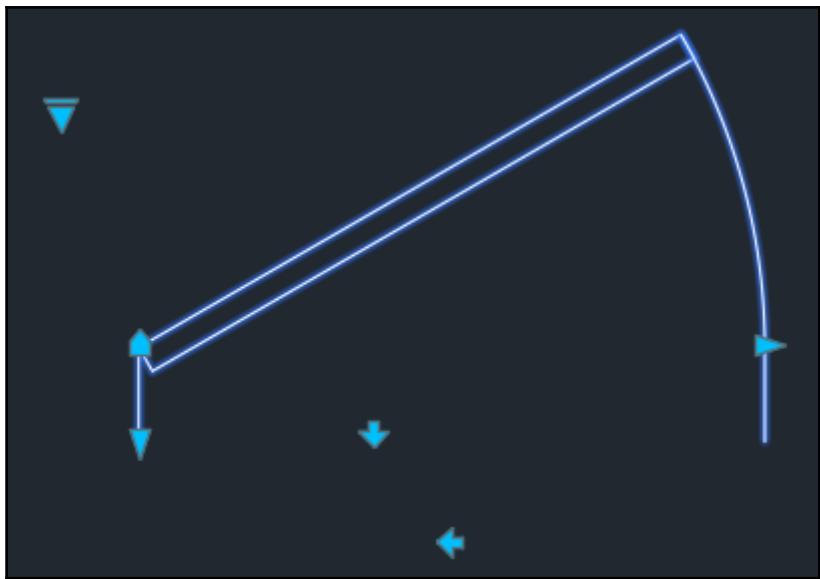


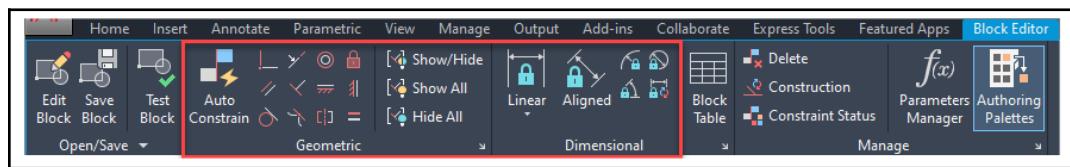
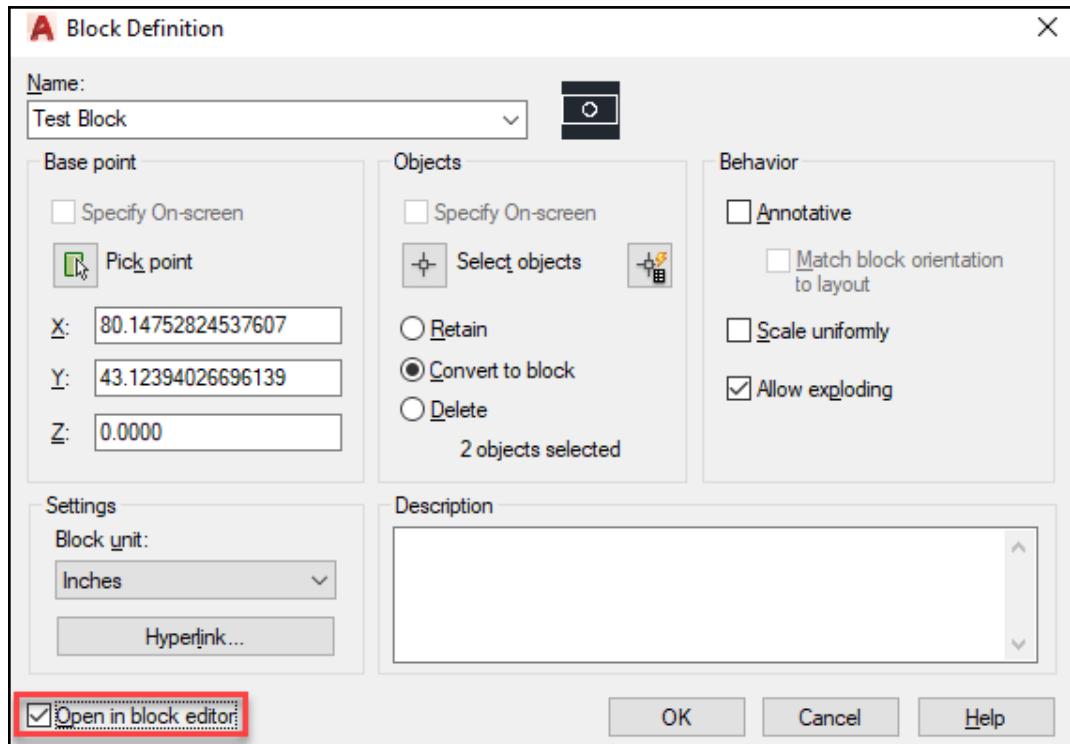
File References			
	Reference ...	Status	Size
main xref	Opened	40.1 KB	
Lift area	Loaded	47.4 KB	
meeting room	Loaded	75.6 KB	
washroom	! Not Fou...		
Work area	Loaded	95.3 KB	

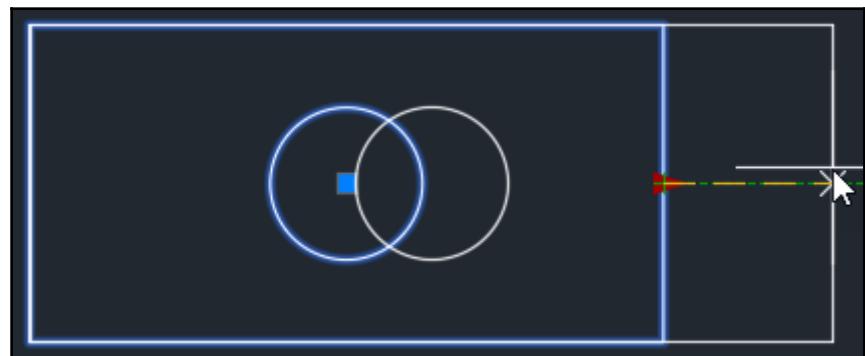
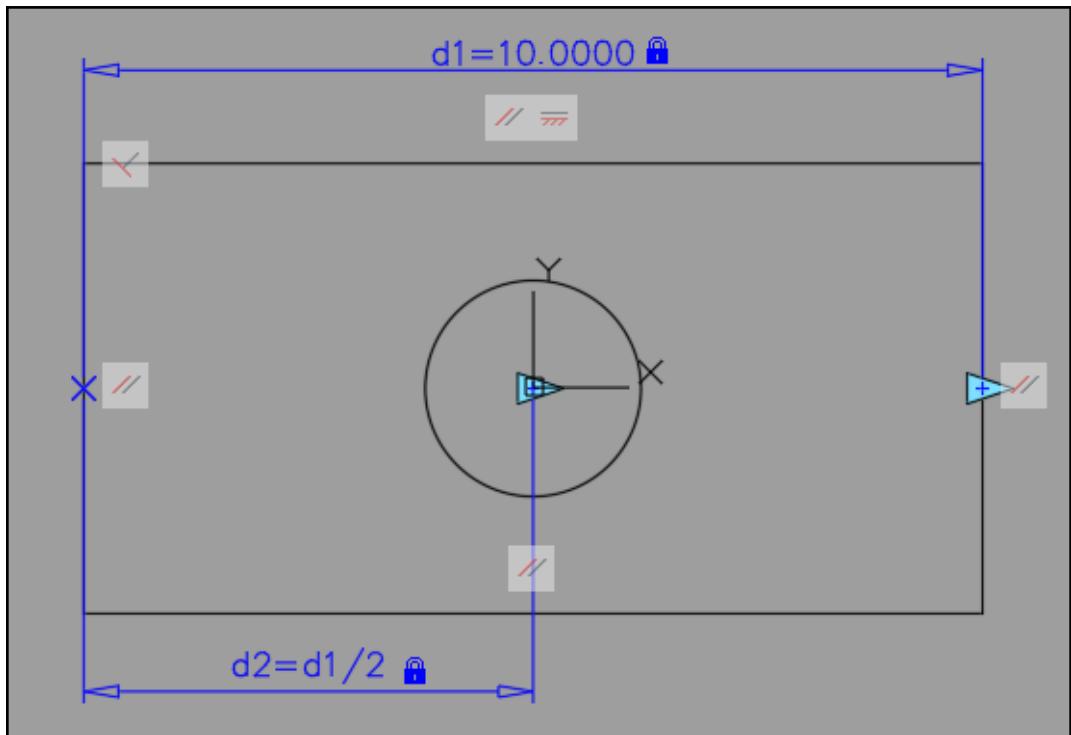


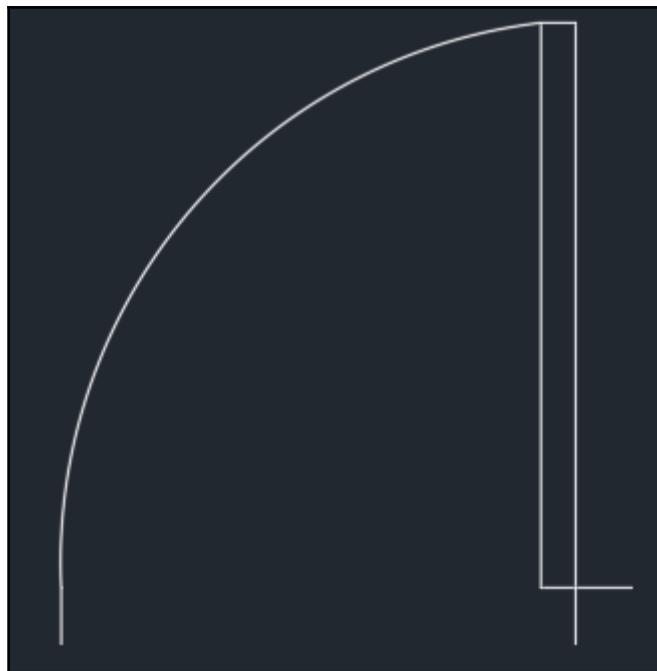


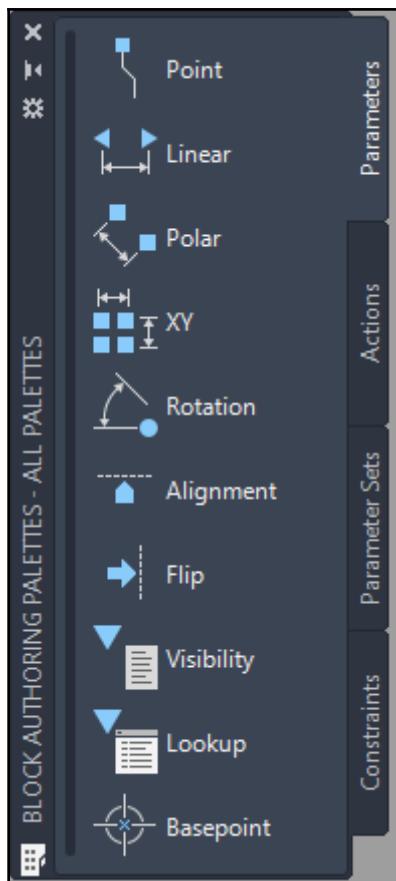


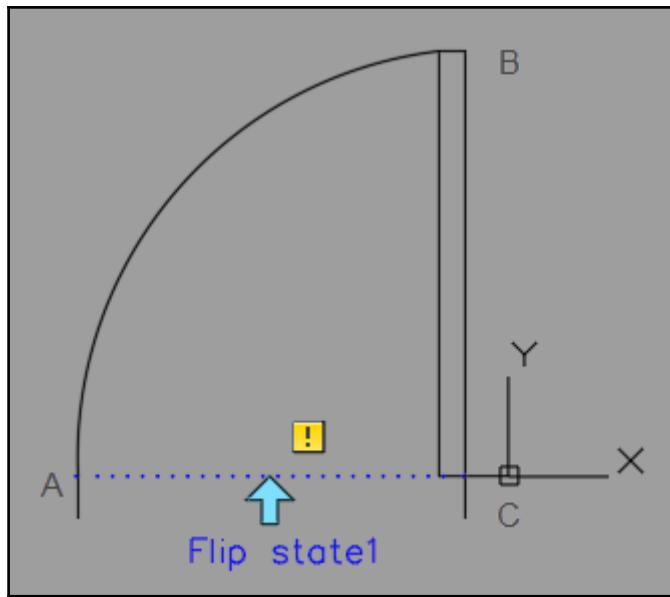


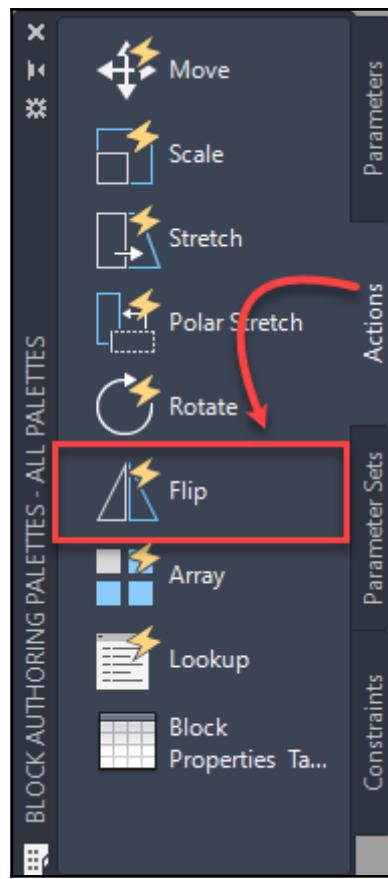


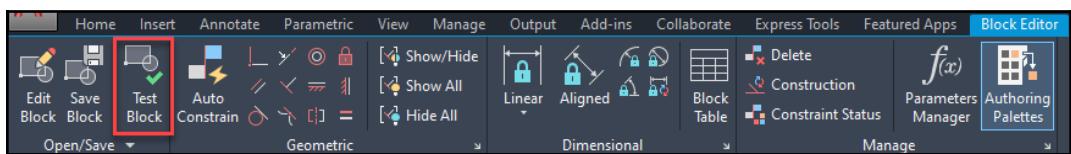
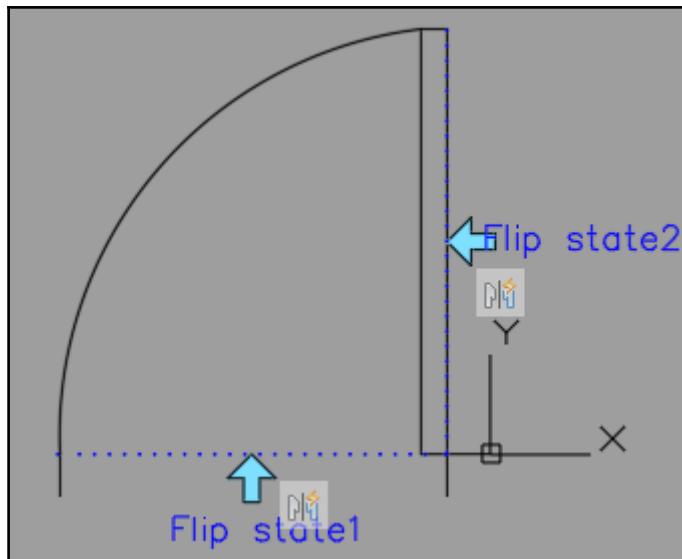


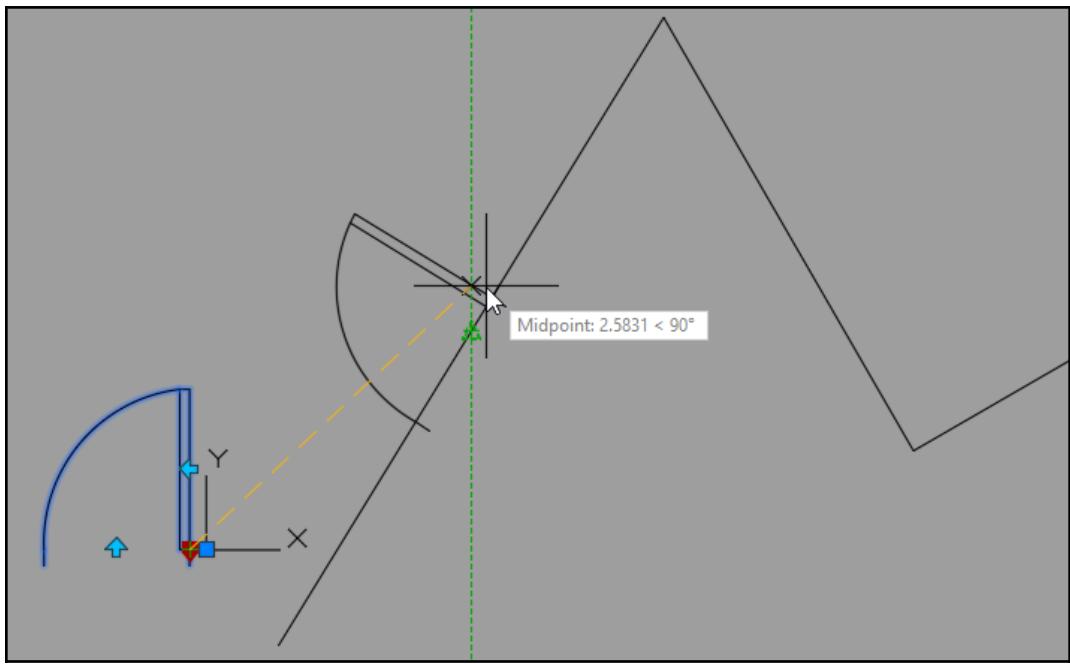


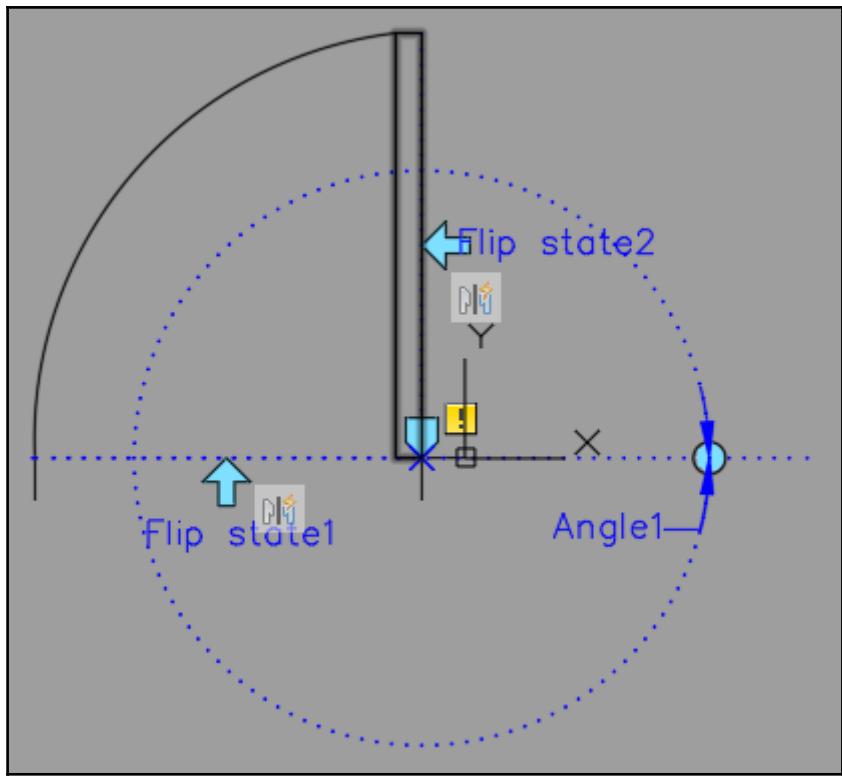


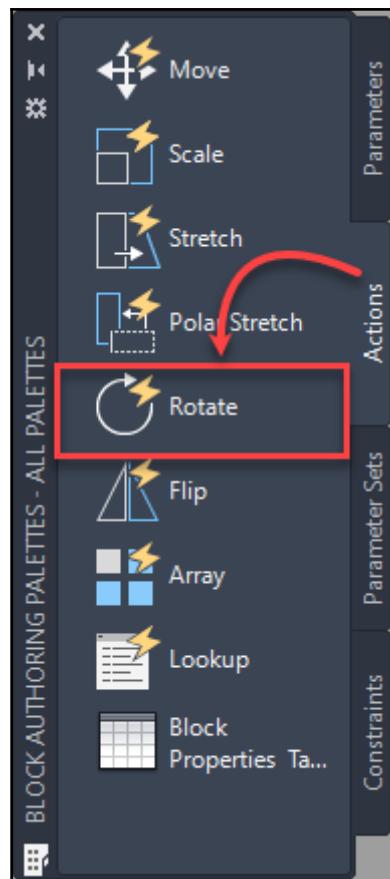


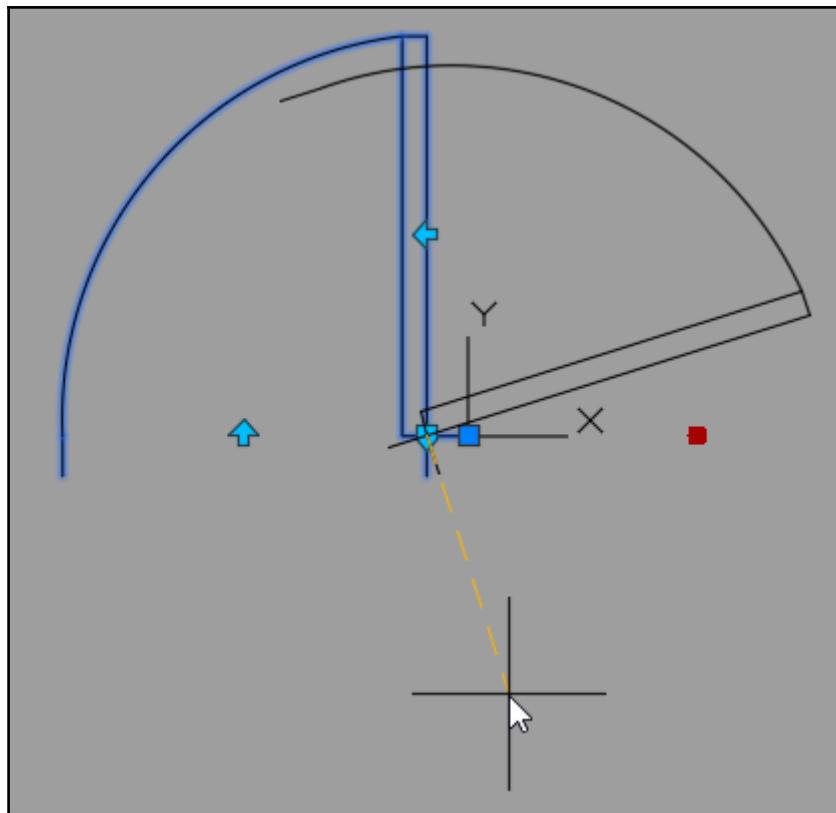


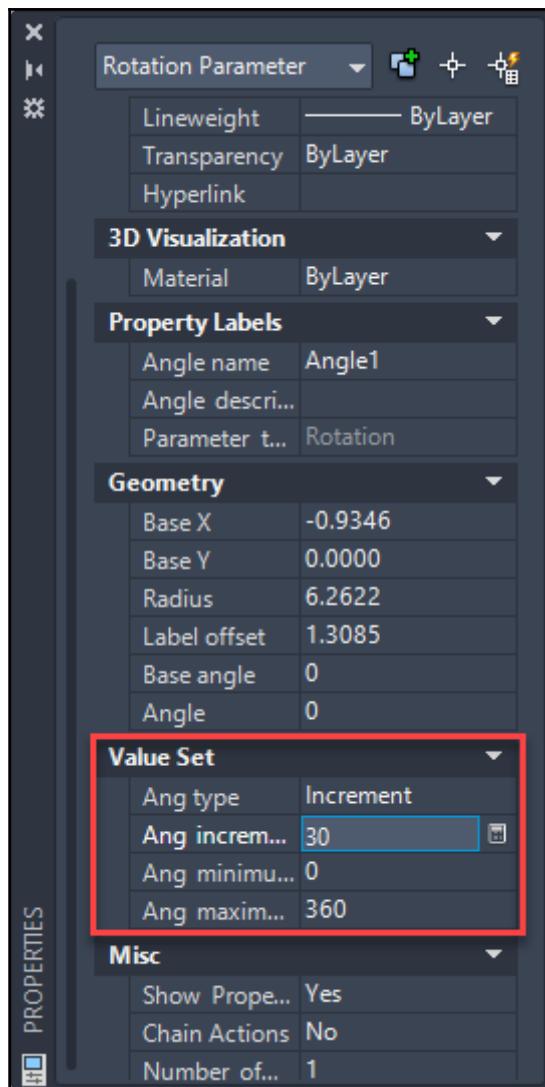


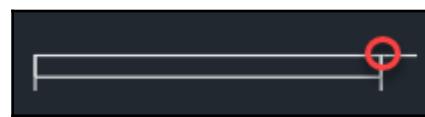
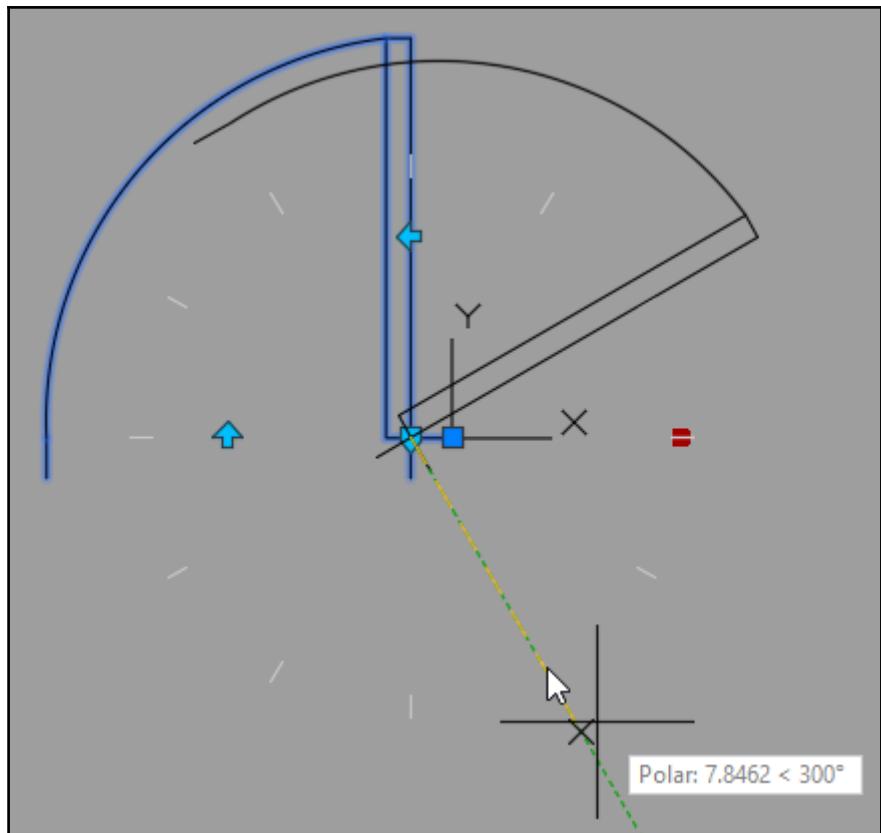


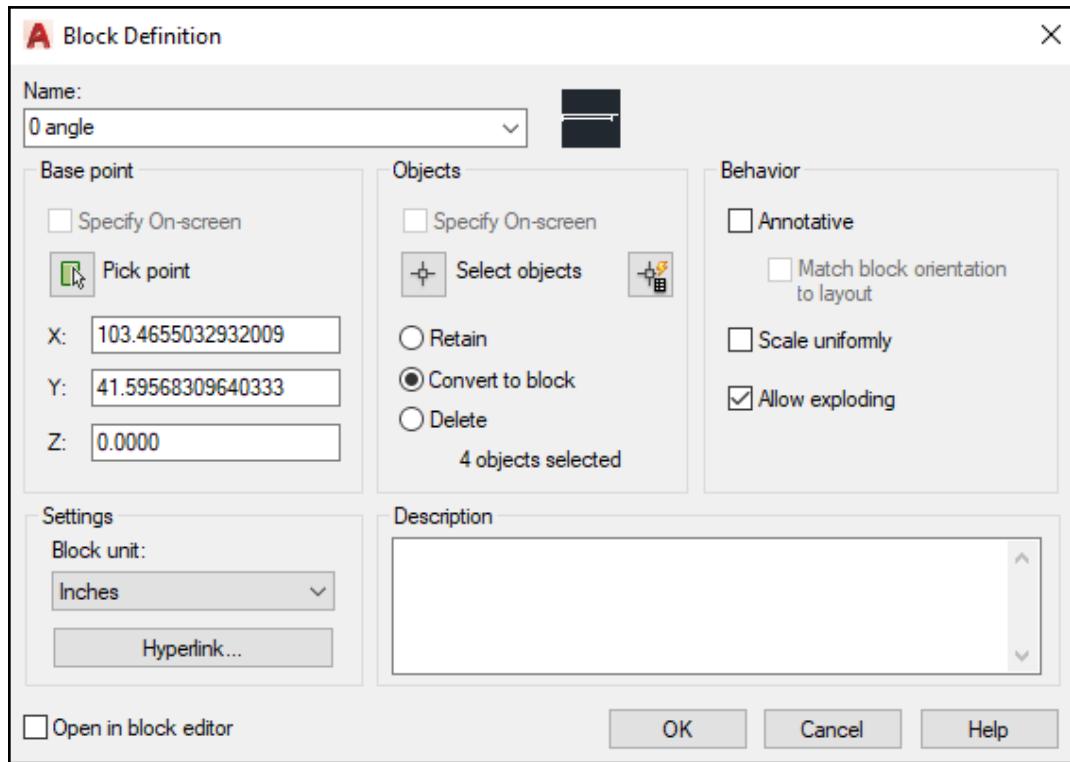


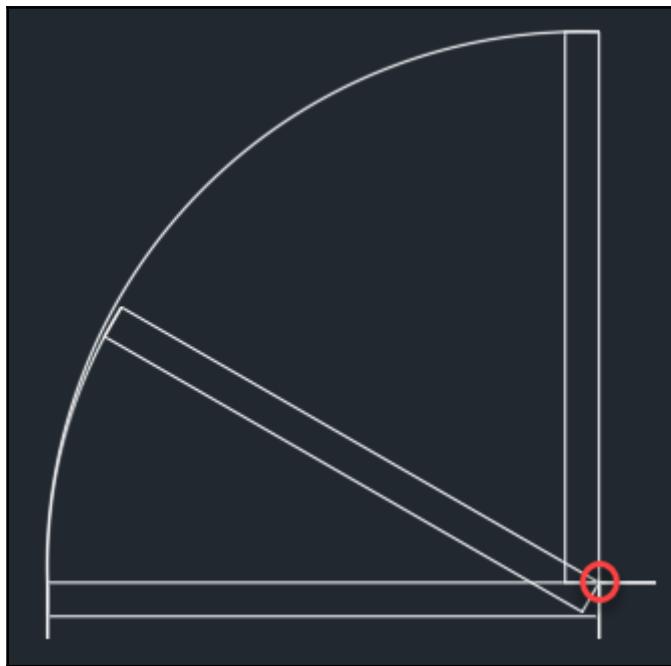


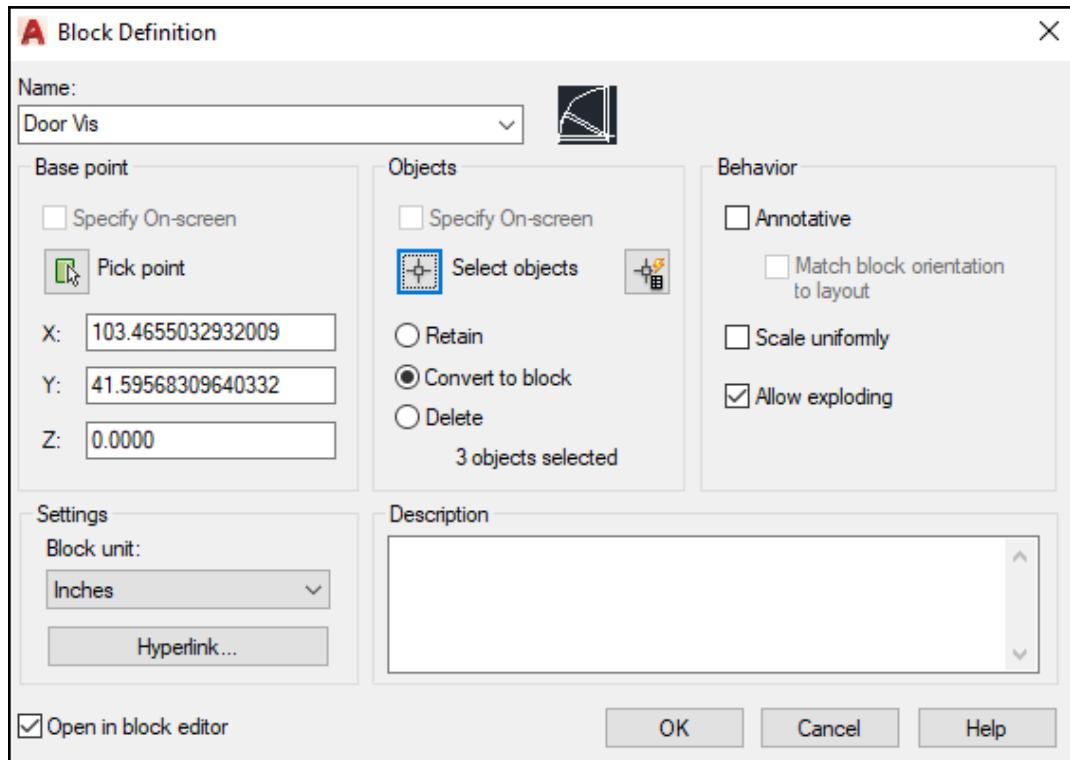


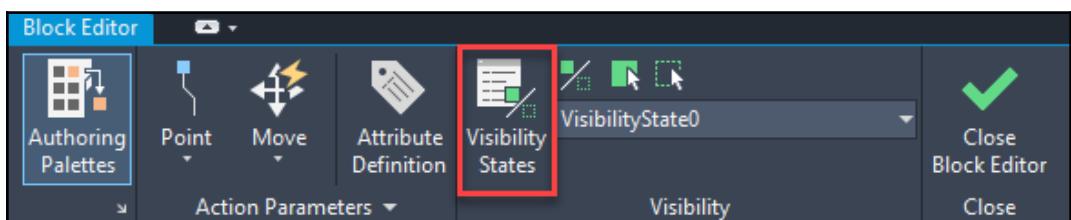
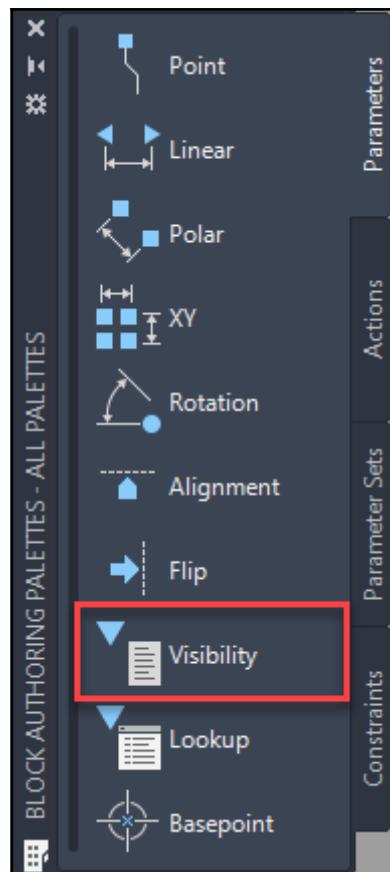


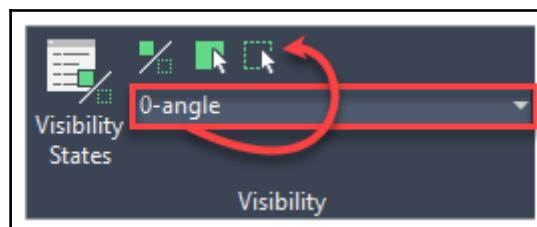
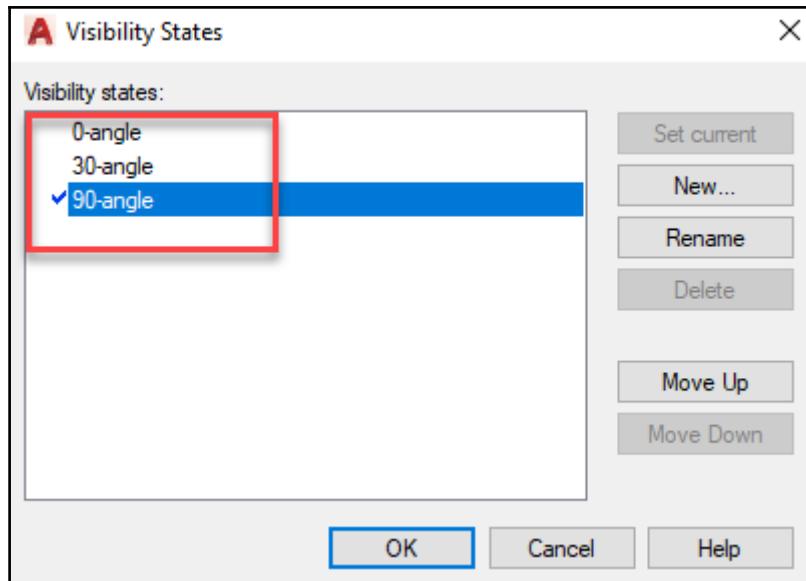


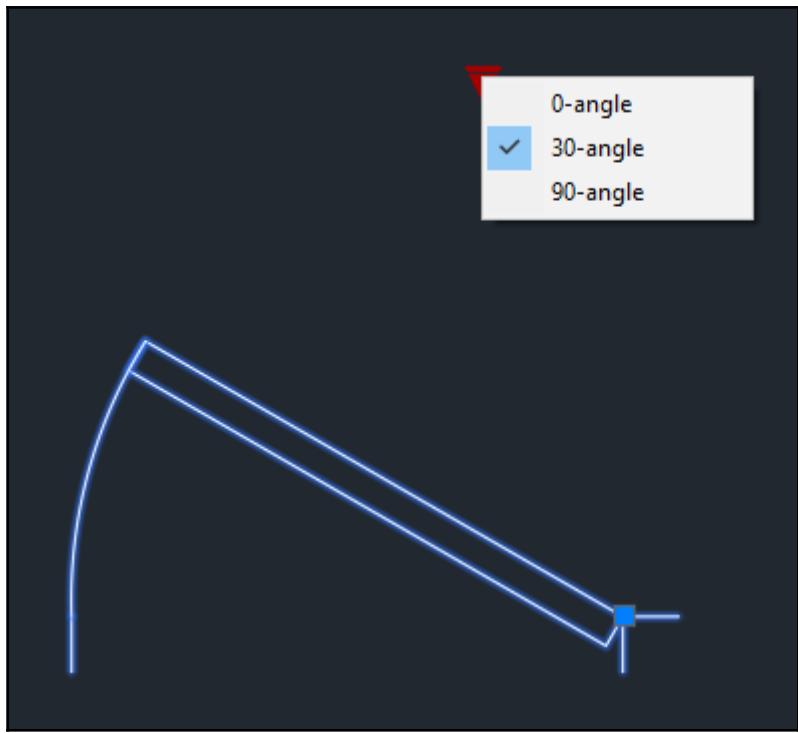


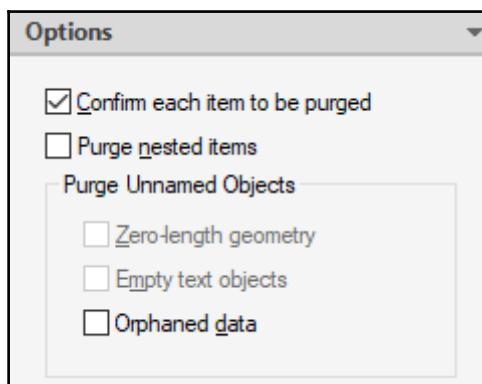
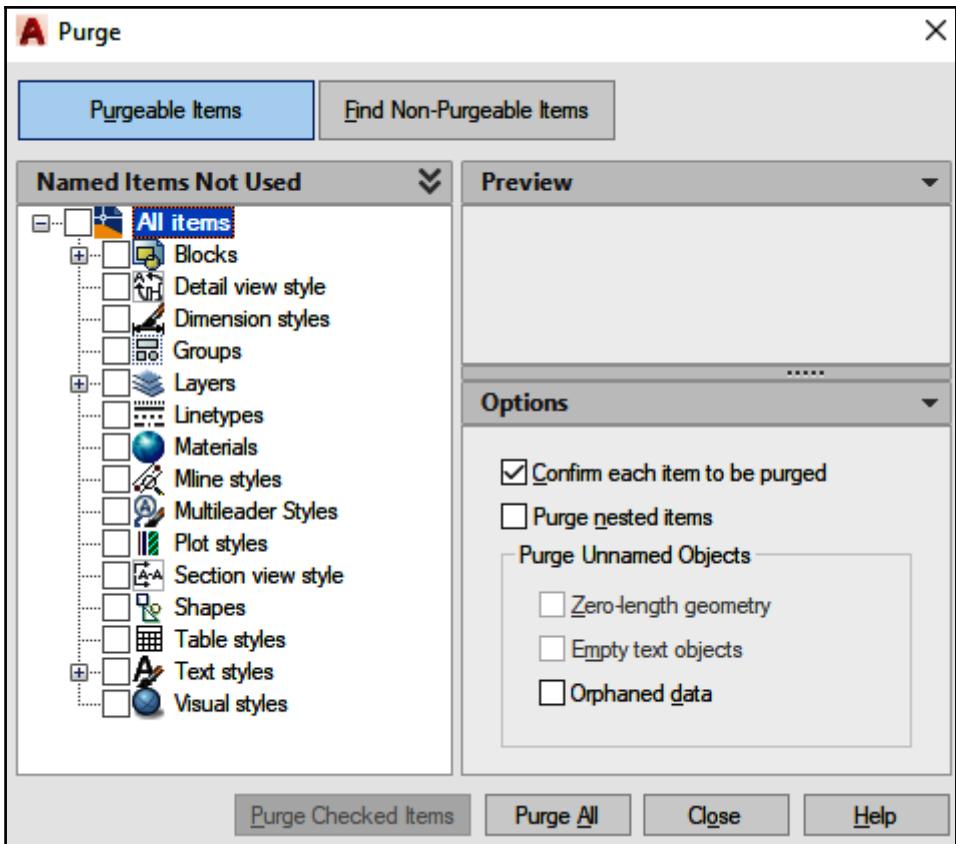


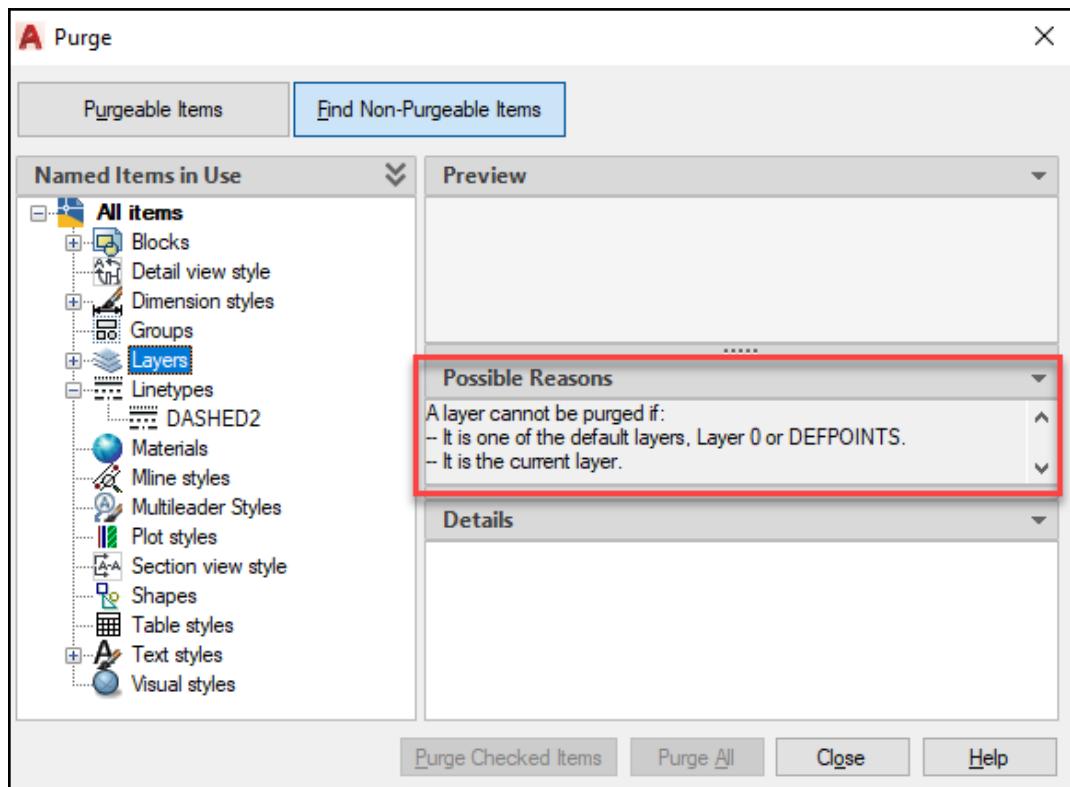


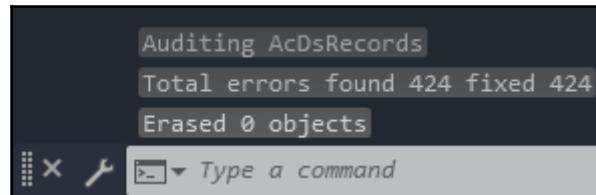
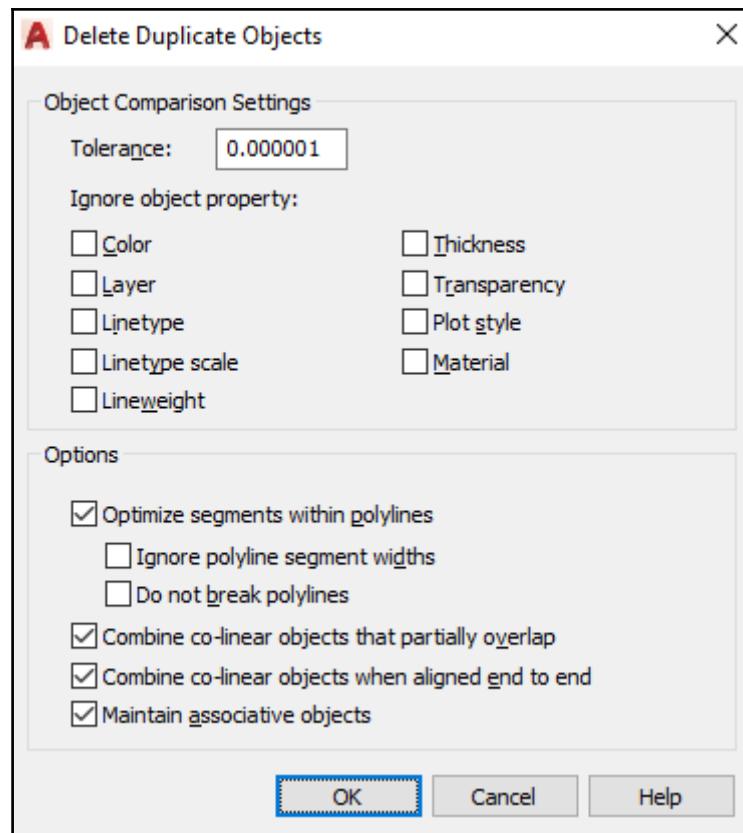




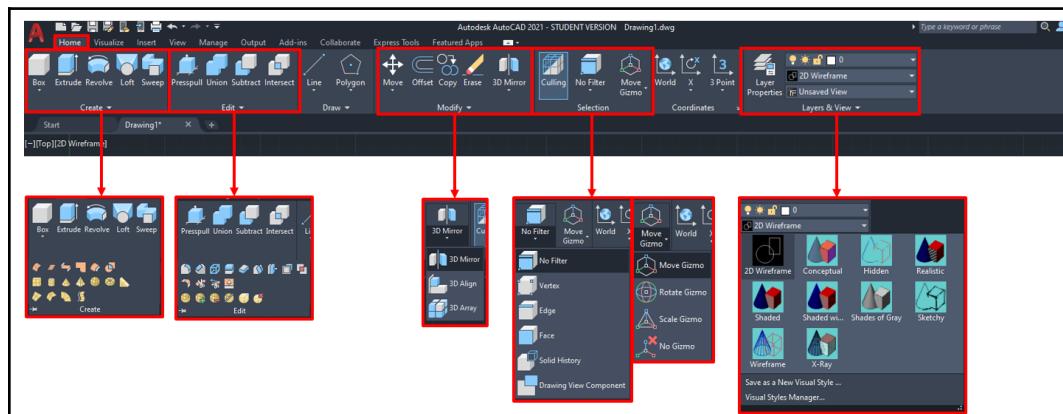
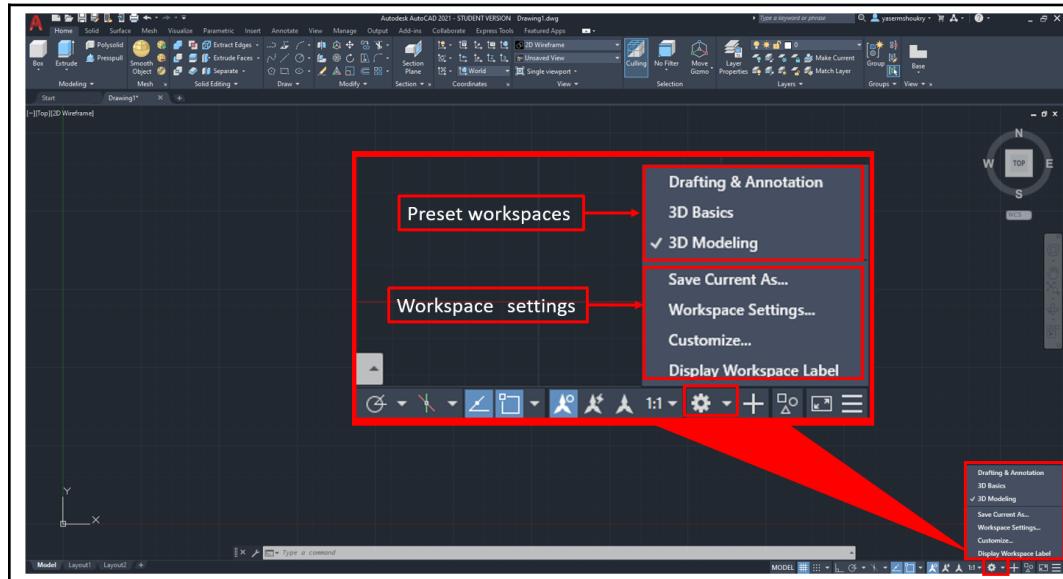


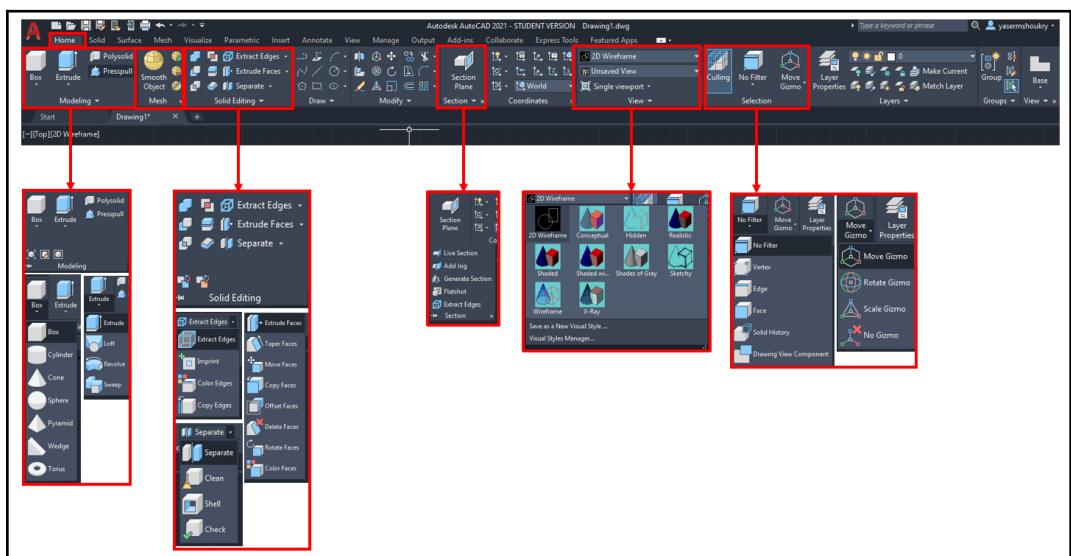
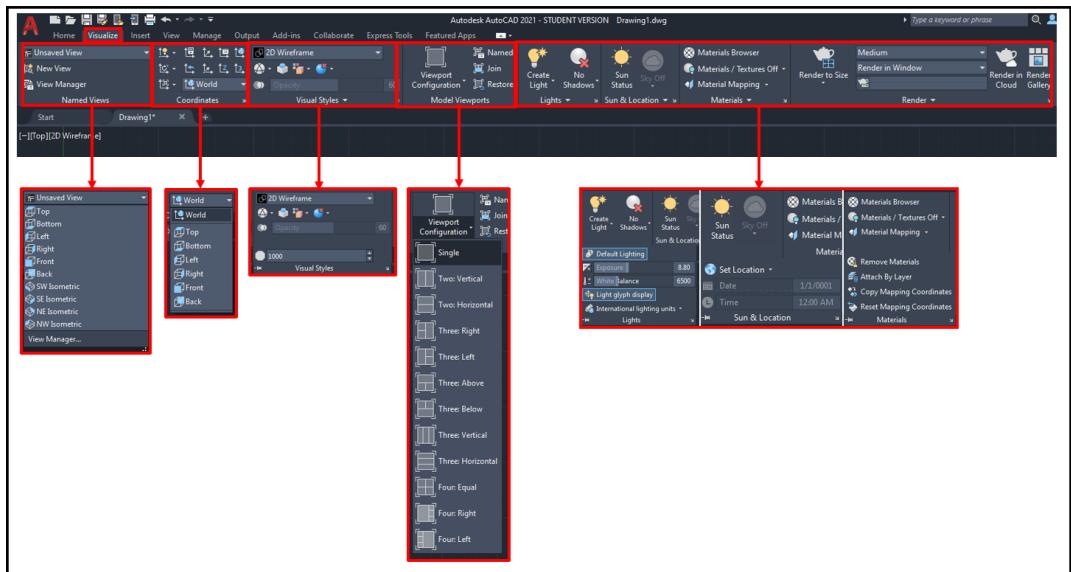


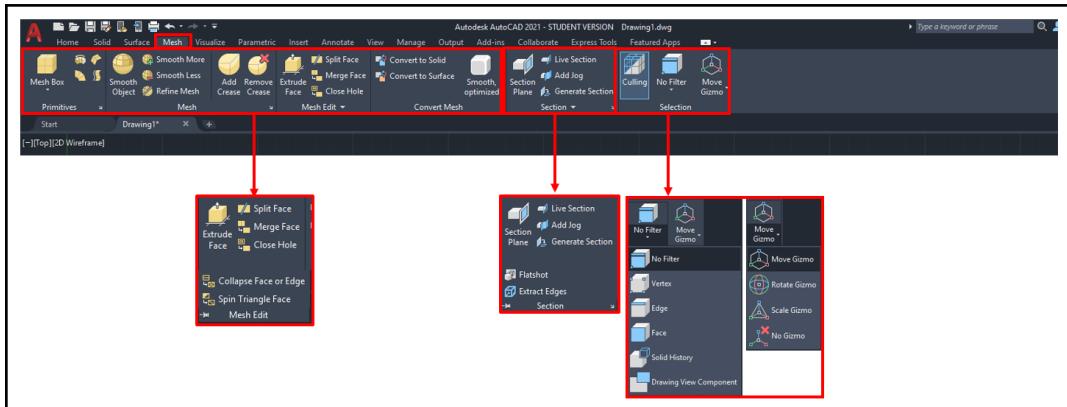
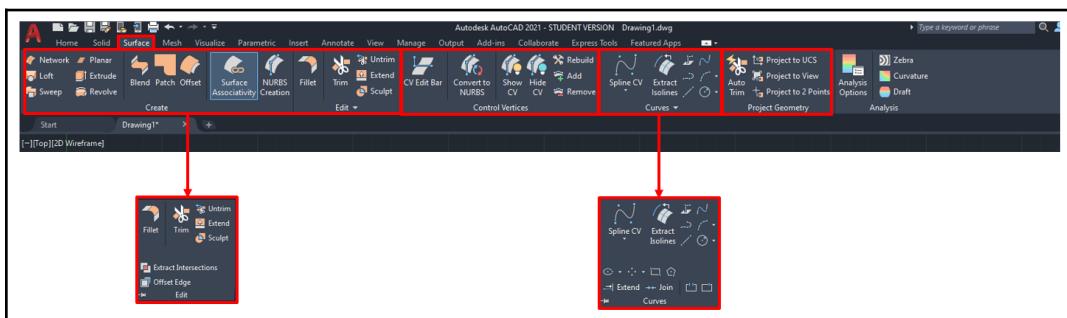
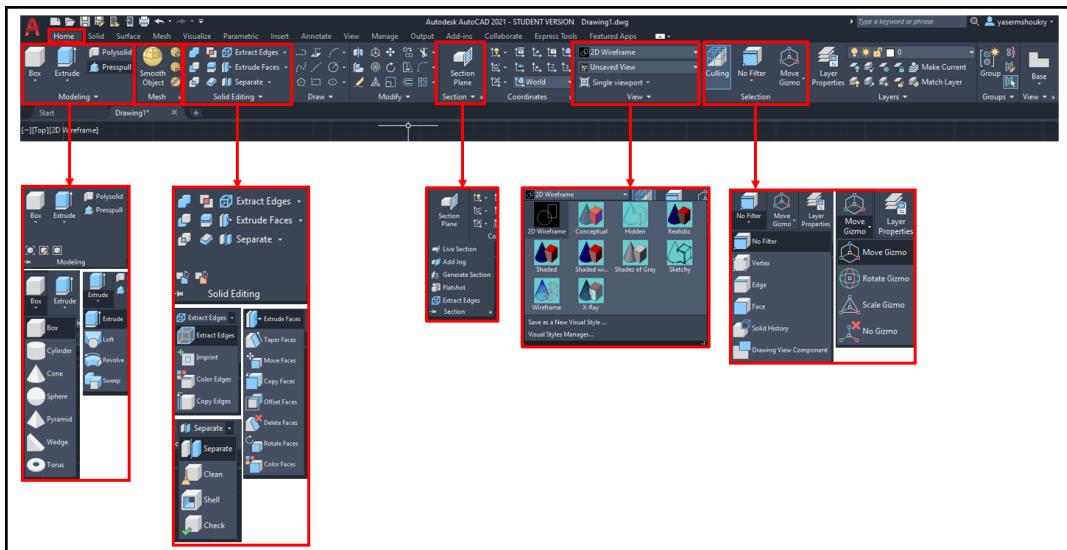


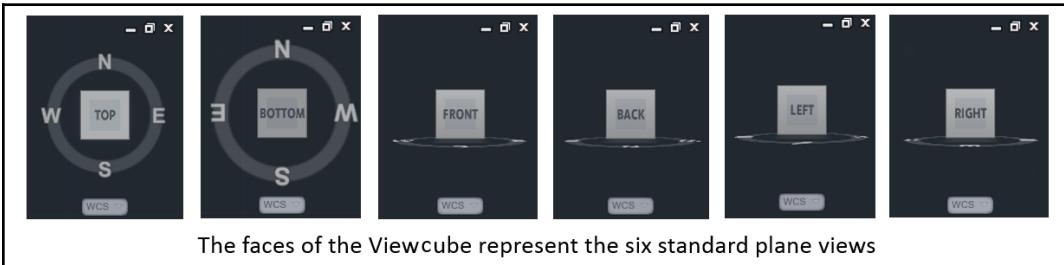
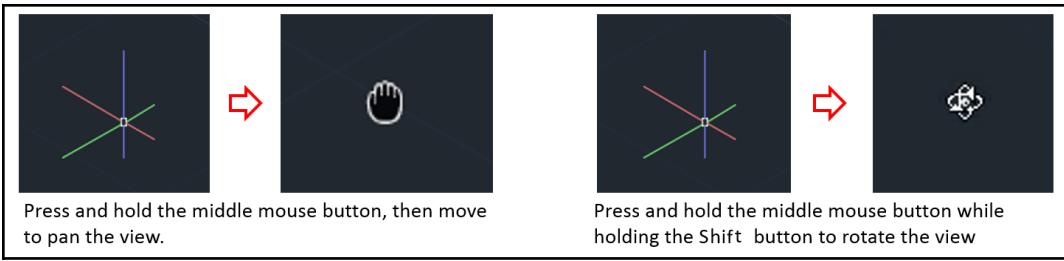
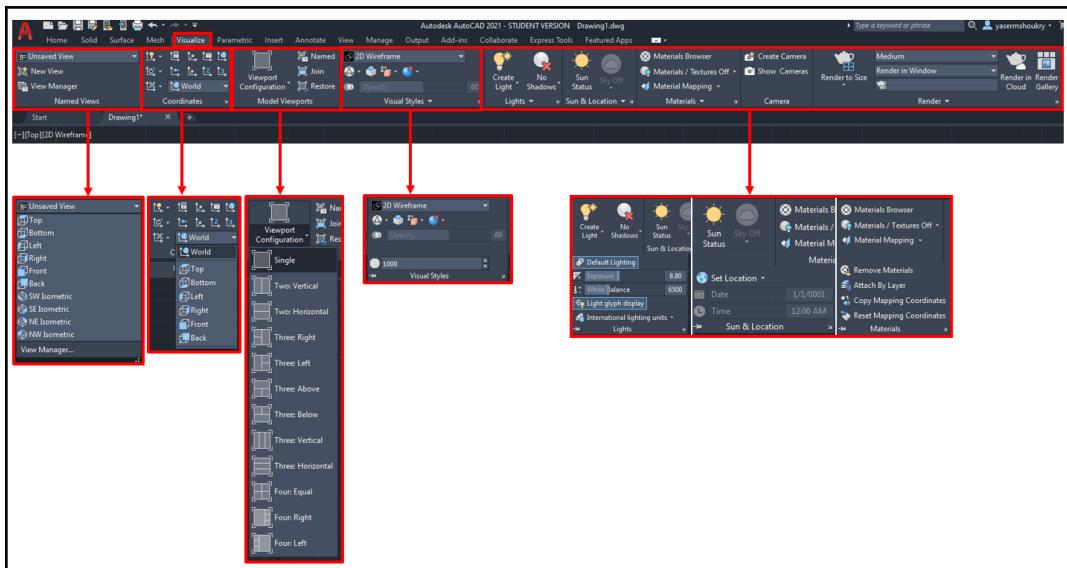


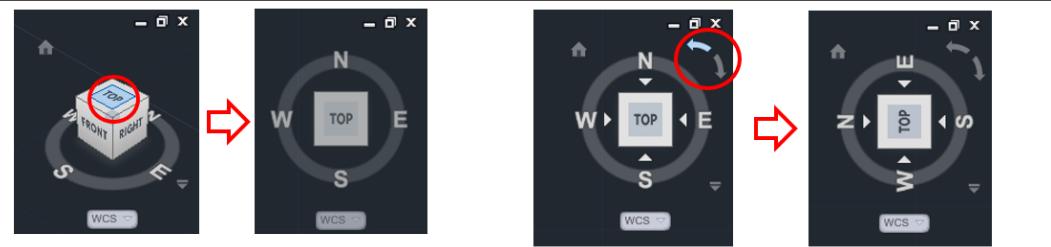
Chapter 10: Introduction to 3D Modeling





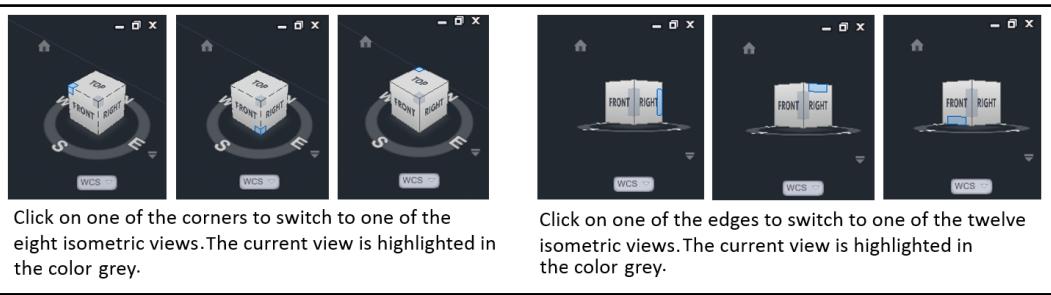






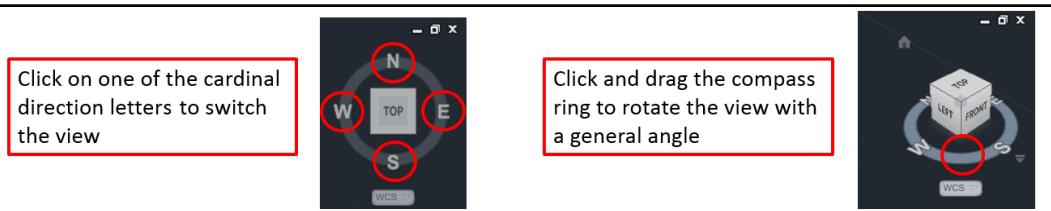
Click on the view name to switch the view

Click on the small arrow to rotate the view by 90 degrees



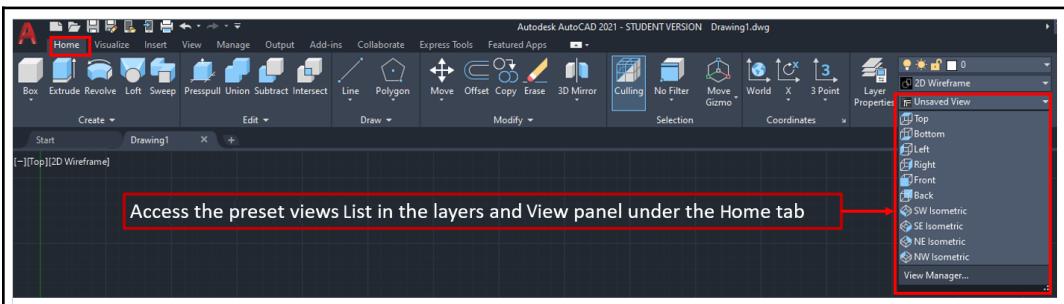
Click on one of the corners to switch to one of the eight isometric views. The current view is highlighted in the color grey.

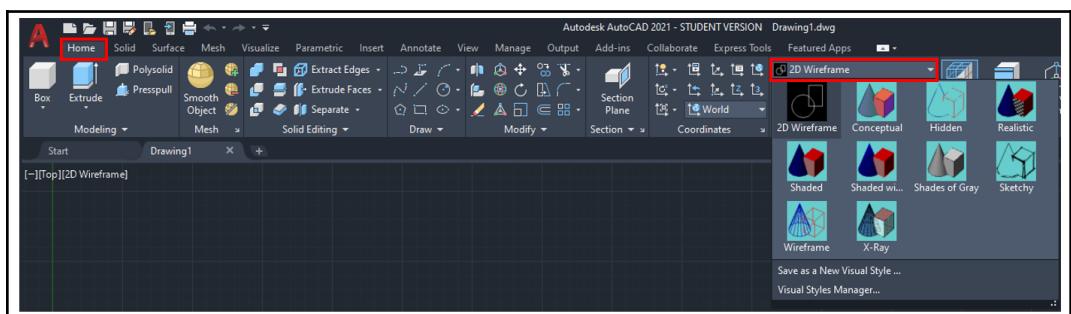
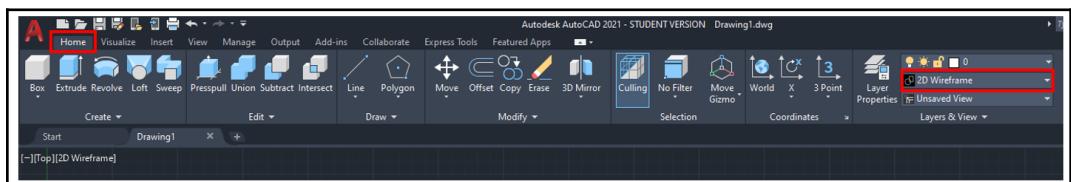
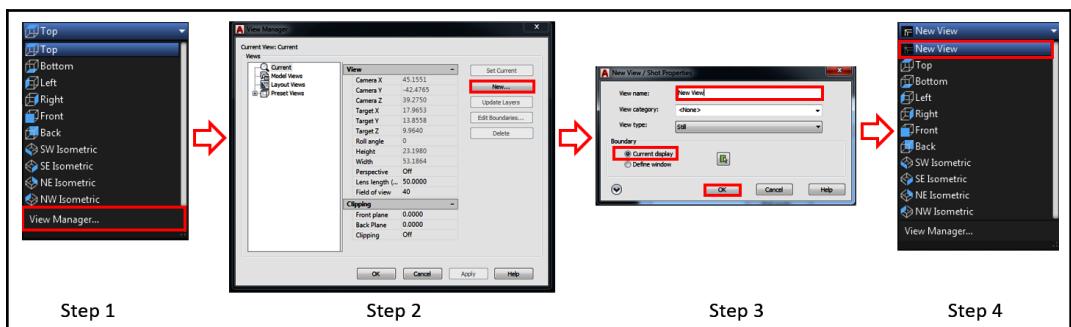
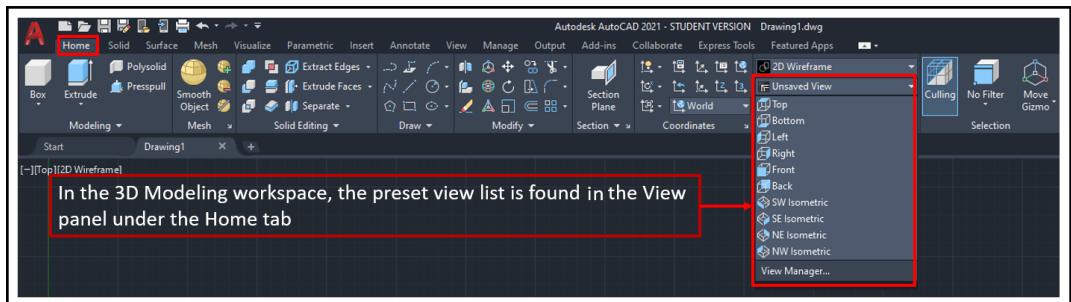
Click on one of the edges to switch to one of the twelve isometric views. The current view is highlighted in the color grey.

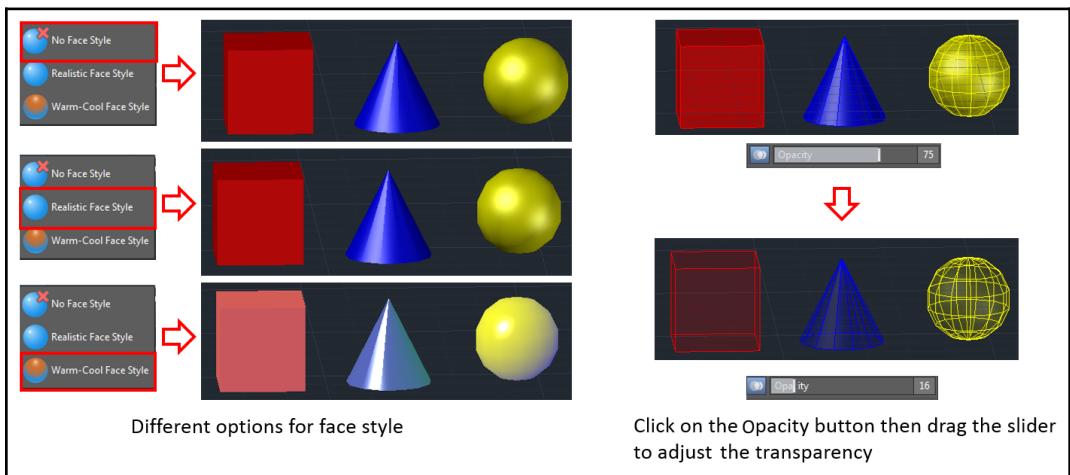
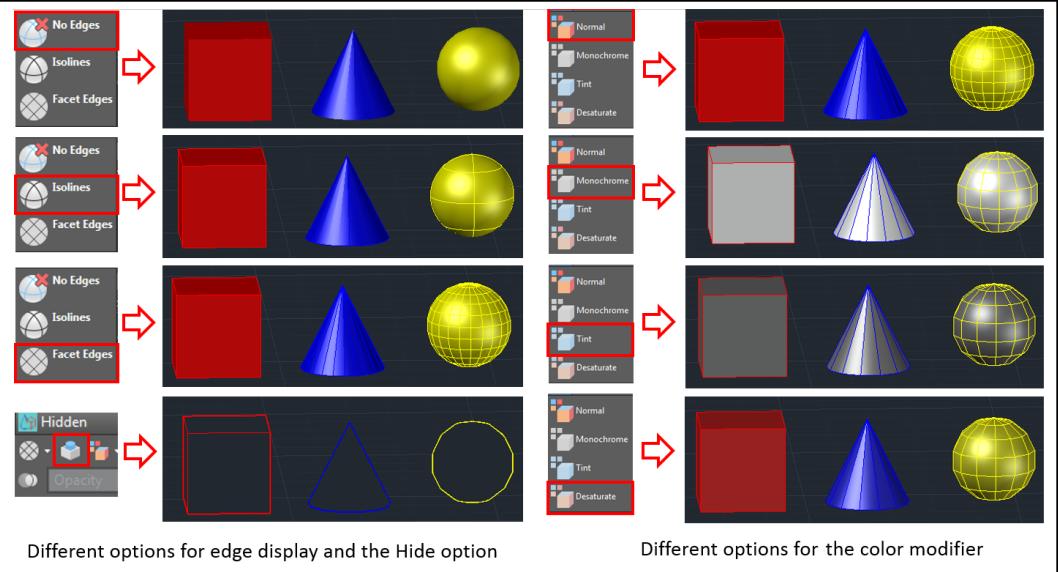


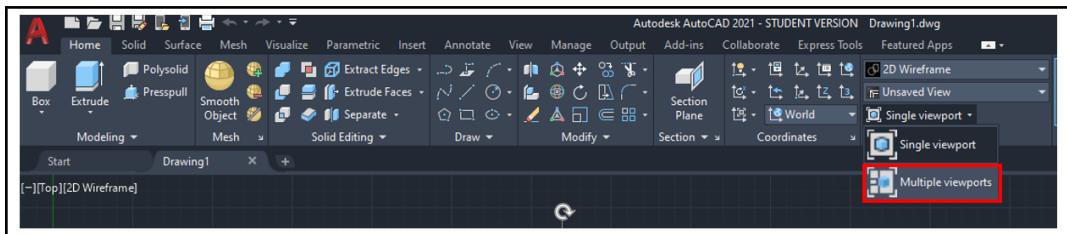
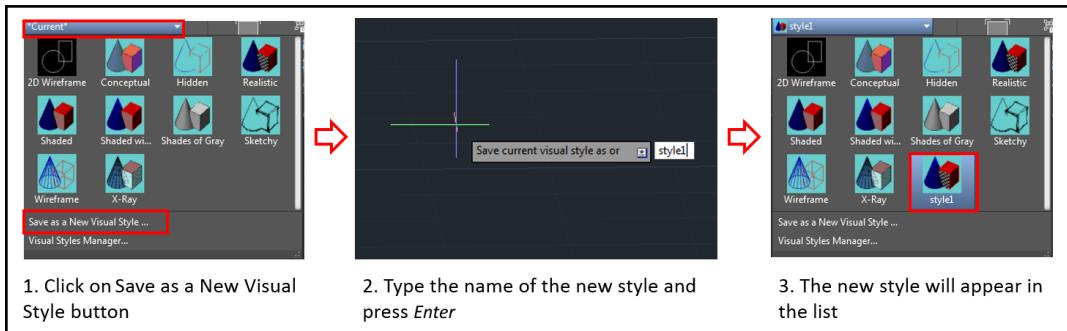
Click on one of the cardinal direction letters to switch the view

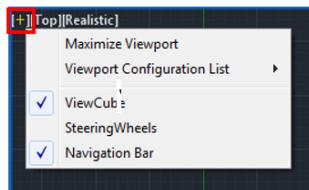
Click and drag the compass ring to rotate the view with a general angle





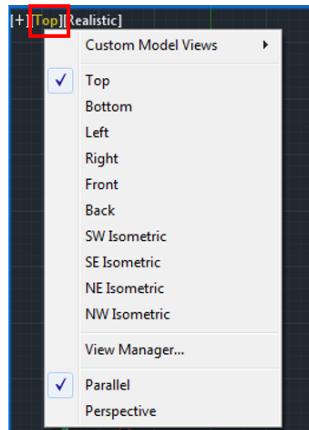




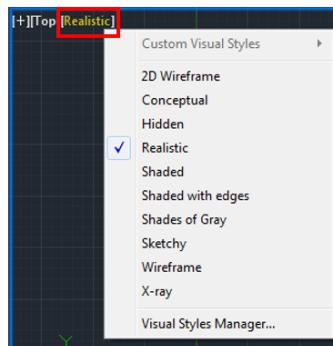


The plus sign on the left expands a list where you can:

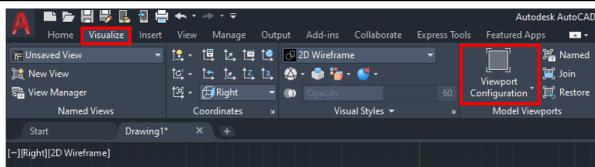
- 1- Maximize/restore the viewport
- 2- Change the view port's configuration.
- 3- Turn ViewCube, the steering wheels and the Navigation bar on and off



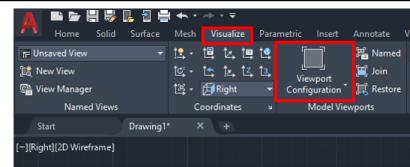
In the middle, you find the view. You can click to switch to another from the preset views and you can also open View Manager.



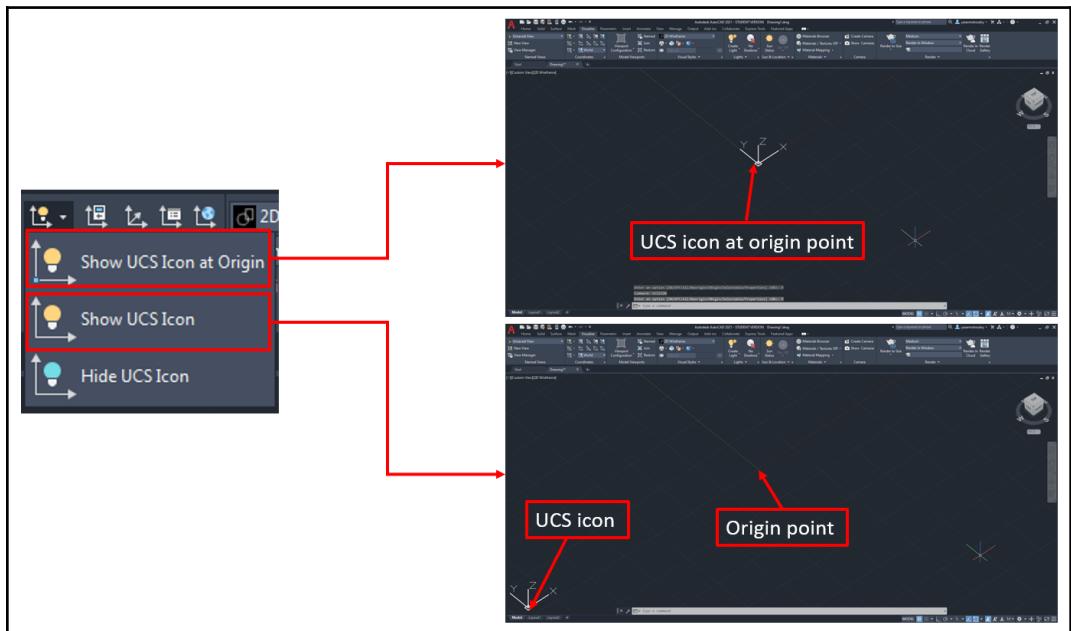
On the right, the visual style name is displayed. You can click and choose another visual style from the list, and you can open Visual Styles Manager.

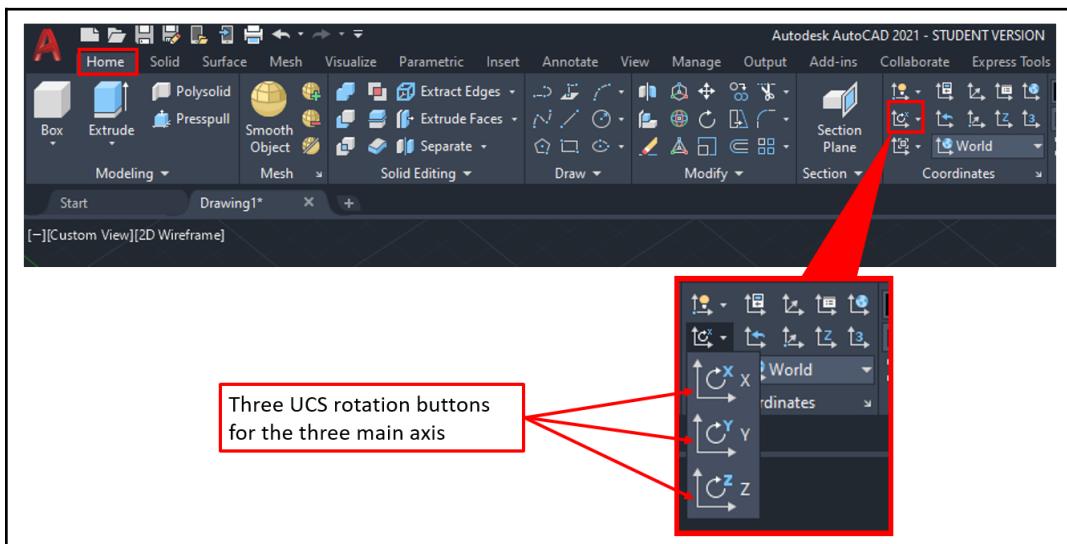
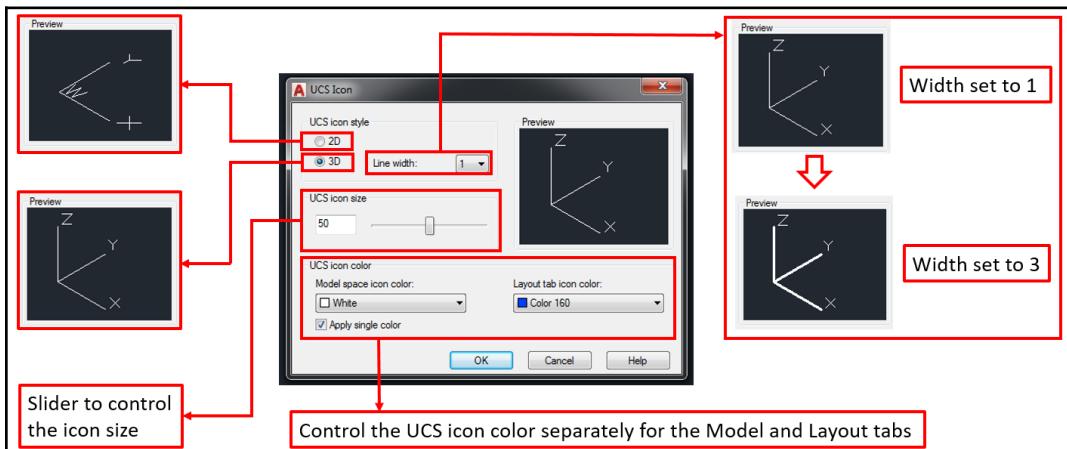
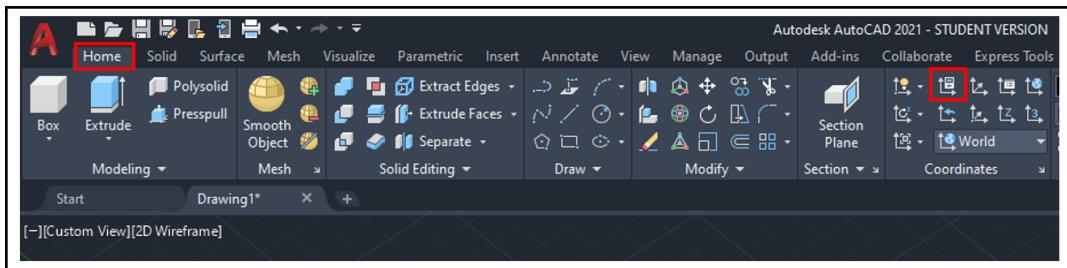


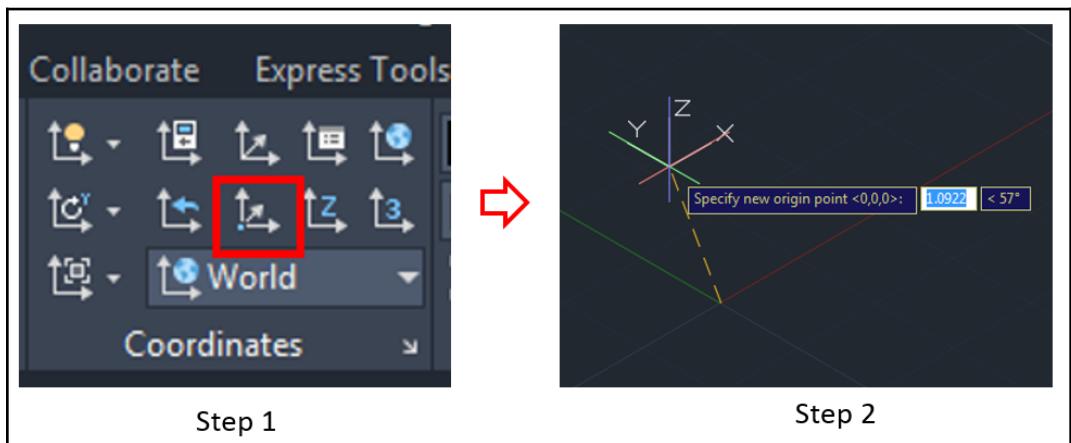
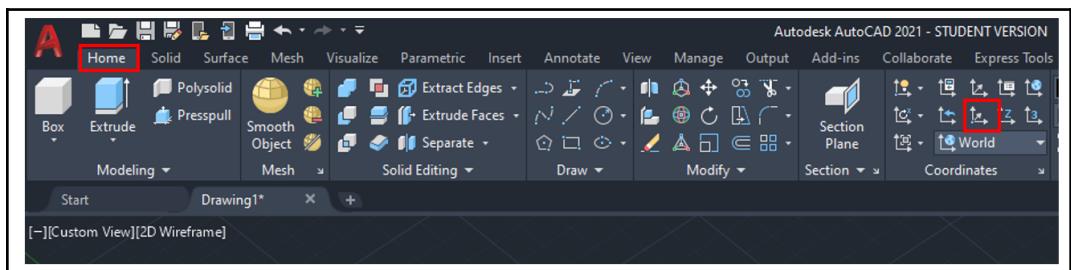
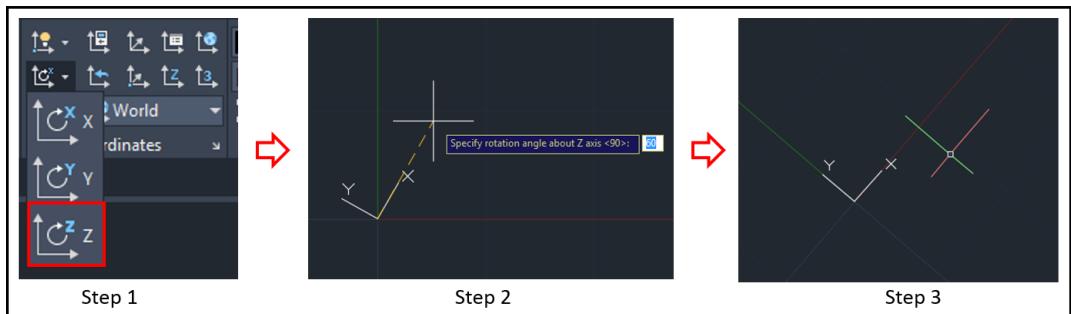
Viewport configuration button in 3D
Basics workspace

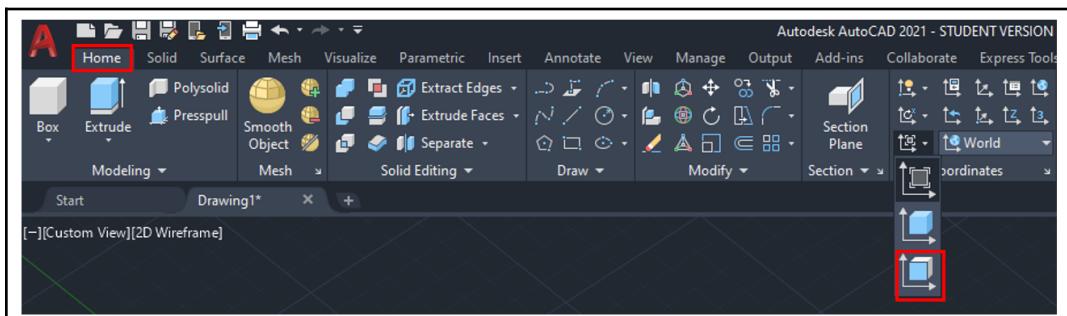
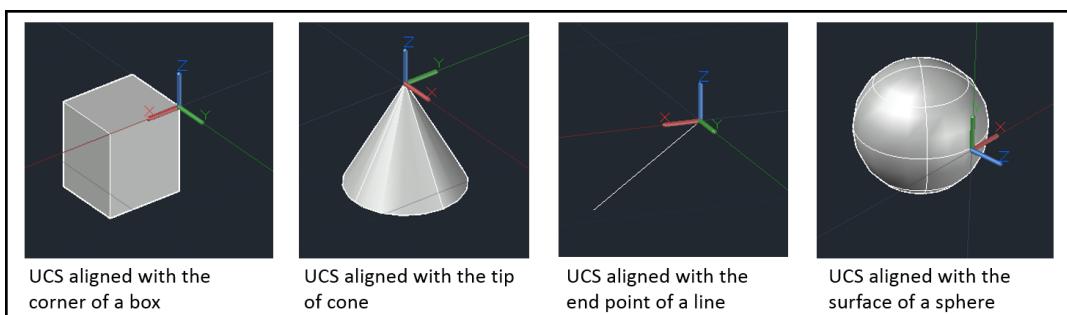
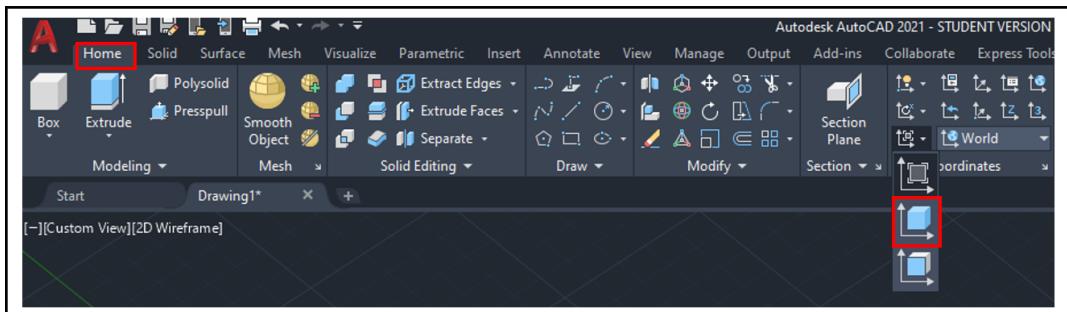


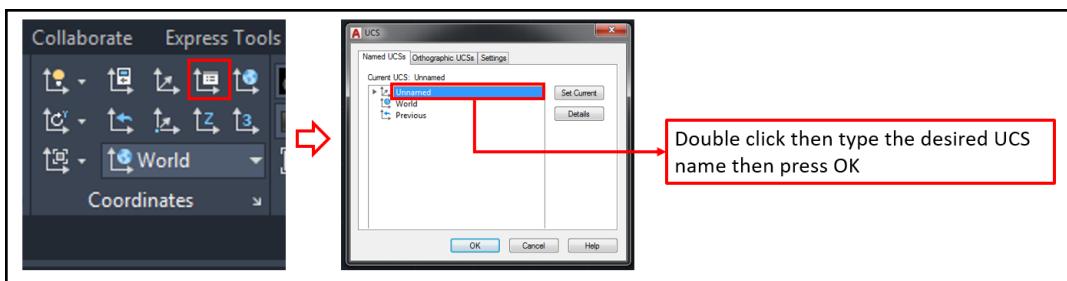
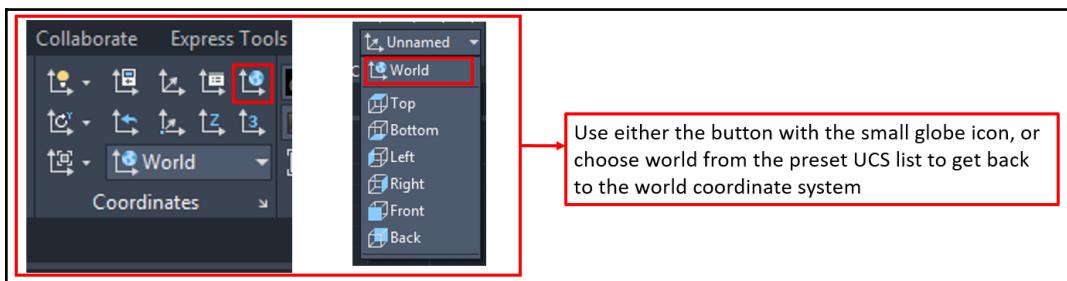
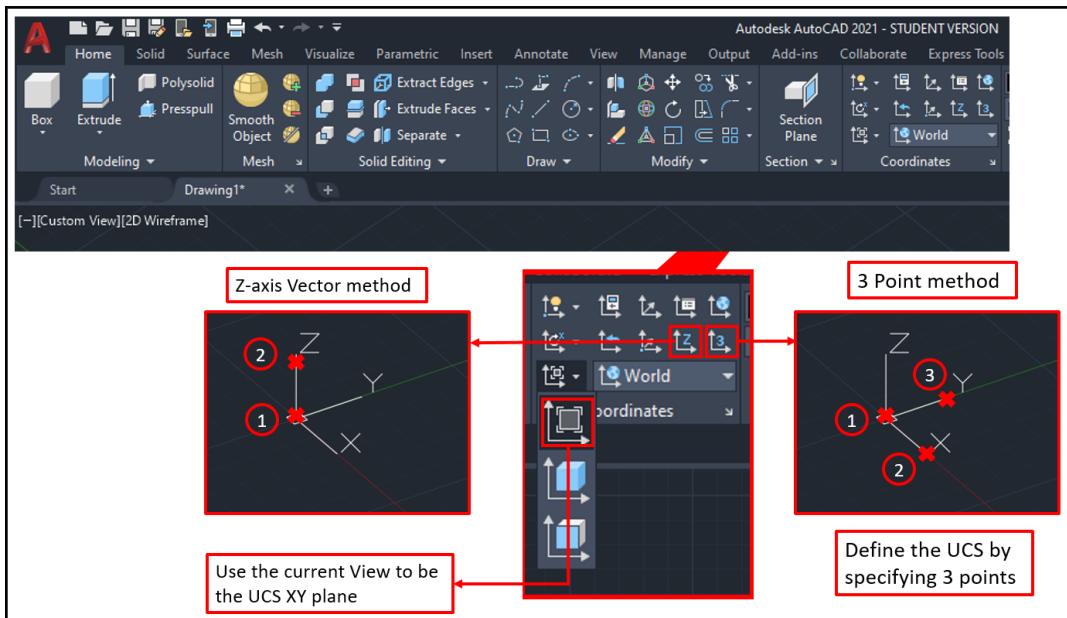
Viewport configuration button in 3D
Modeling workspace

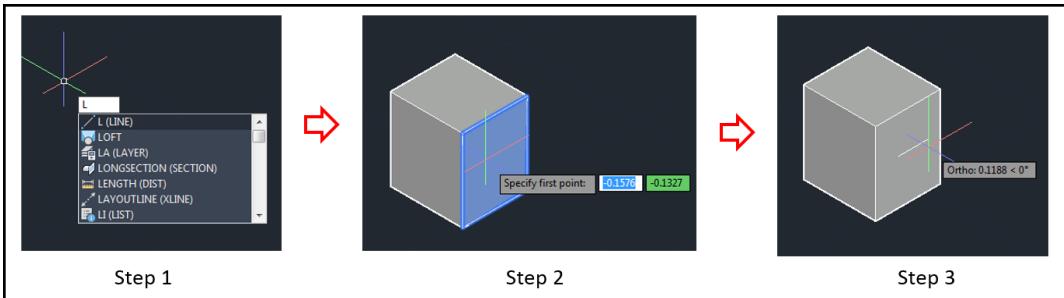
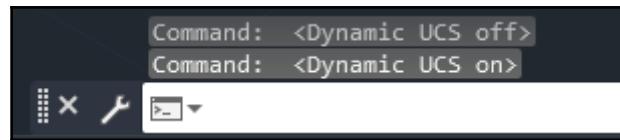




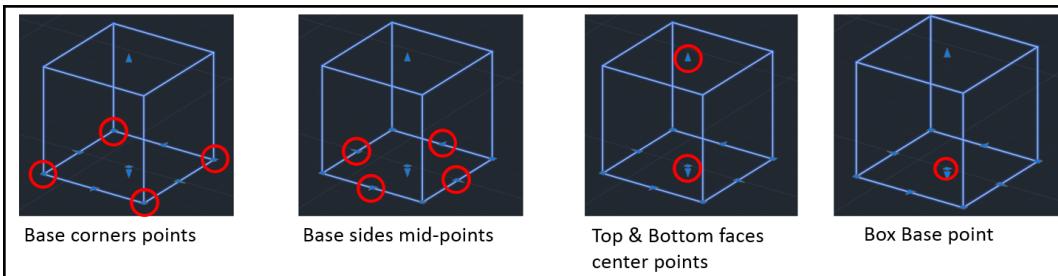
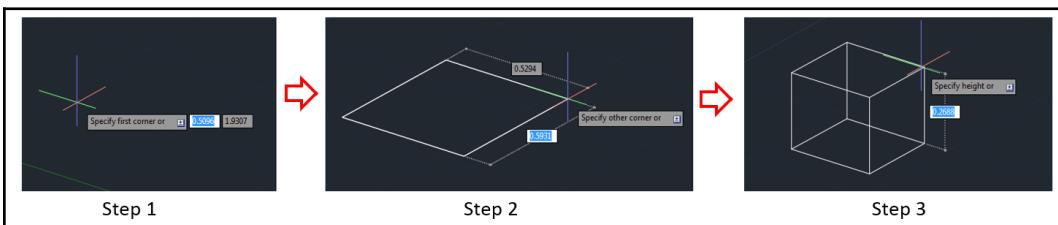
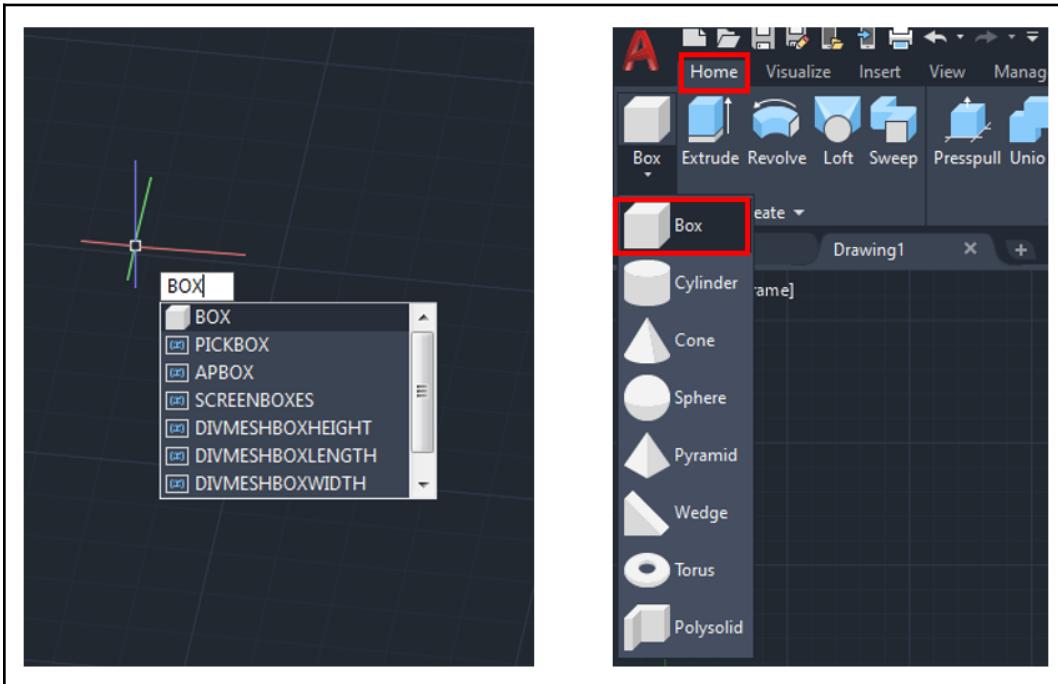


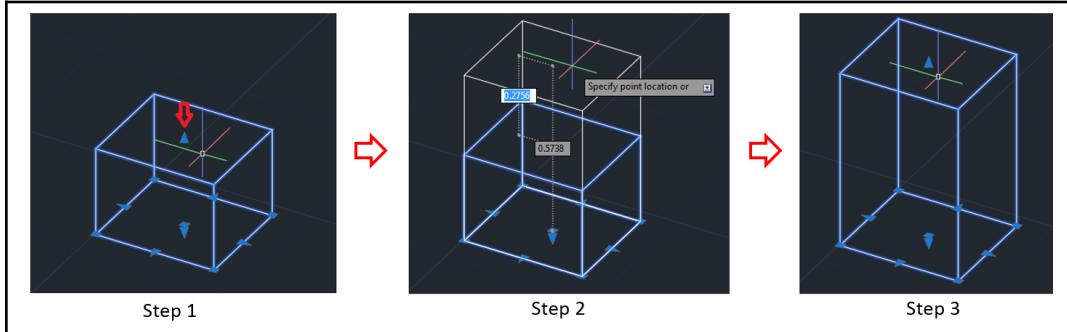
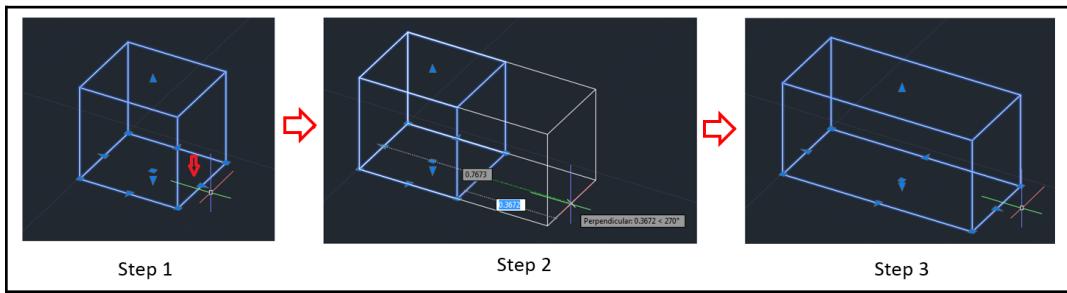
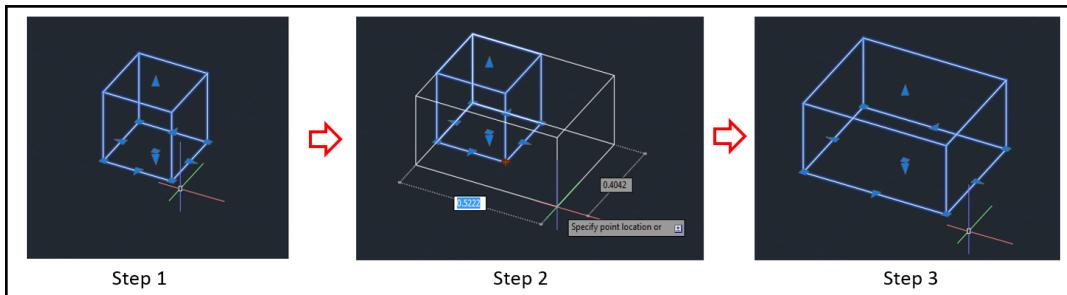




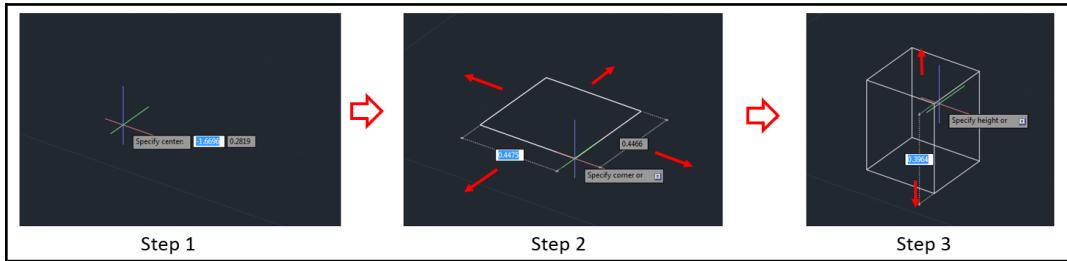


Chapter 11: Creating Primitive 3D Shapes

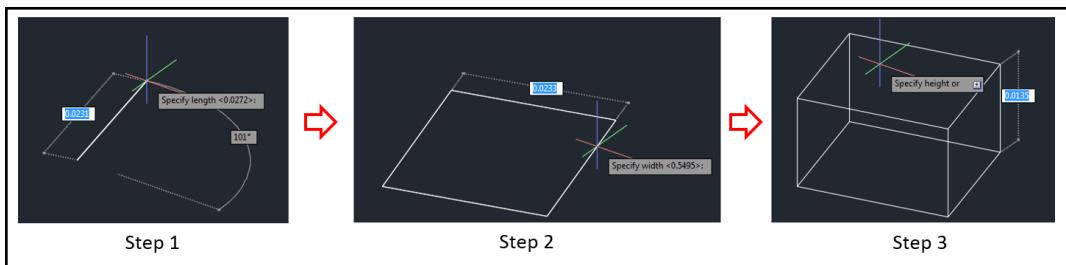




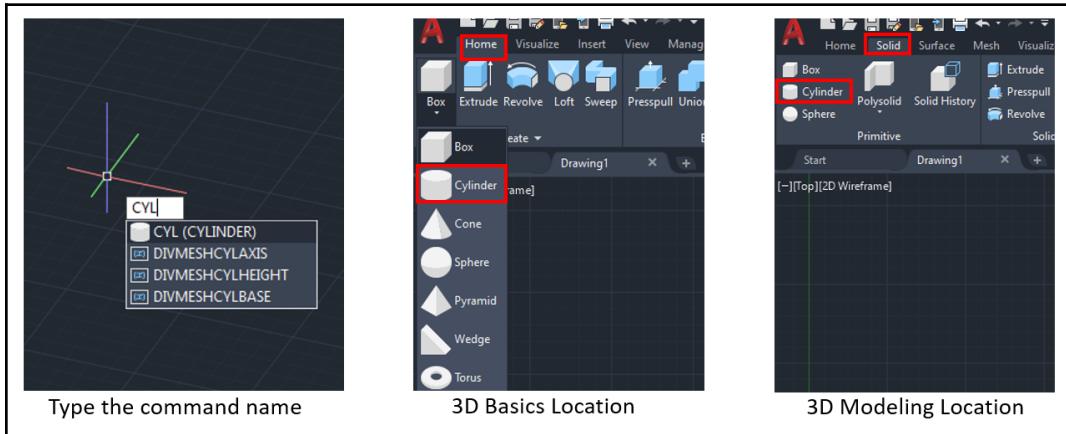
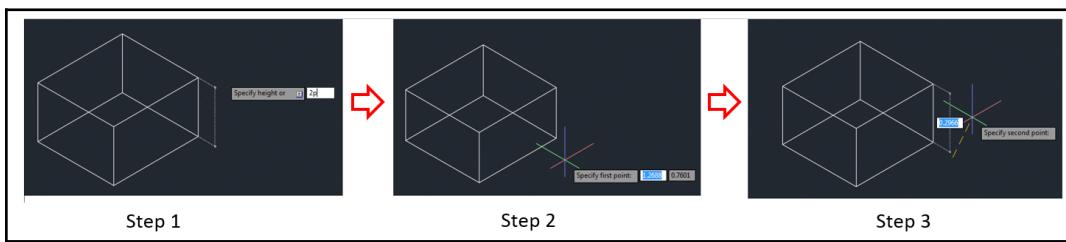
BOX Specify first corner or [Center]:

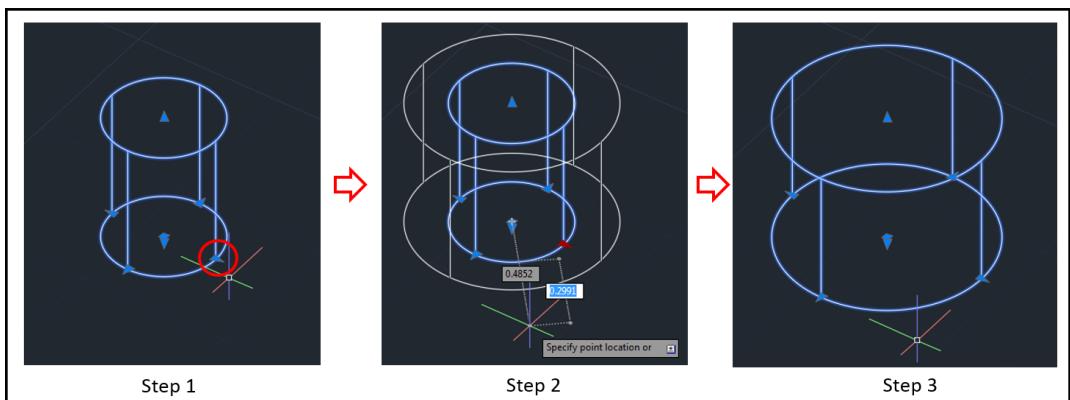
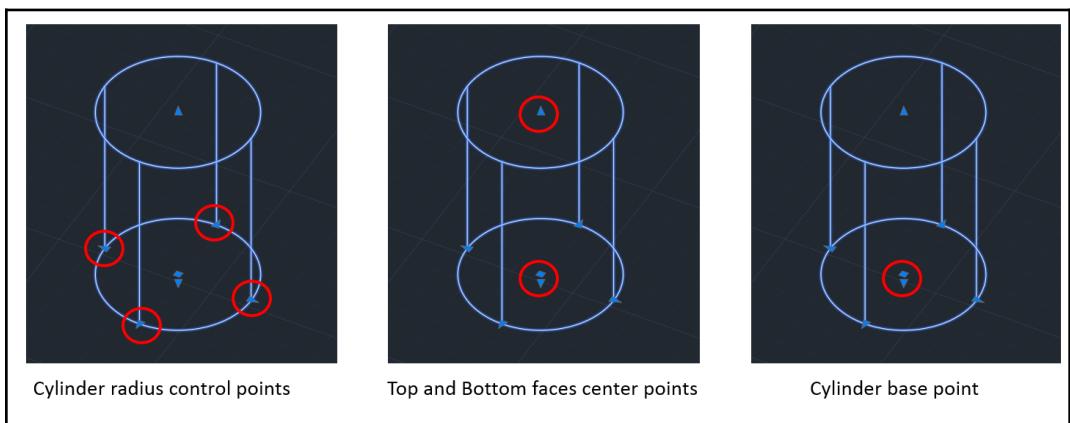
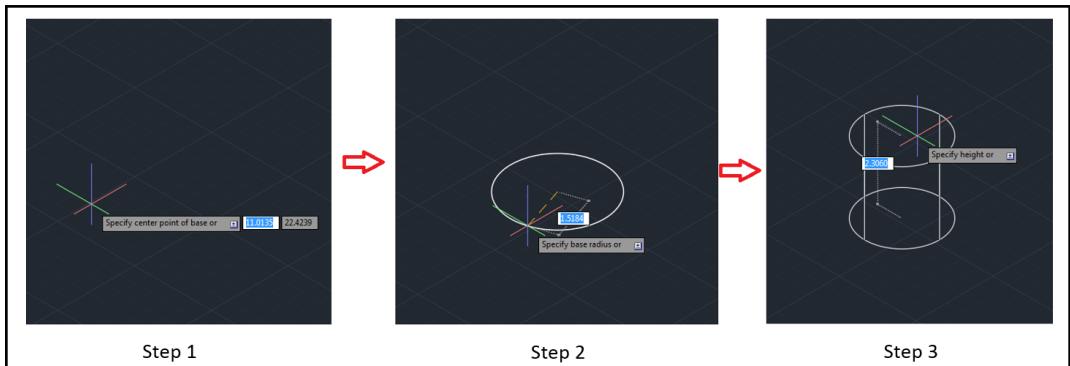


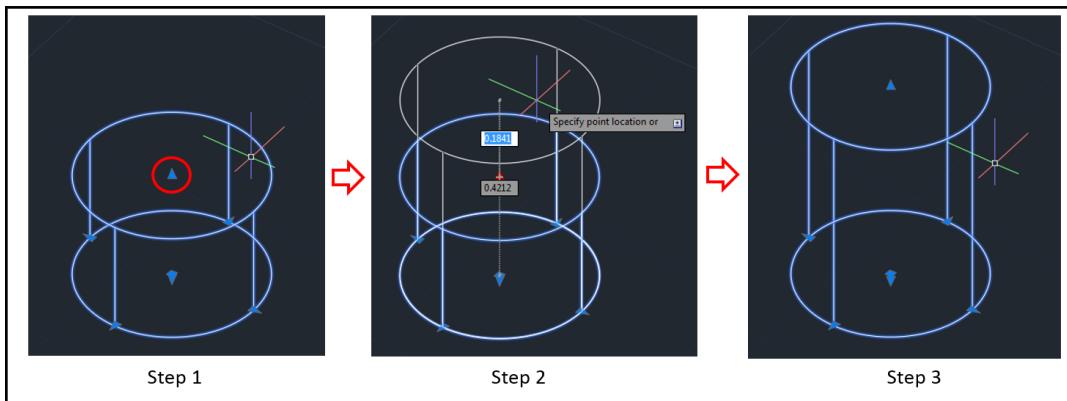
BOX Specify other corner or [Cube Length]:



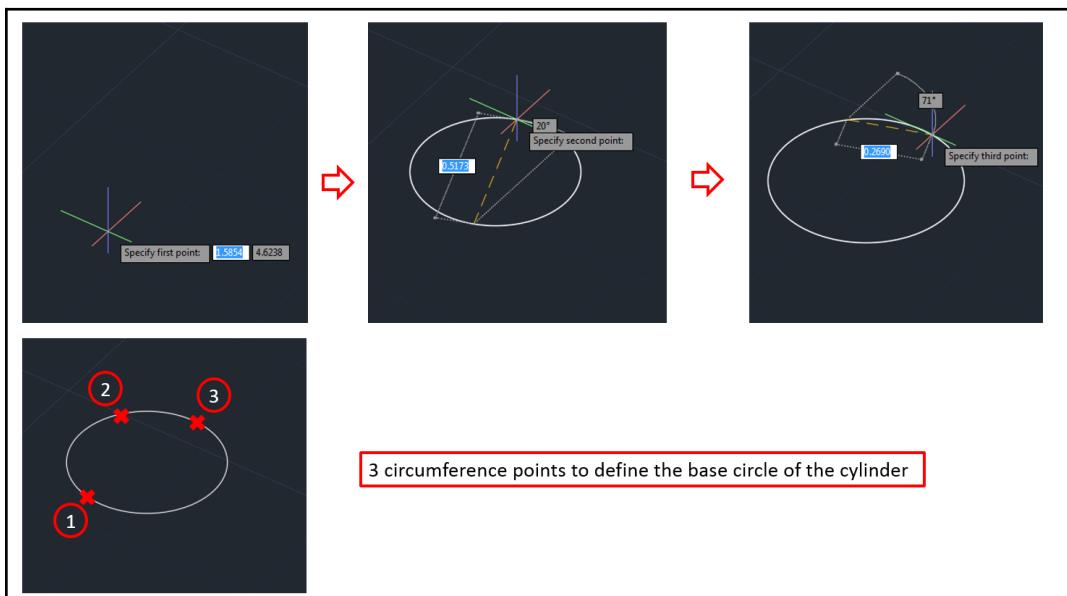
BOX Specify height or [2Point]:

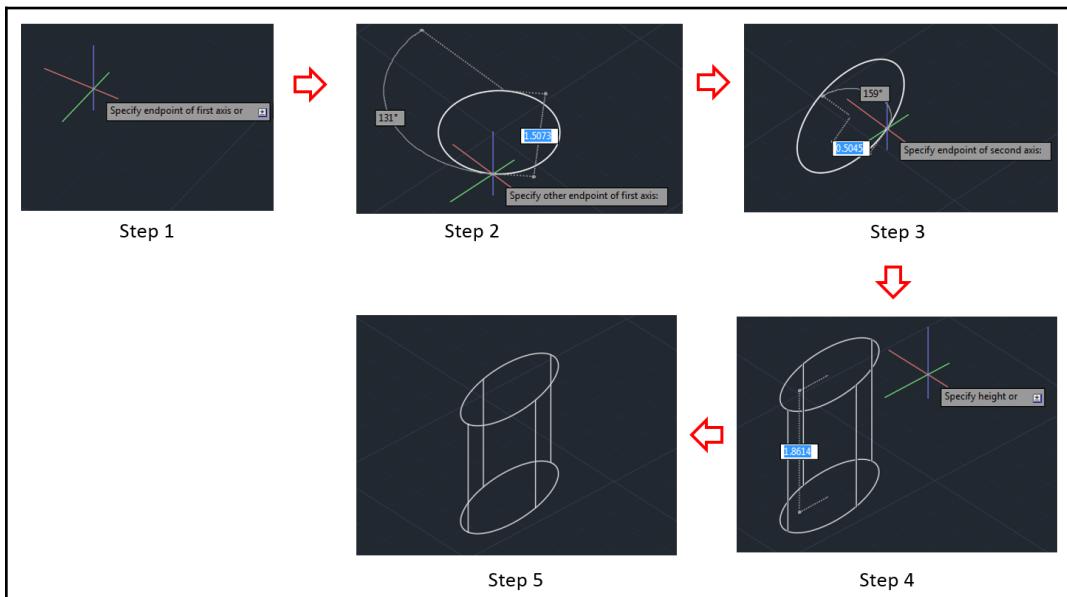
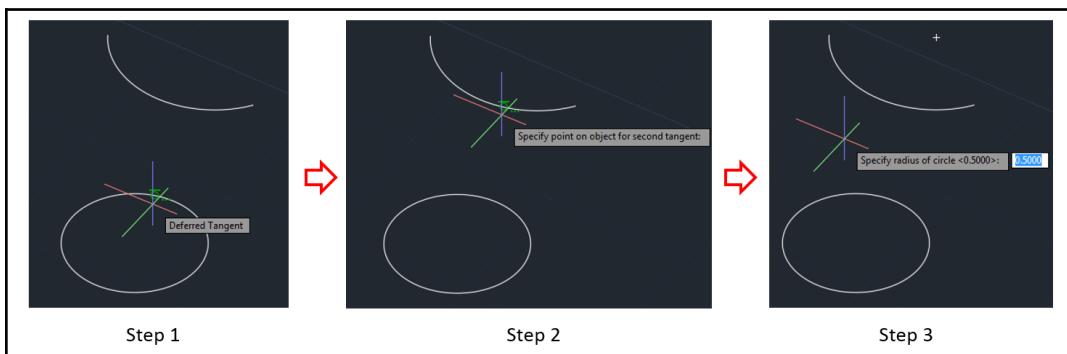






CYLINDER Specify center point of base or [3P 2P Ttr Elliptical]:





CYLINDER Specify base radius or [Diameter]:

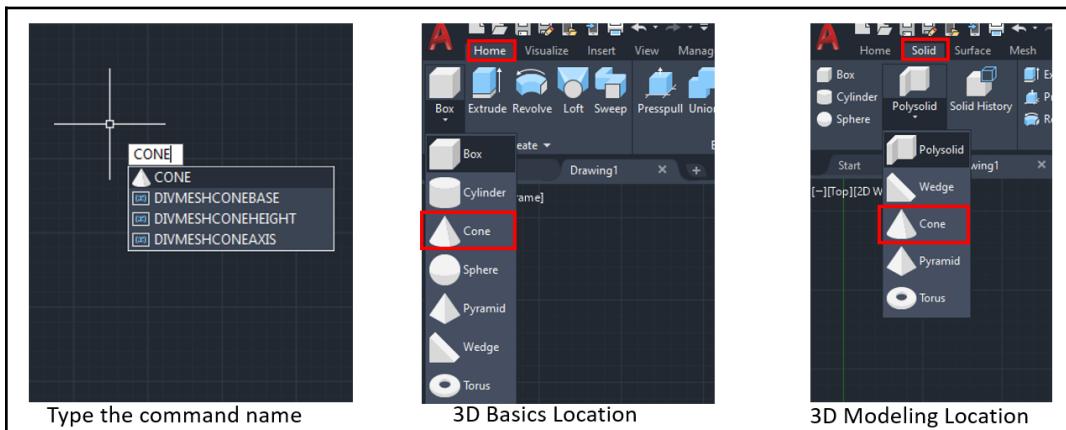
CYLINDER Specify height or [2Point Axis endpoint]:



Step 1

Step 2

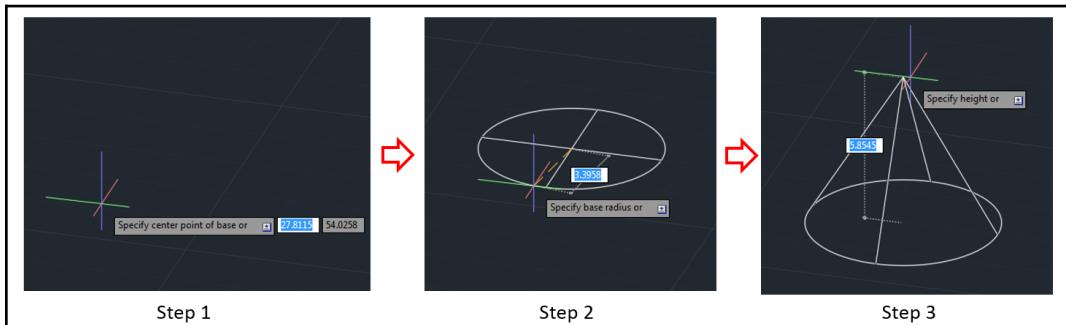
Step 3



Type the command name

3D Basics Location

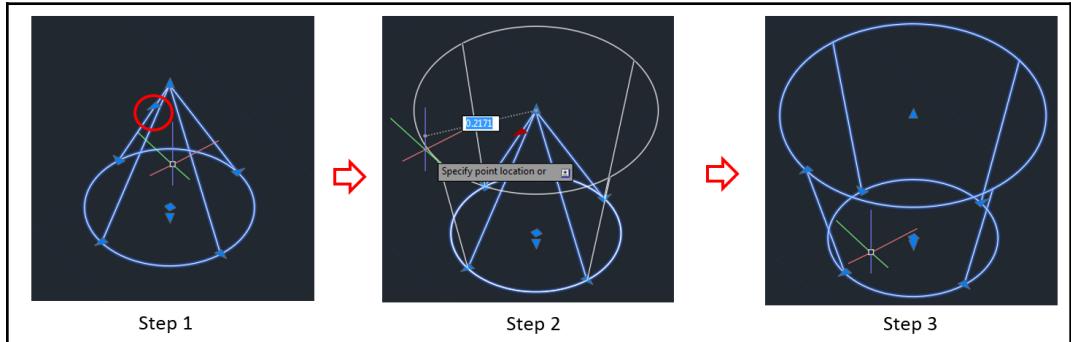
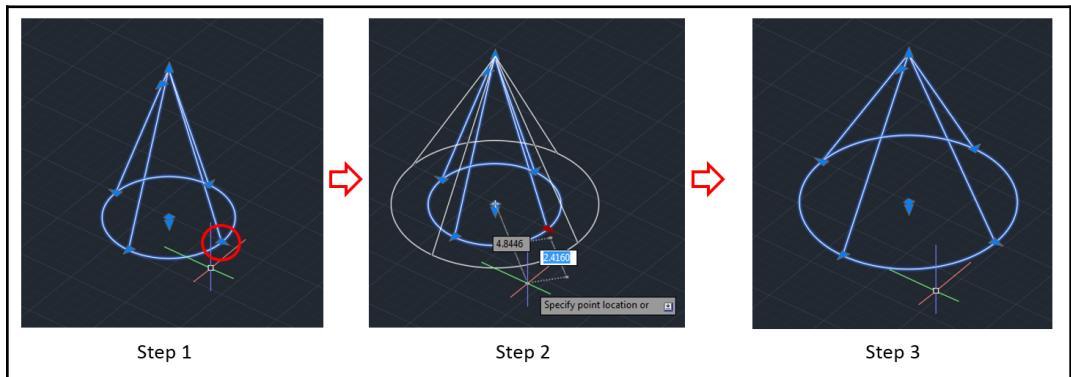
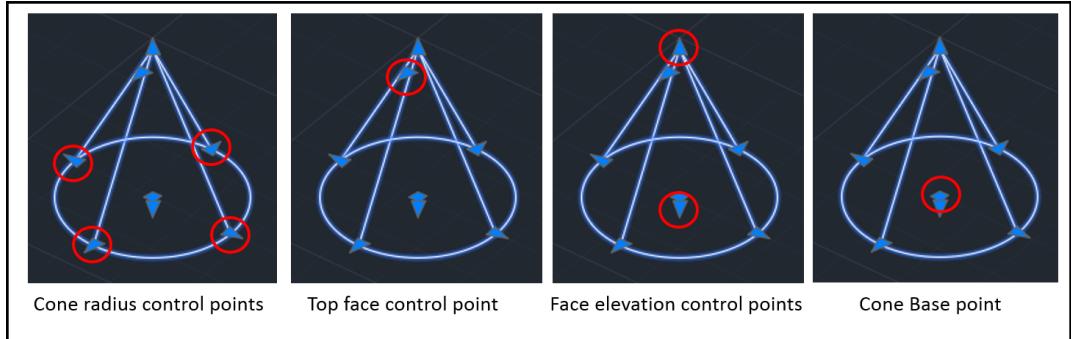
3D Modeling Location

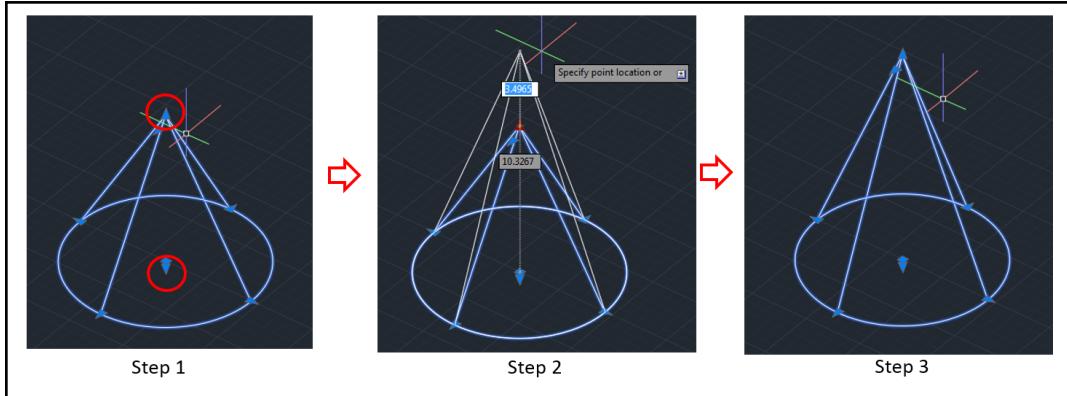


Step 1

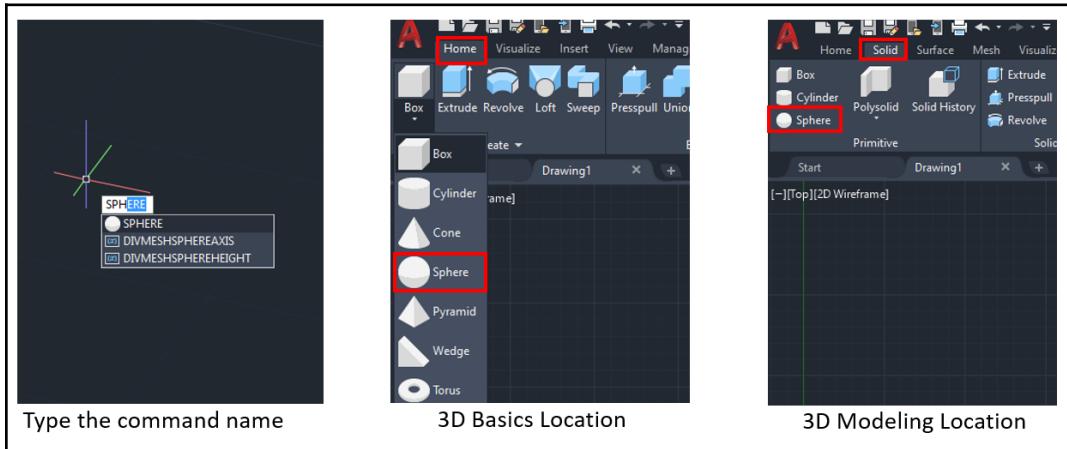
Step 2

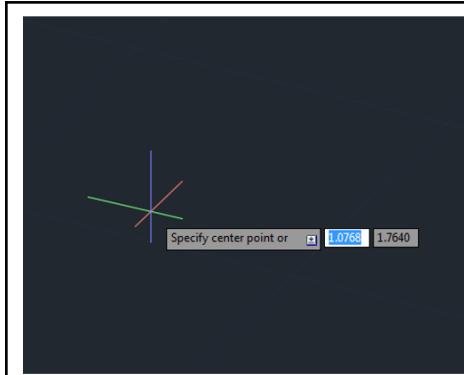
Step 3



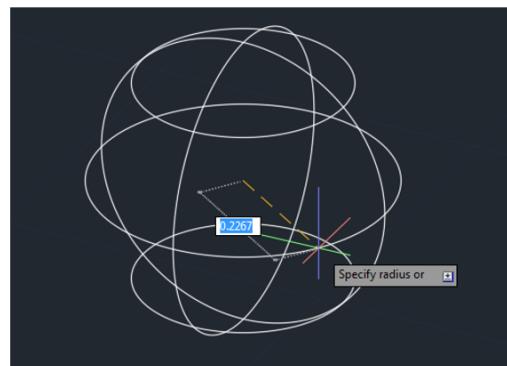


CONE Specify center point of base or [3P 2P Ttr E Elliptical]:





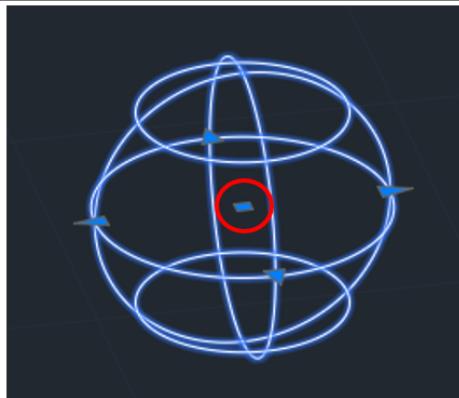
Step 1



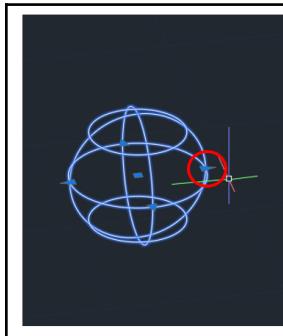
Step 2



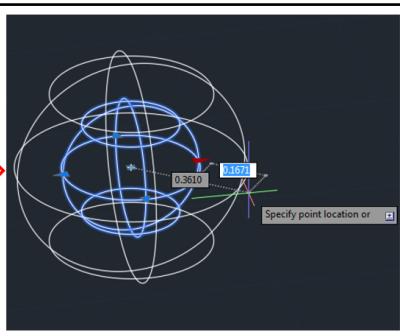
Sphere radius control points



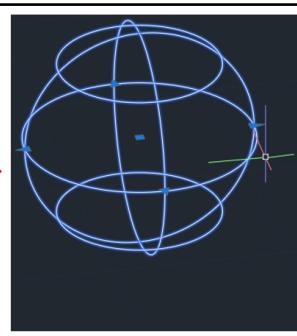
Sphere Base point



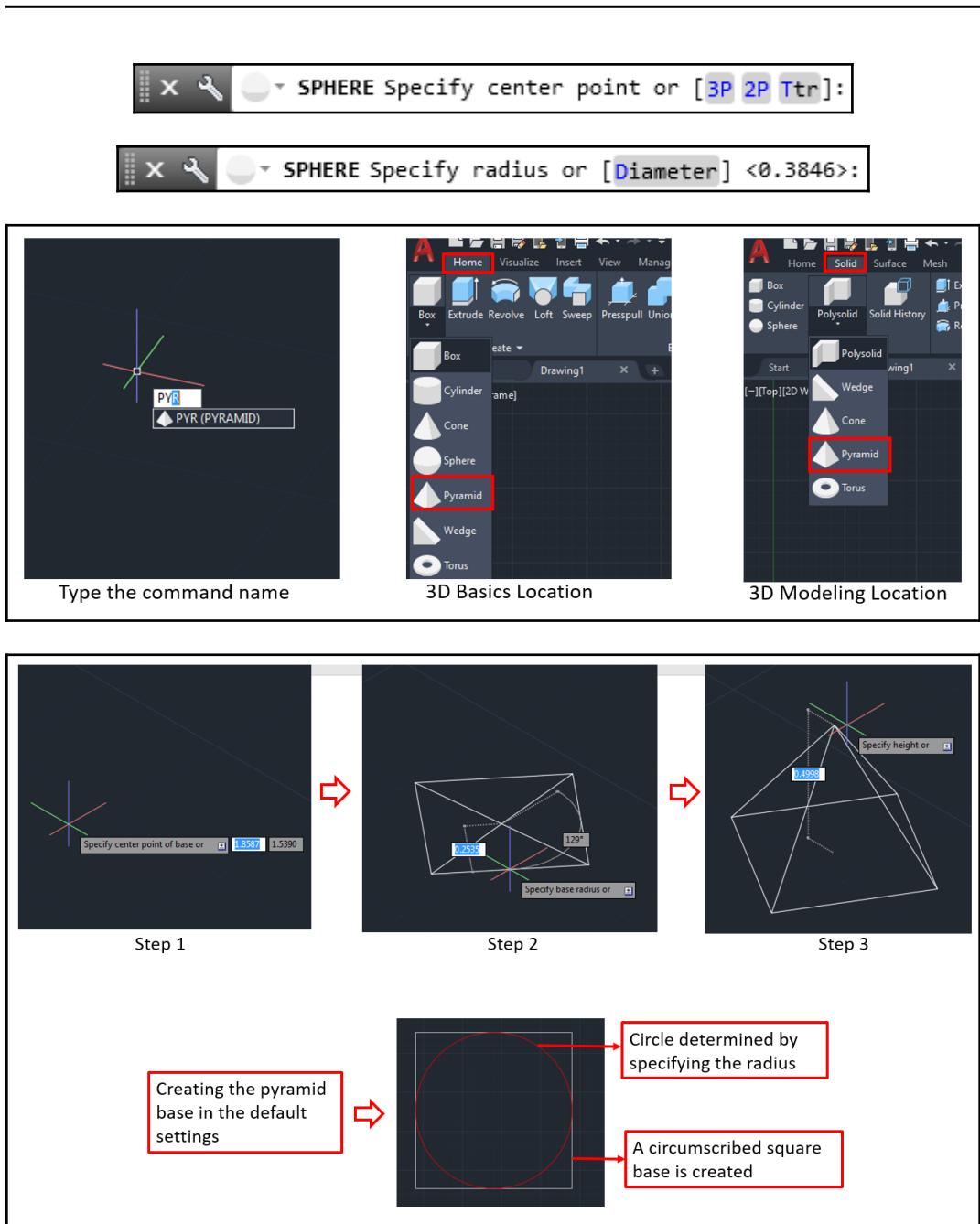
Step 1

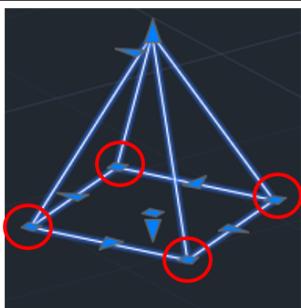


Step 2

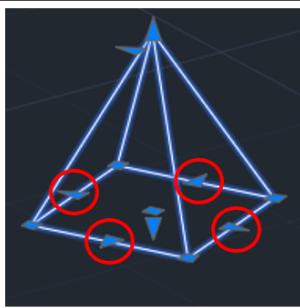


Step 3

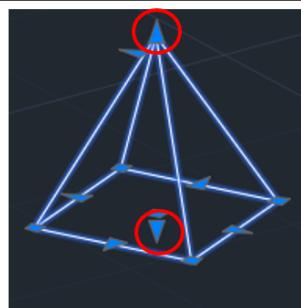




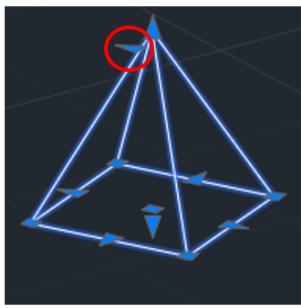
Cone radius control points



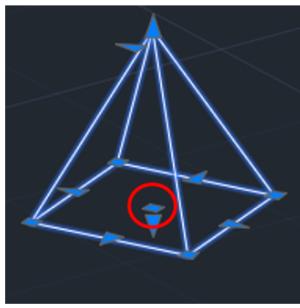
Top face control point



Face elevation control points



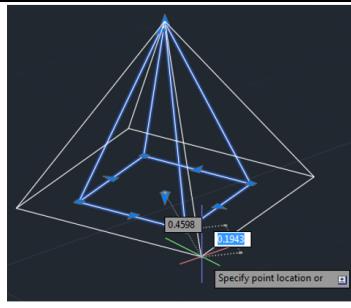
Top face control point



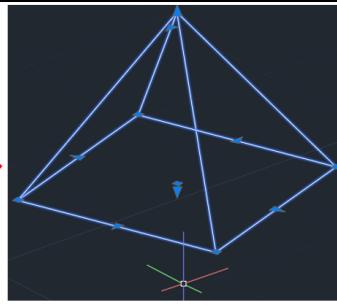
Pyramid Base point



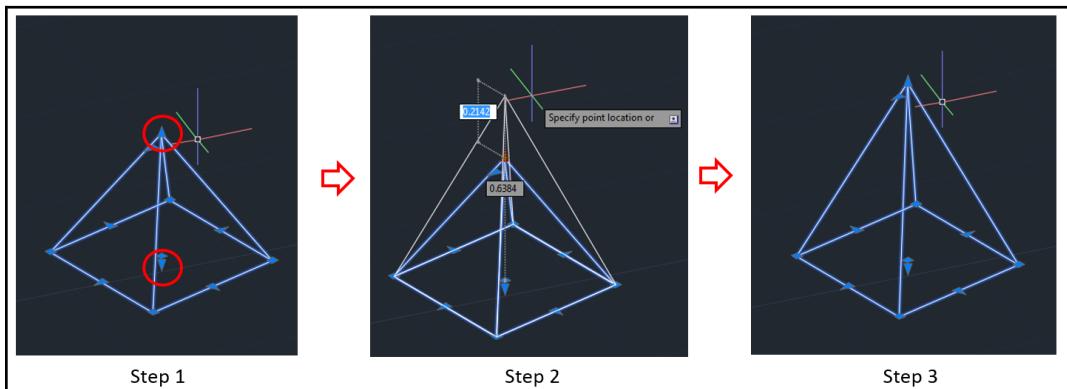
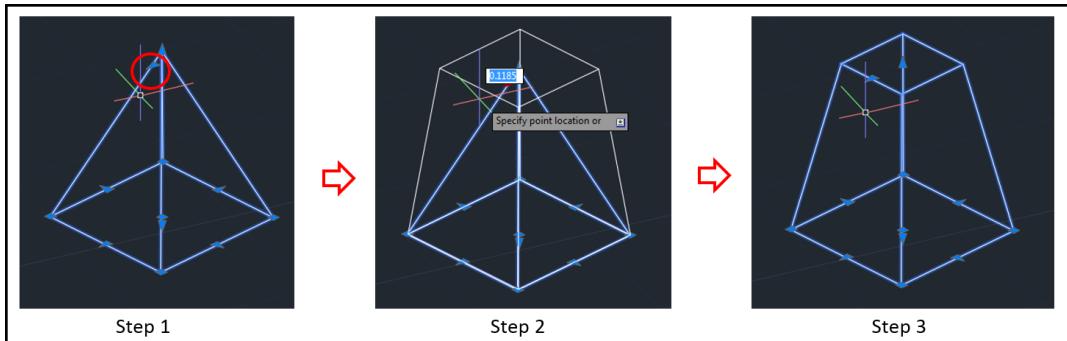
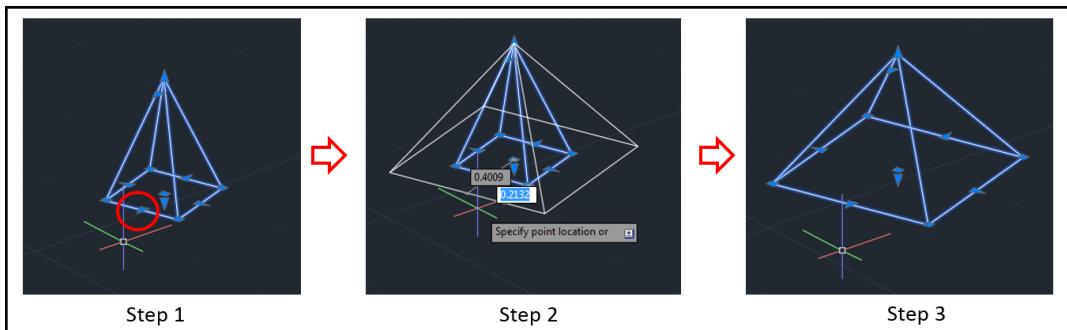
Step 1



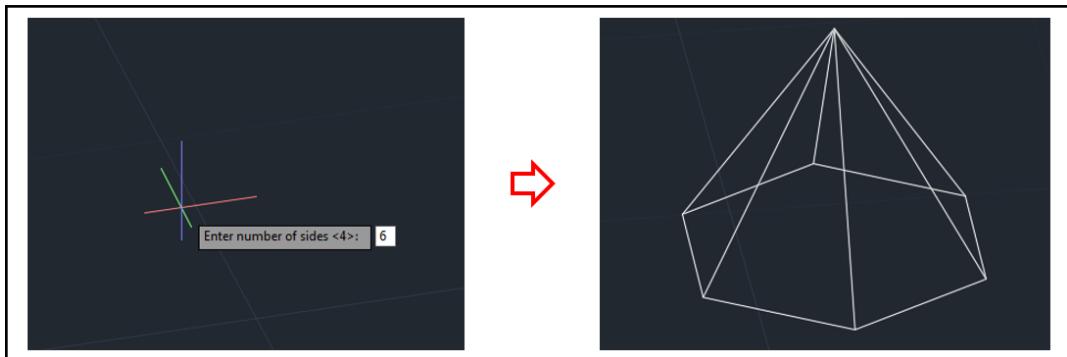
Step 2



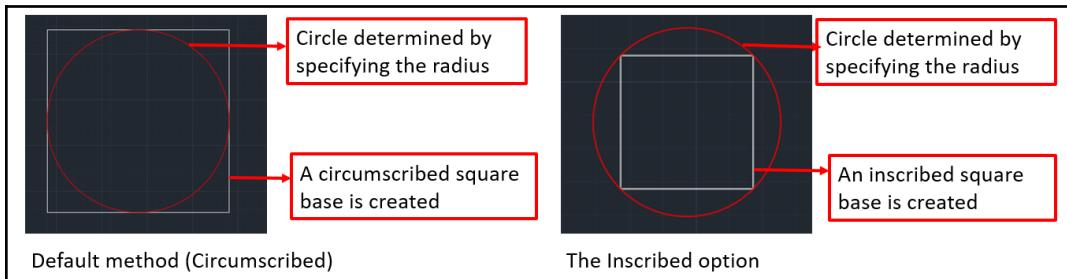
Step 3



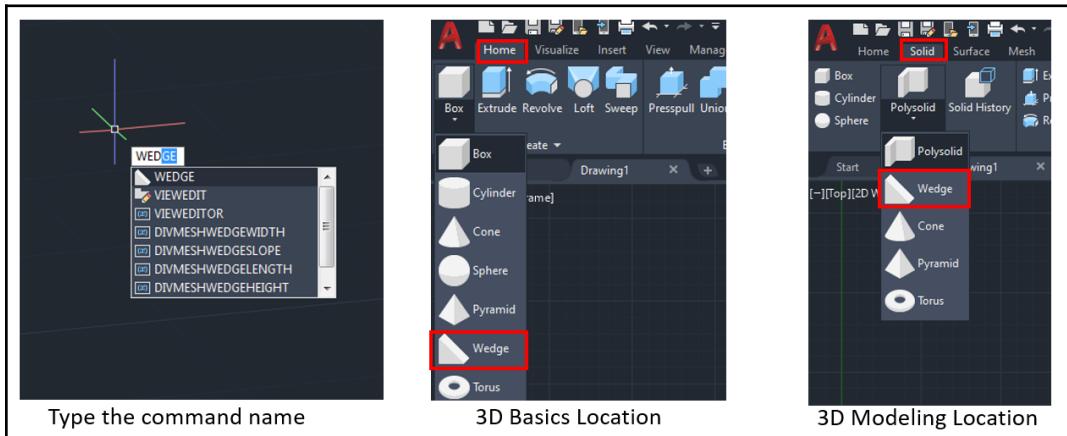
PYRAMID Specify center point of base or [Edge Sides]:

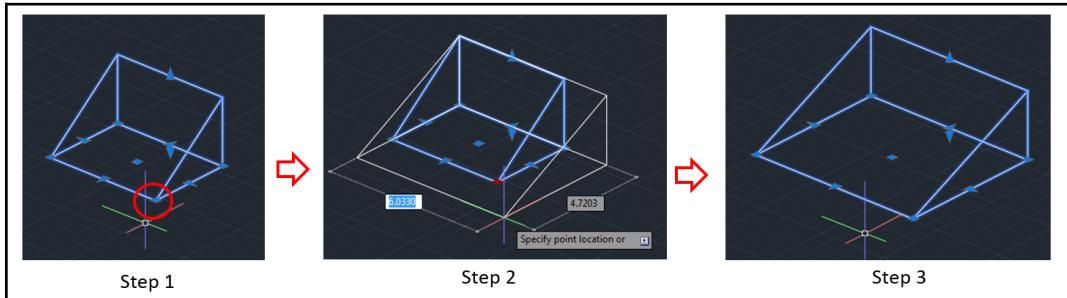
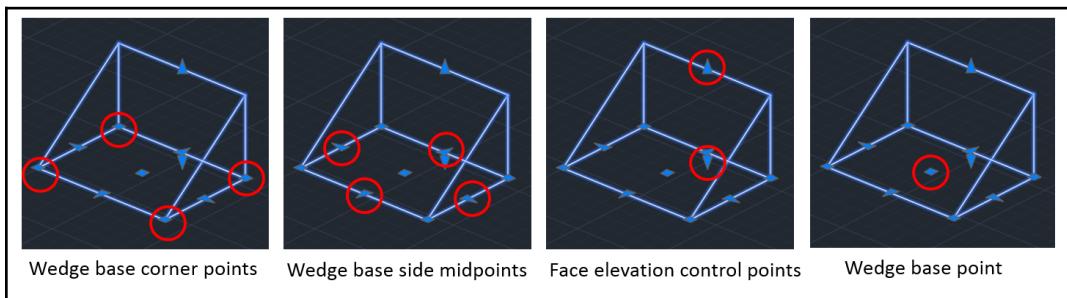
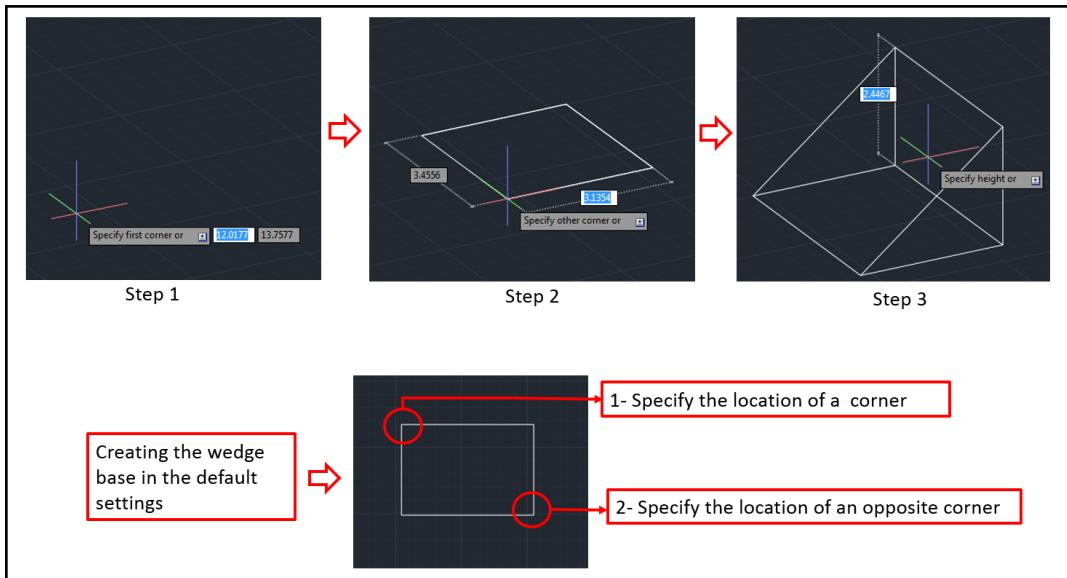


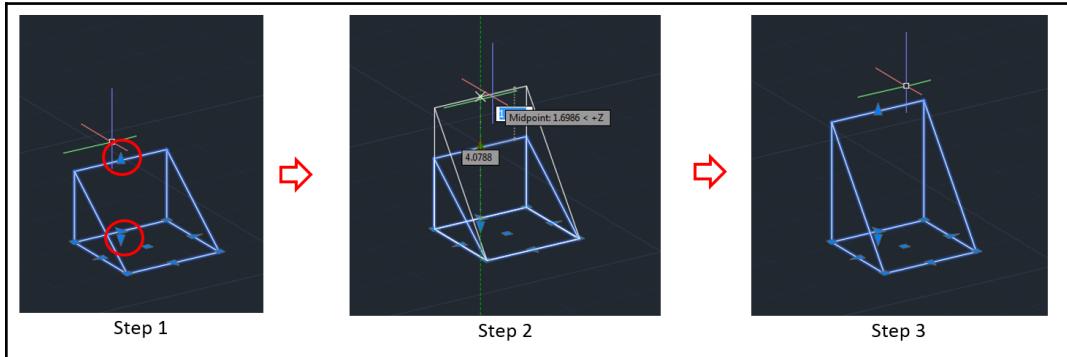
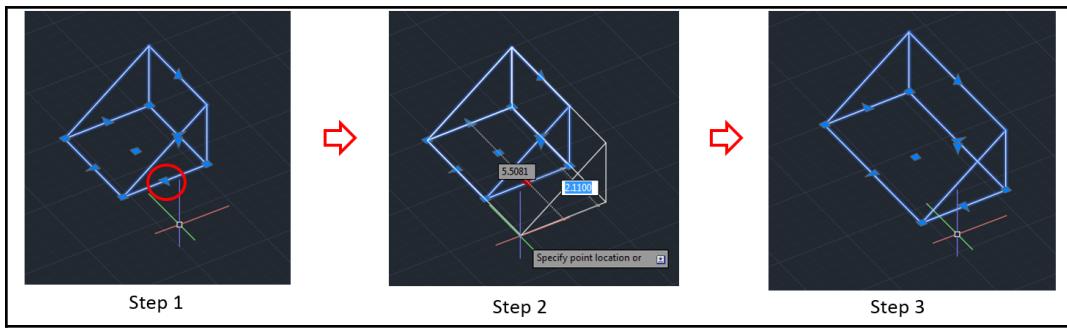
PYRAMID Specify base radius or [Inscribed] <0.3784>:



PYRAMID Specify height or [2Point Axis endpoint Top radius] <0.4661>:



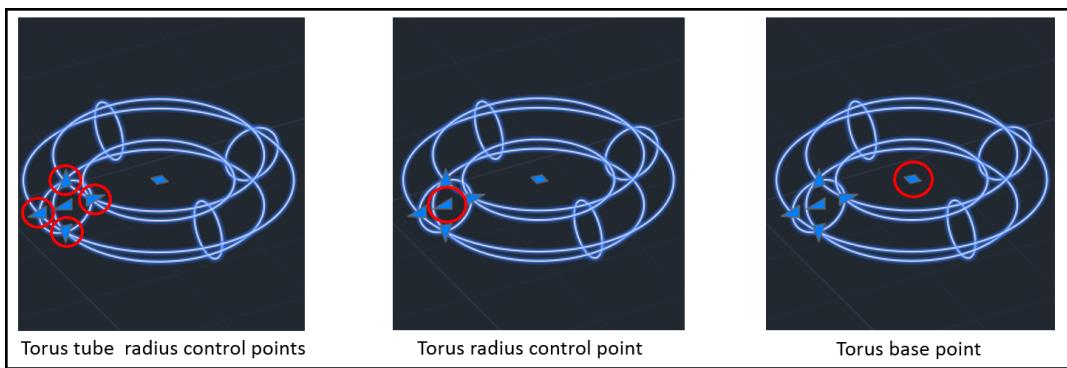
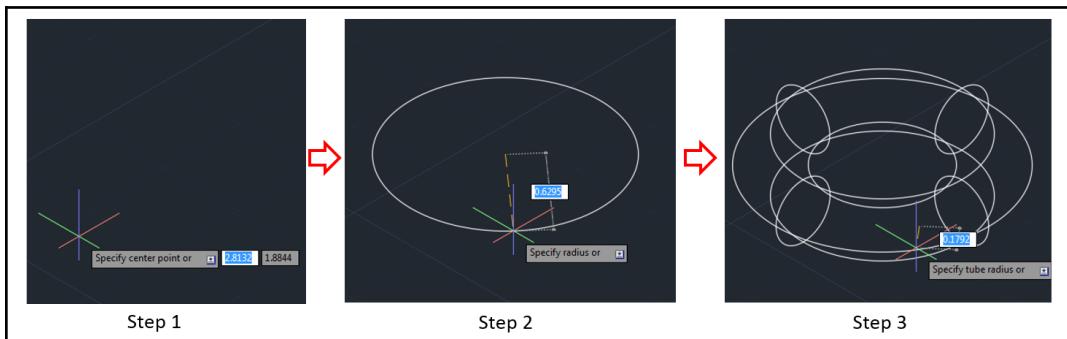
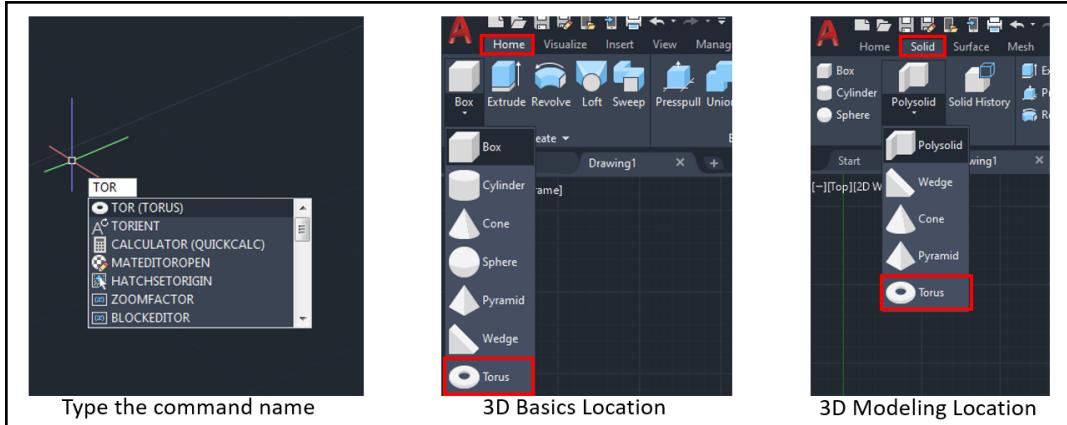


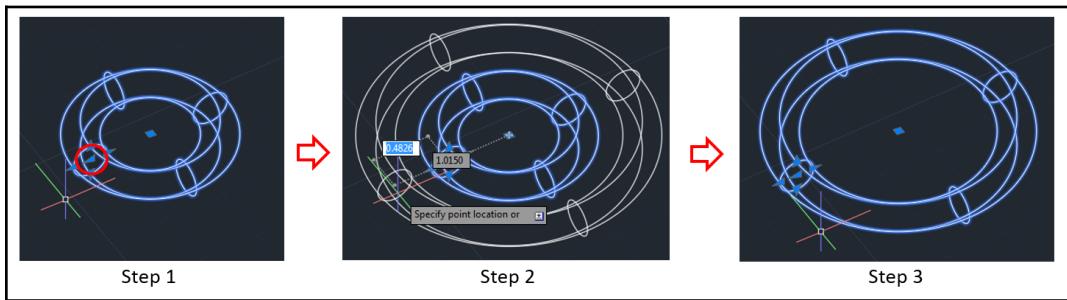
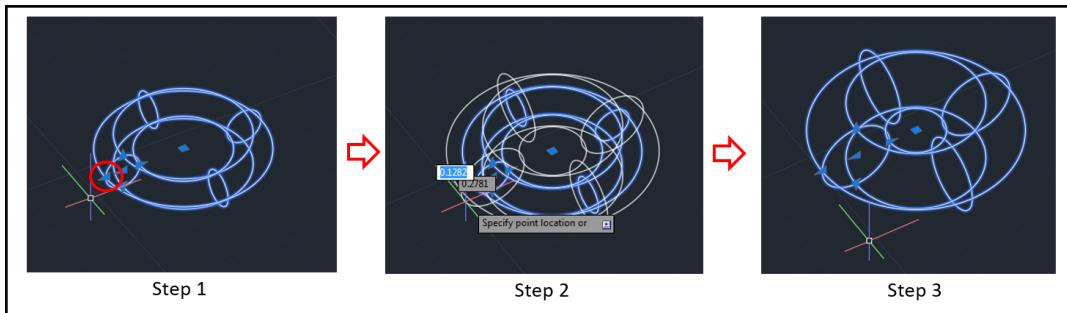


WEDGE Specify first corner or [Center]:

WEDGE Specify other corner or [Cube Length]:

WEDGE Specify height or [2Point] <0.9718>:

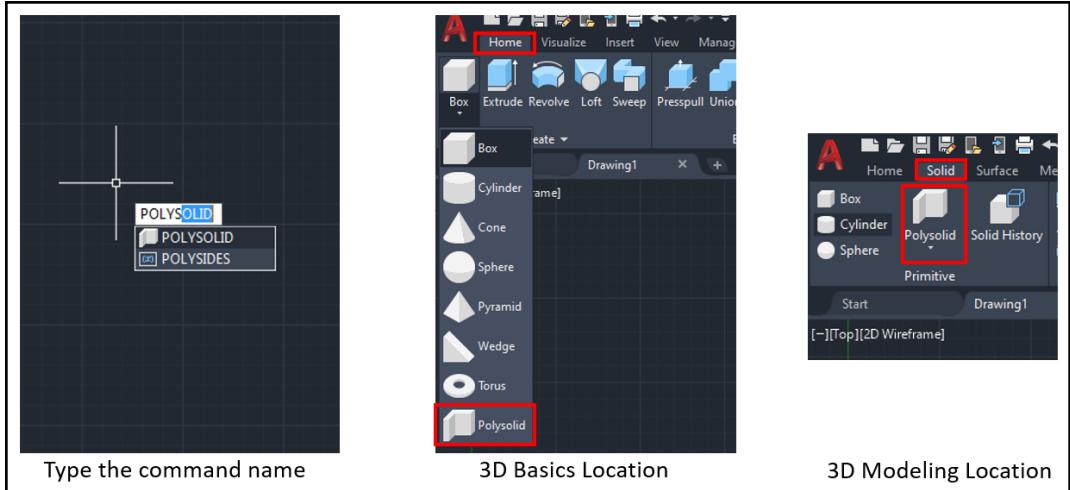




⋮ x 🔎 ⌂ TORUS Specify center point or [3P 2P Ttr]:

⋮ x 🔎 ⌂ TORUS Specify radius or [Diameter] <0.5325>:

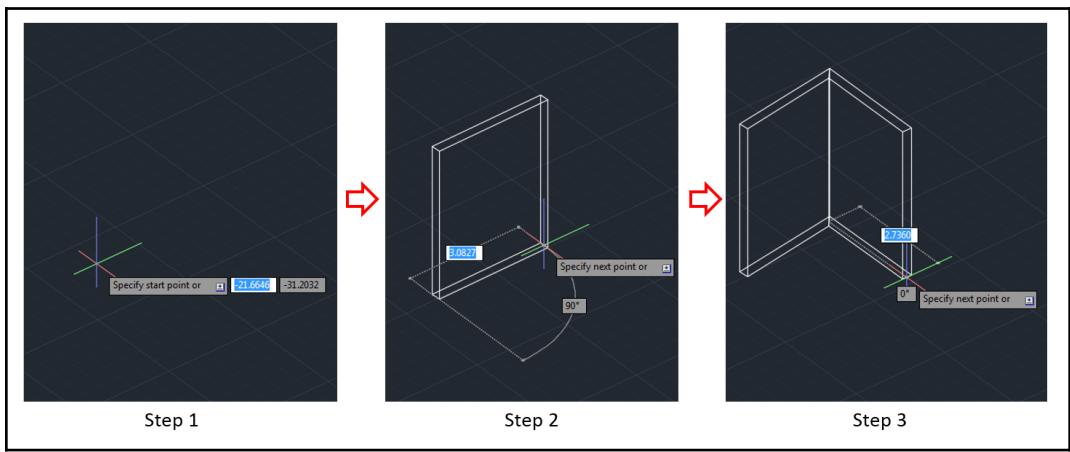
⋮ x 🔎 ⌂ TORUS Specify tube radius or [2Point Diameter] <0.1609>:

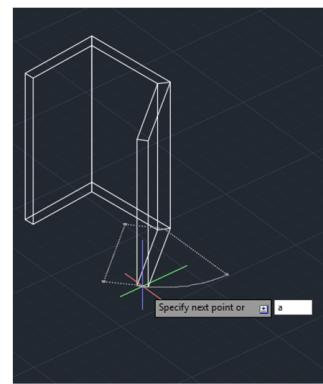


Type the command name

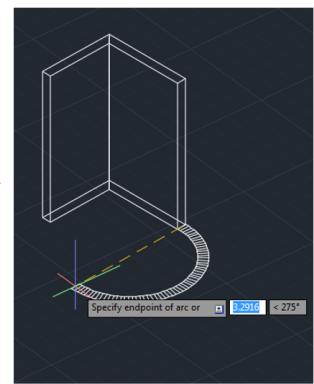
3D Basics Location

3D Modeling Location

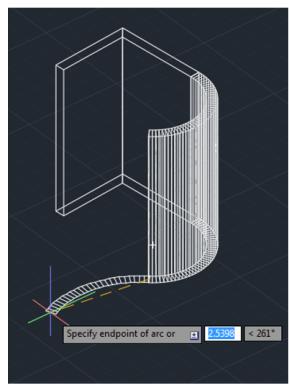




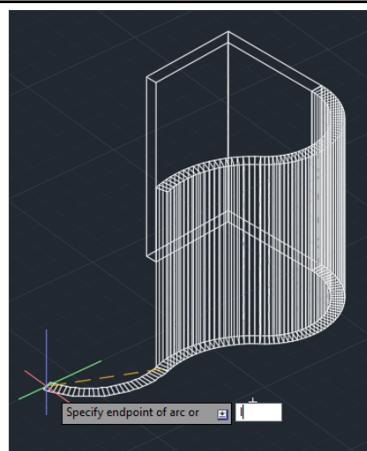
Step 4



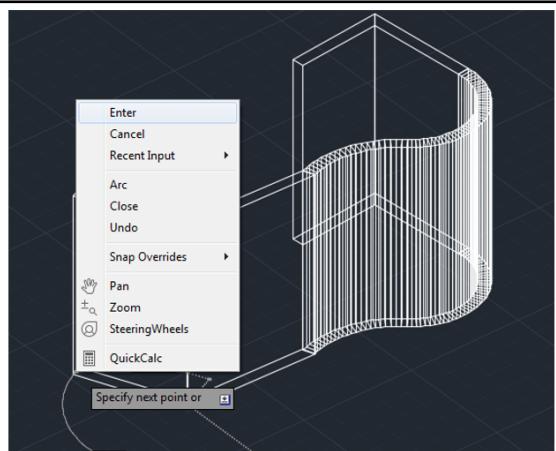
Step 5

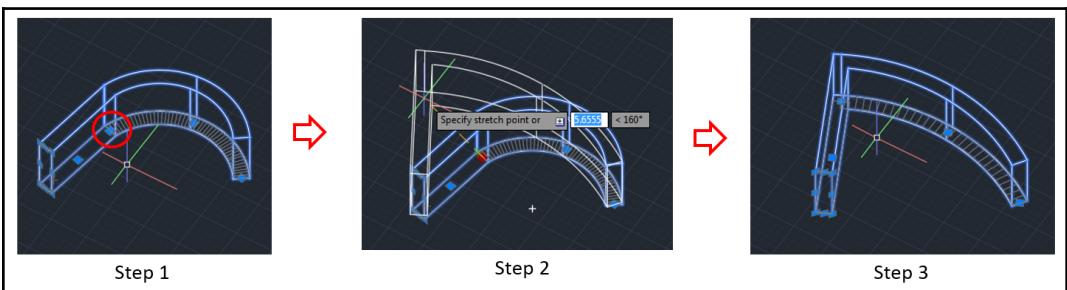
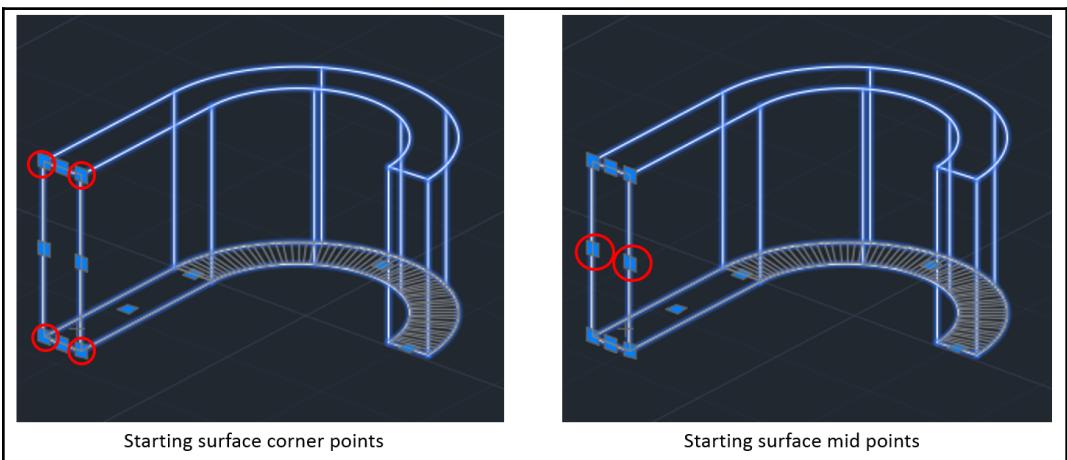
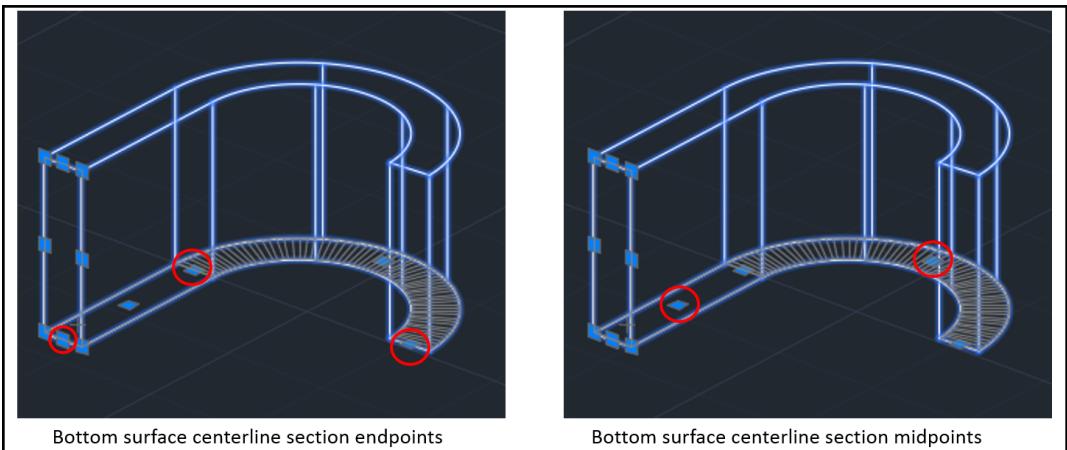


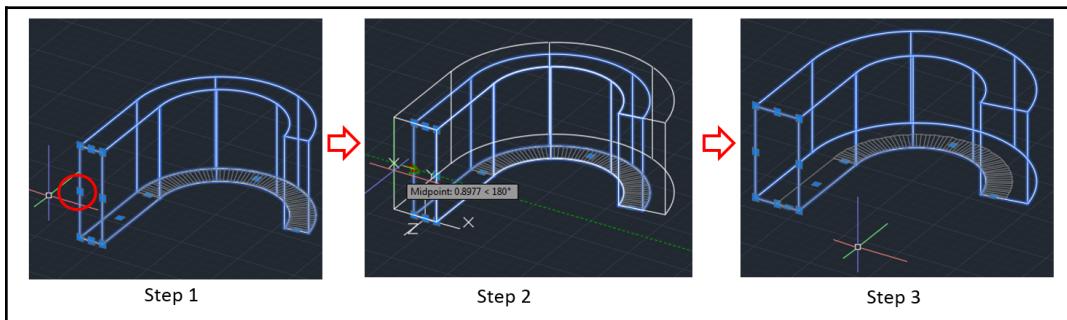
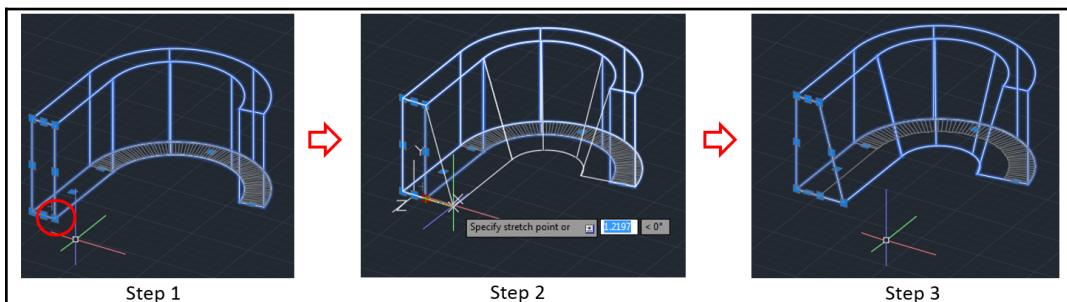
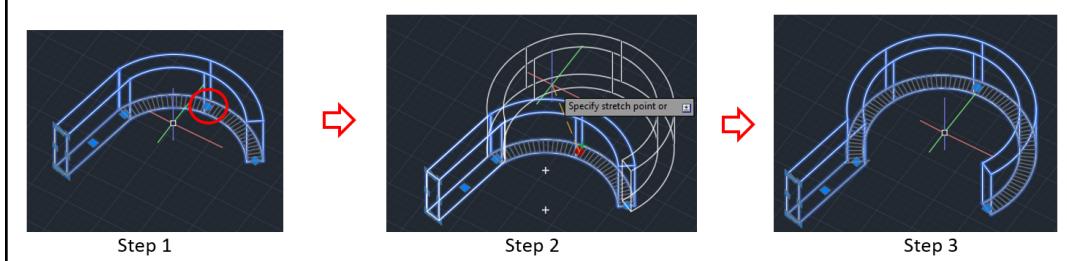
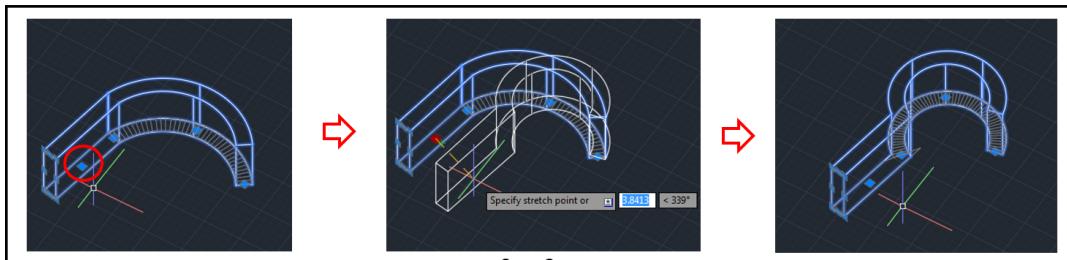
Step 6



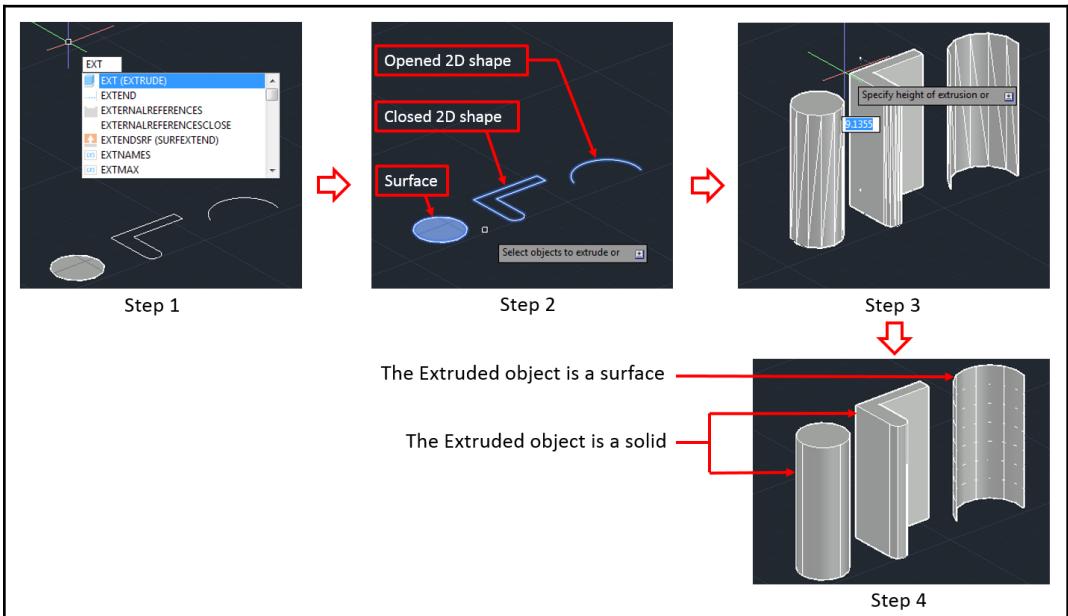
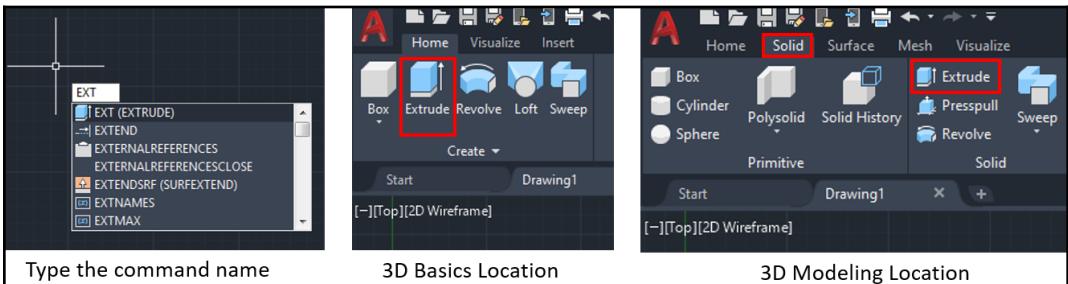
Step 7

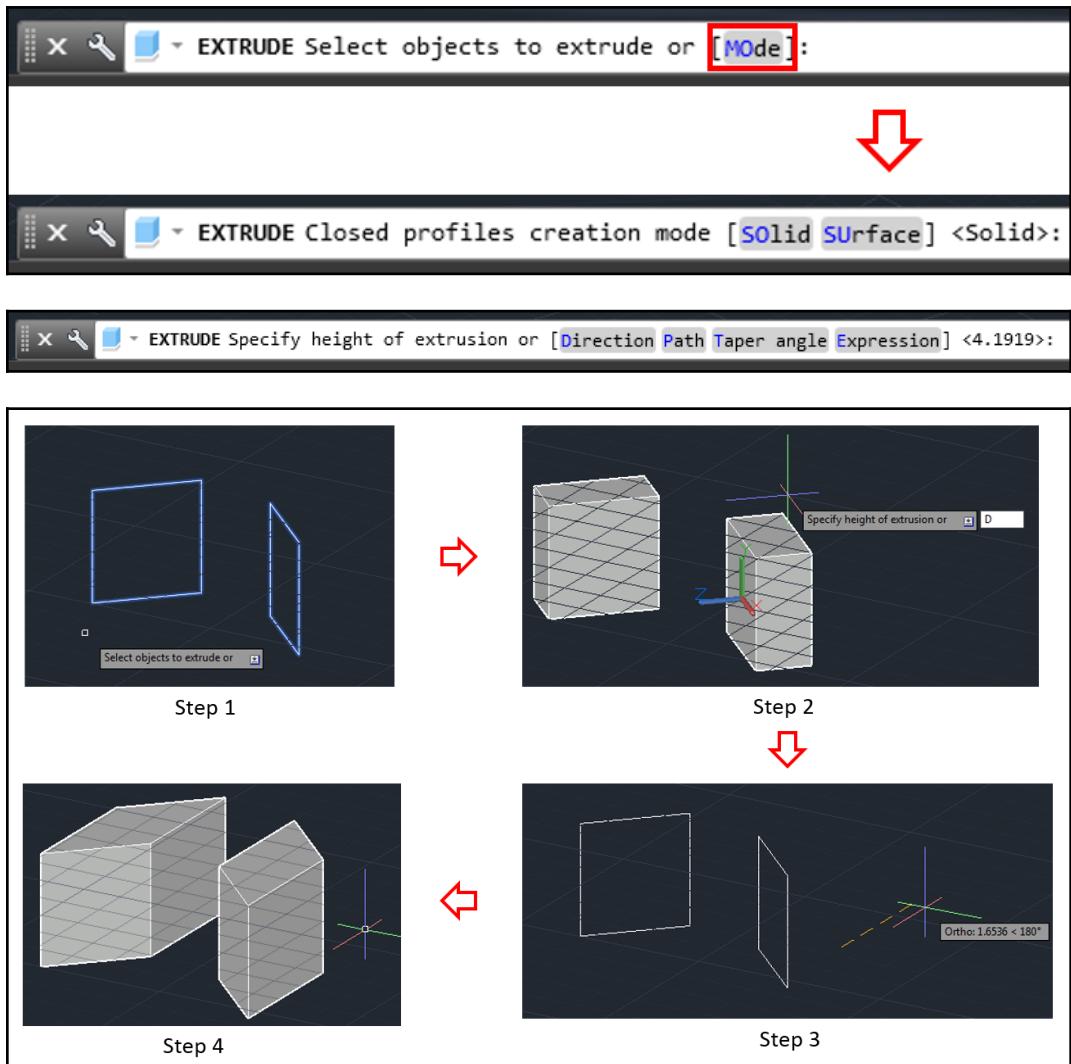


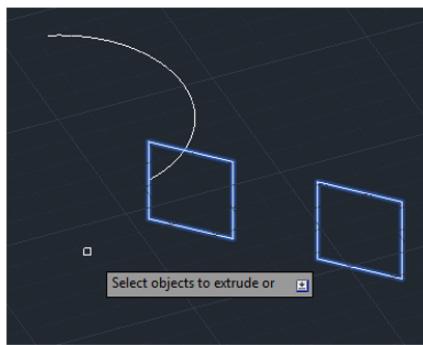




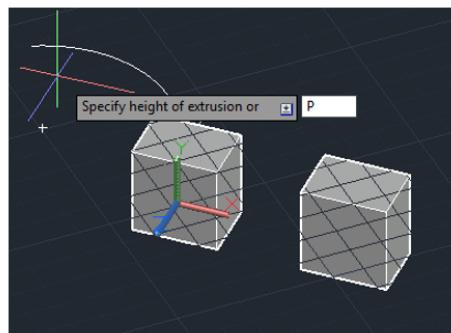
Chapter 12: Conversion between 2D and 3D



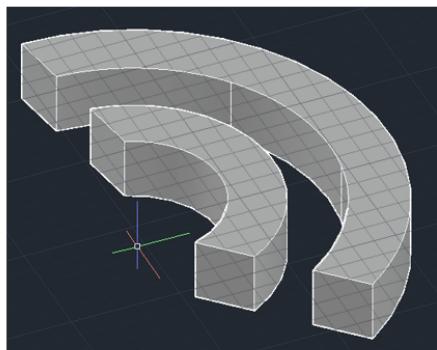




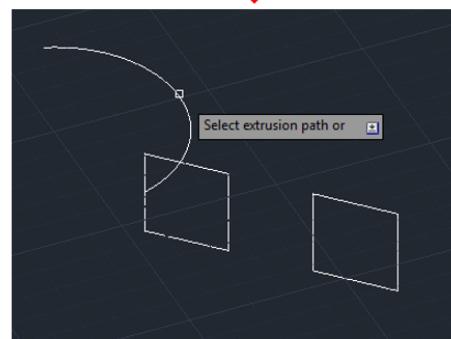
Step 1



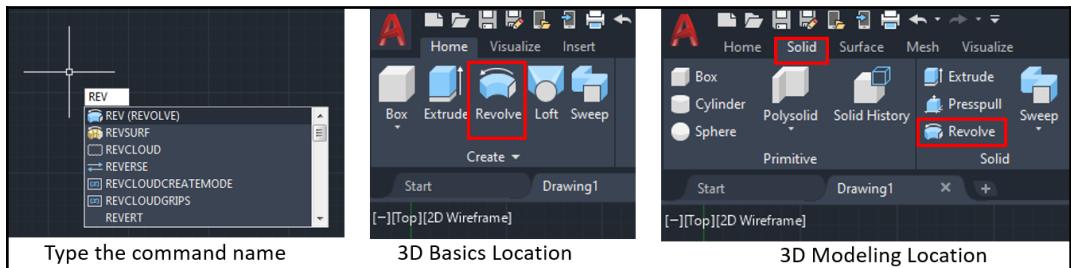
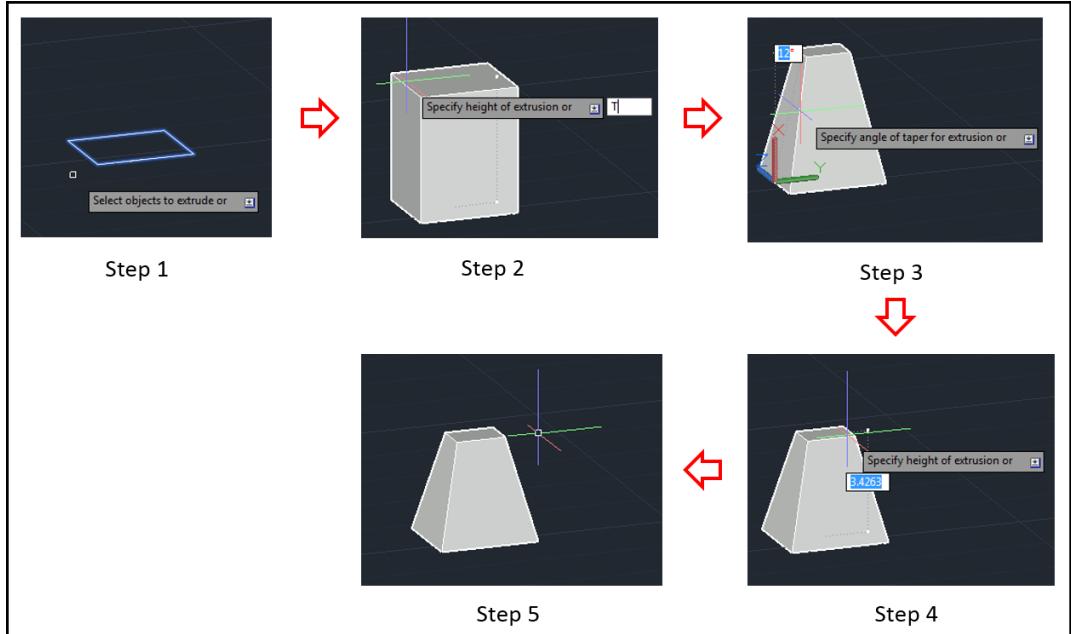
Step 2

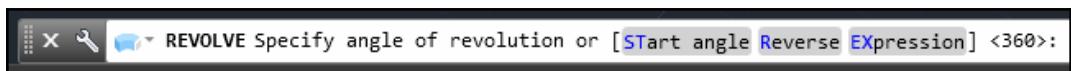
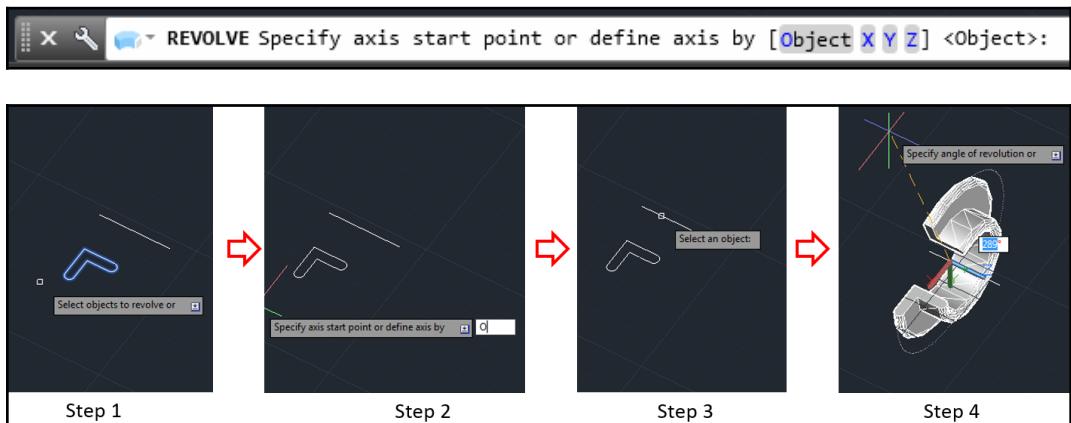
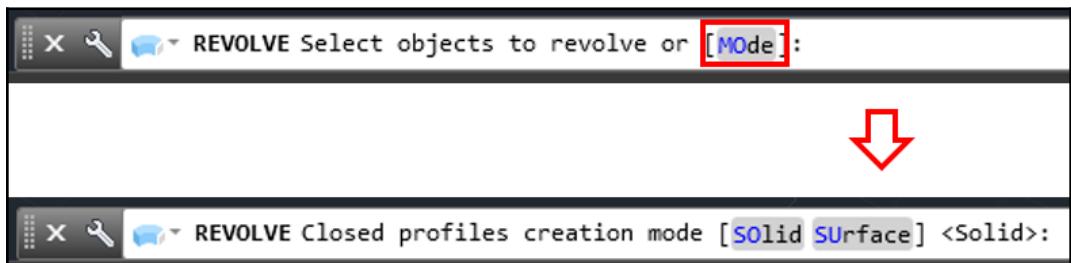
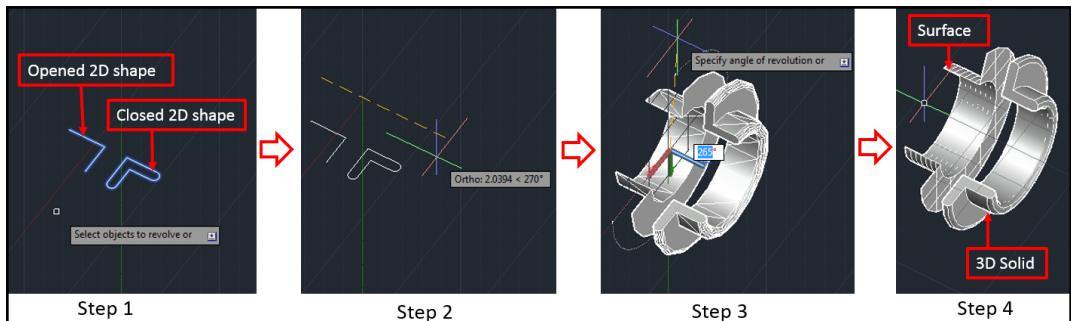


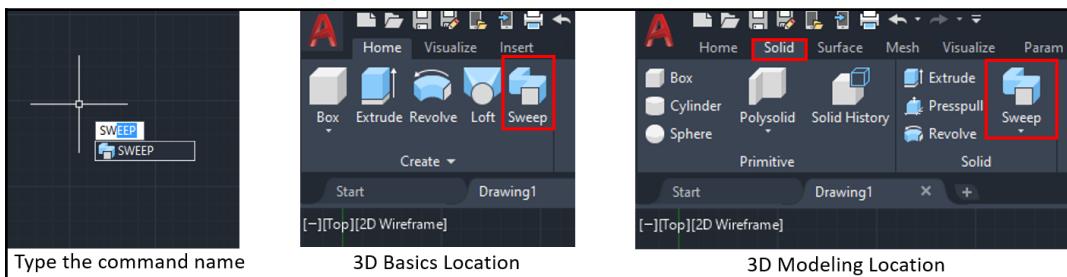
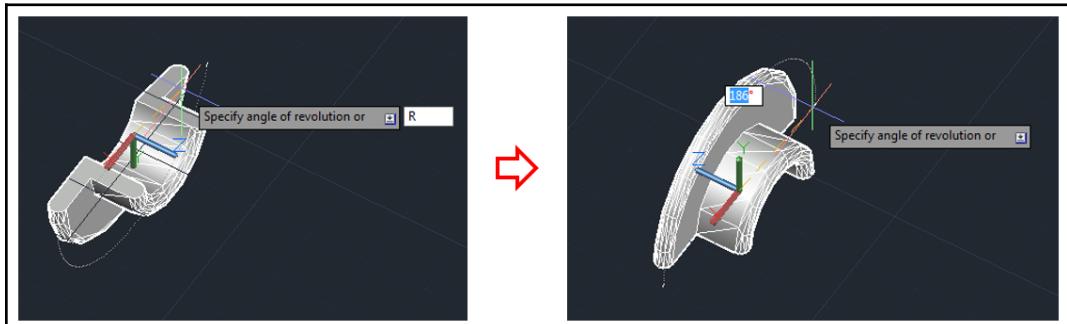
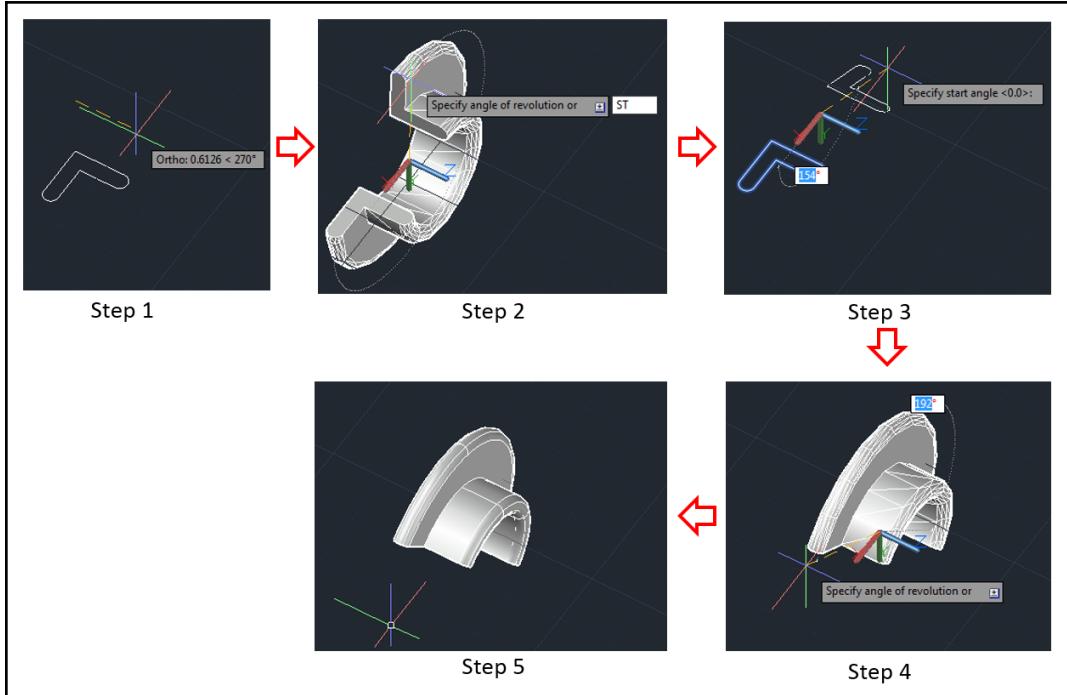
Step 4

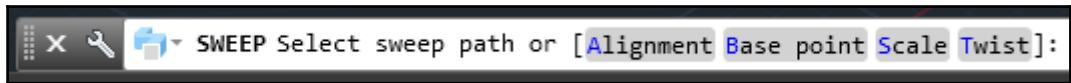
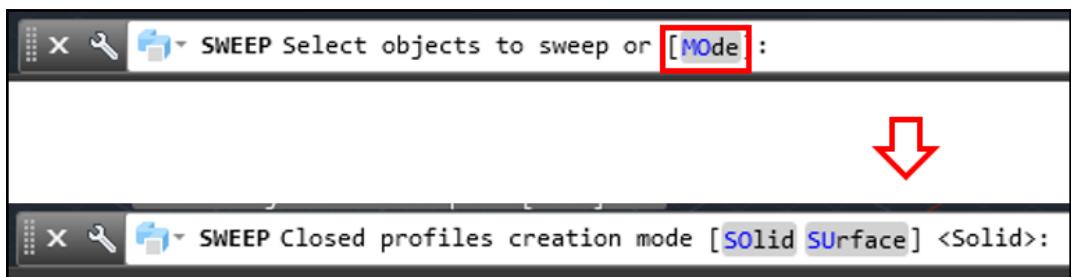
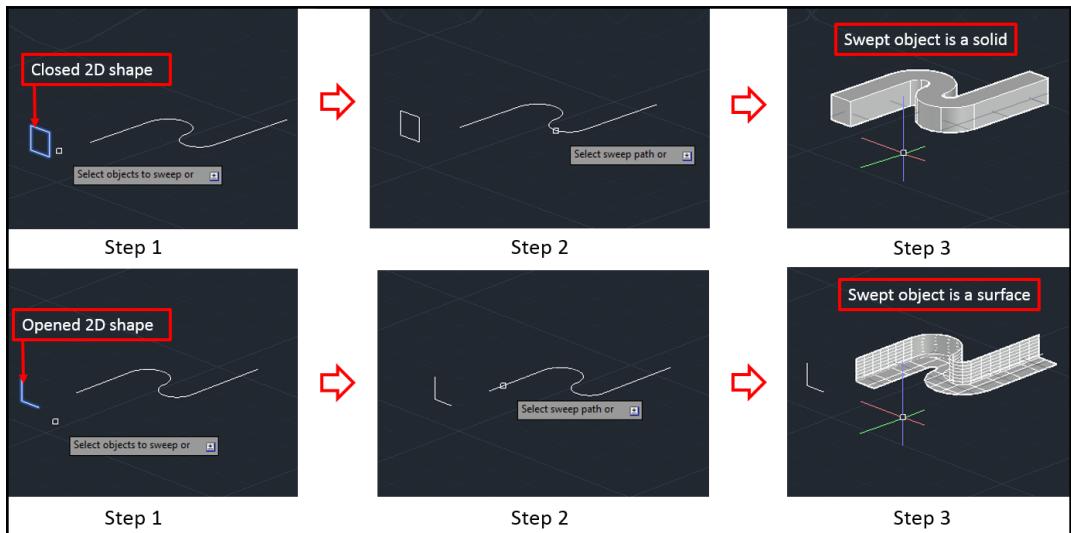


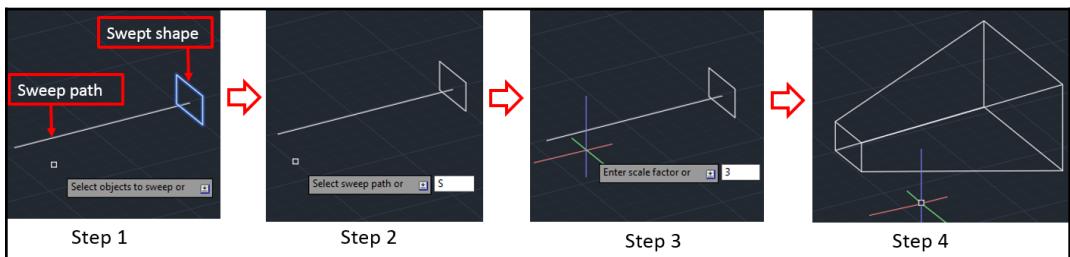
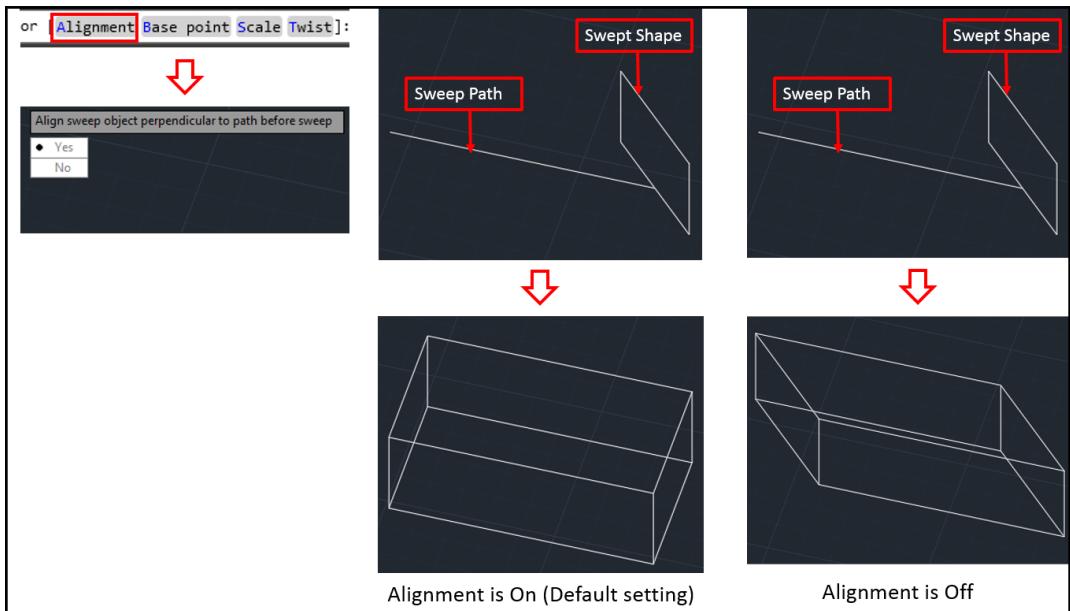
Step 3

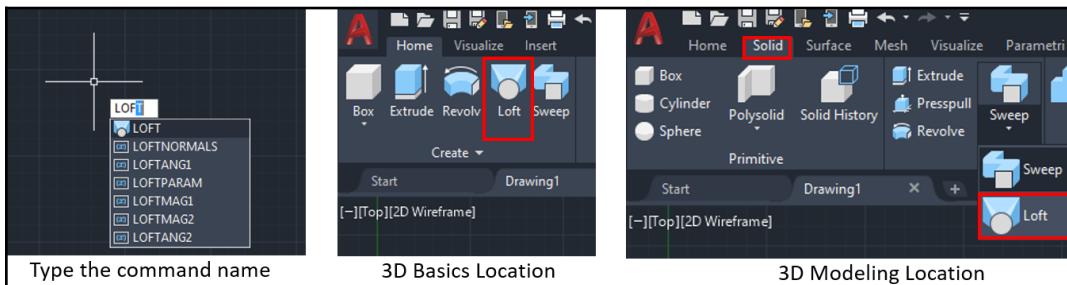
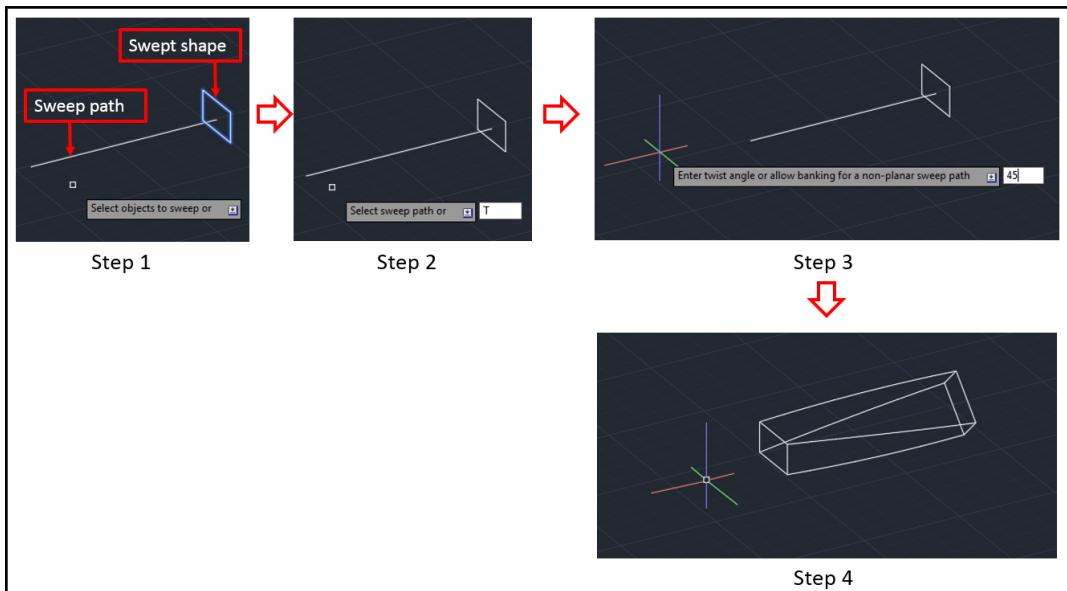


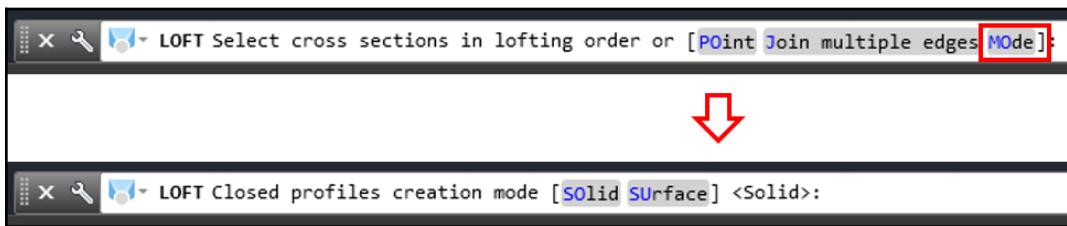
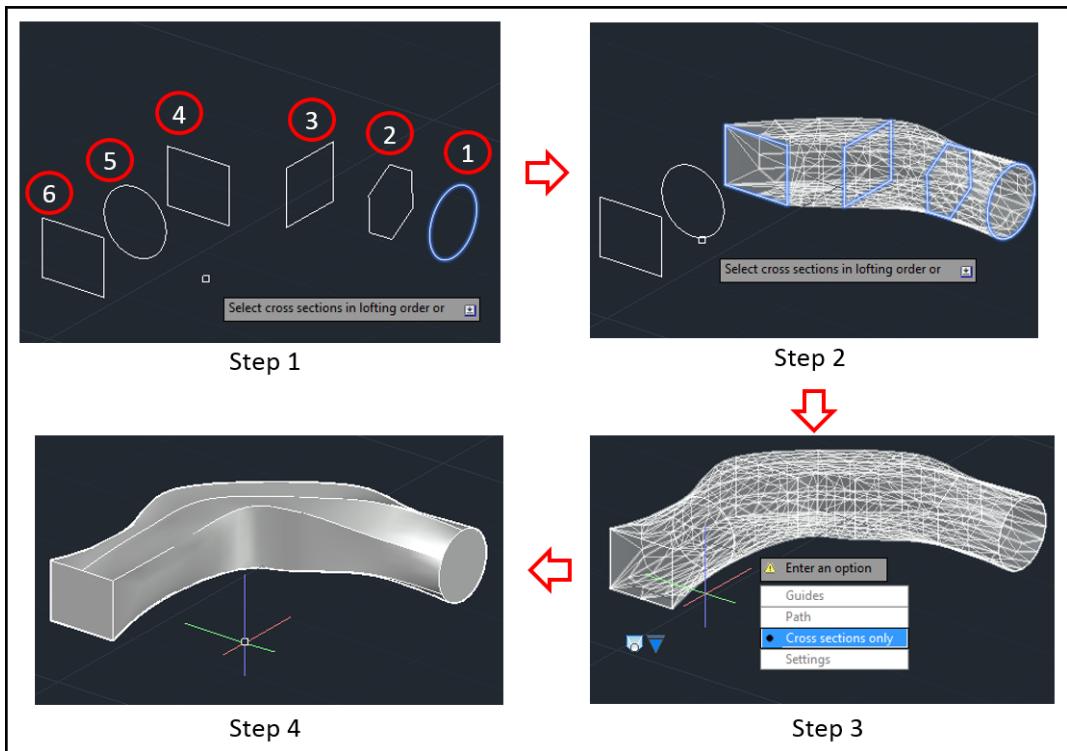


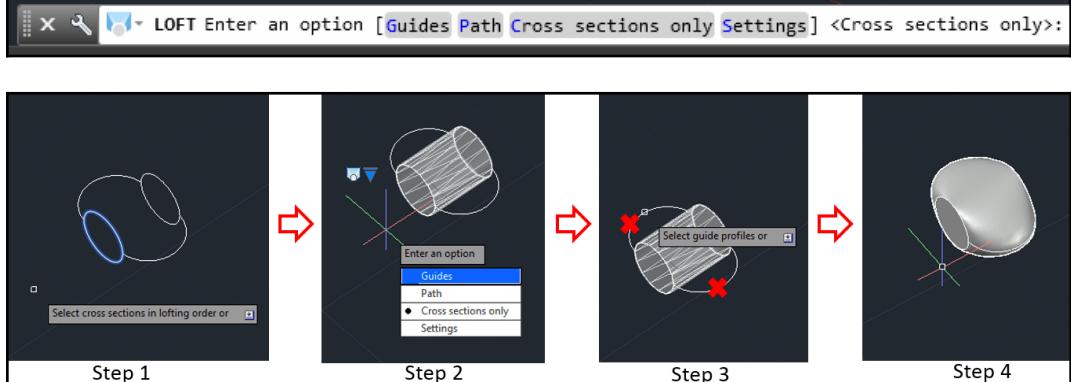
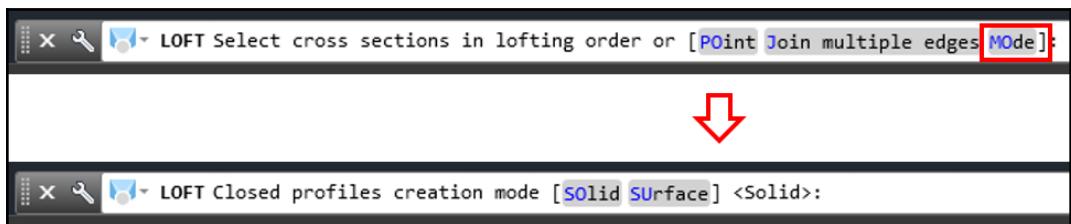
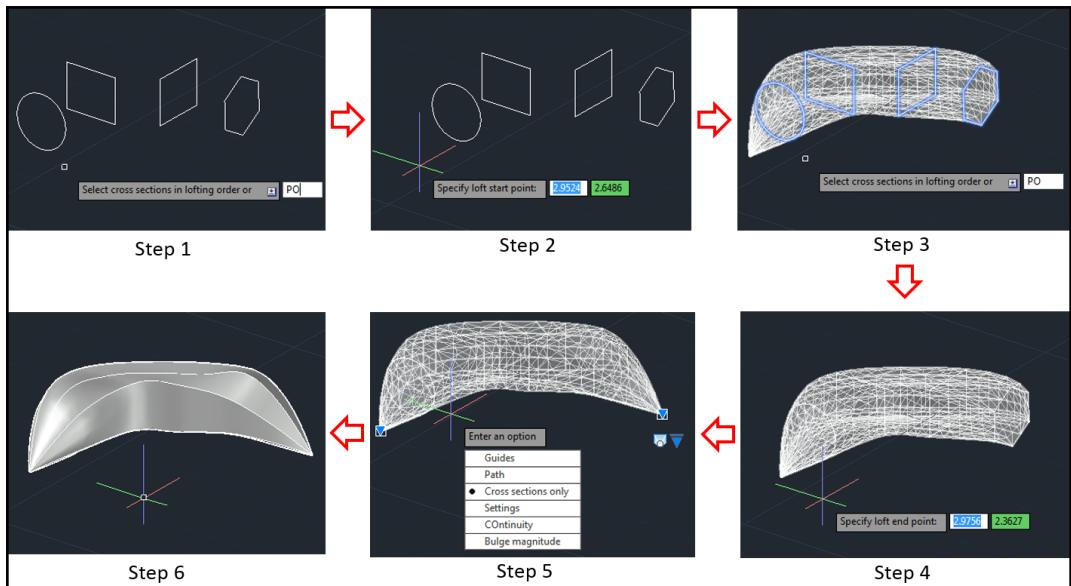


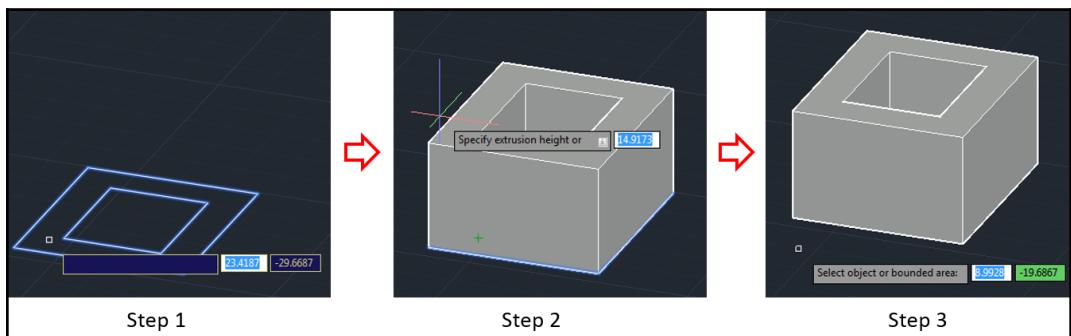
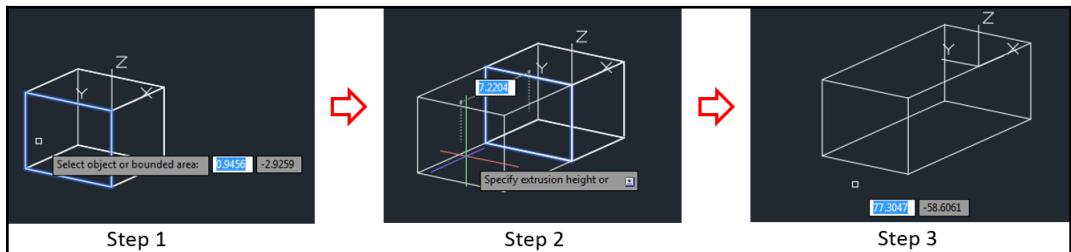
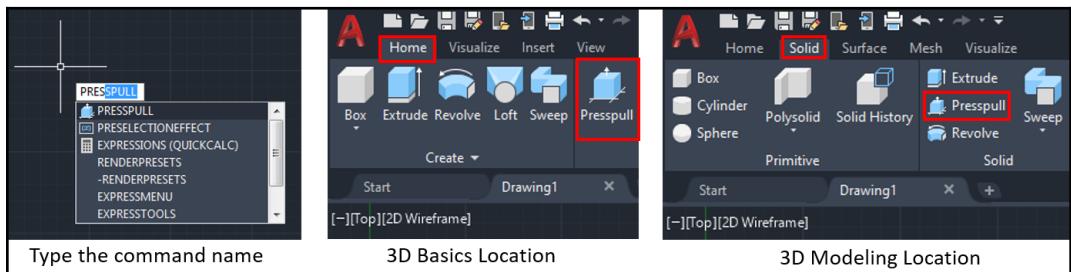
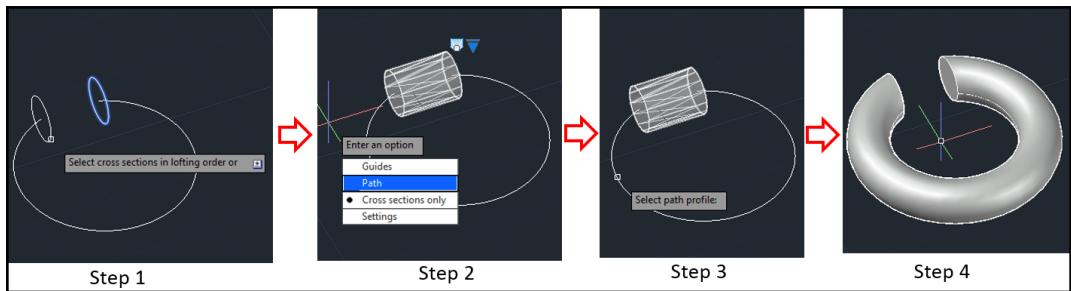


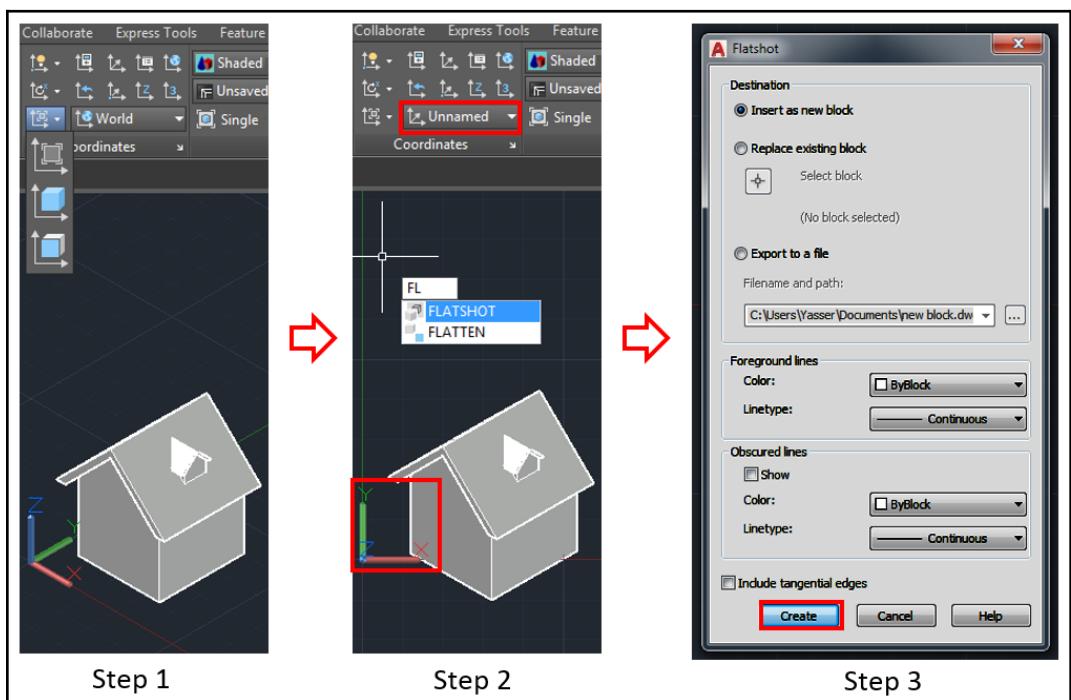
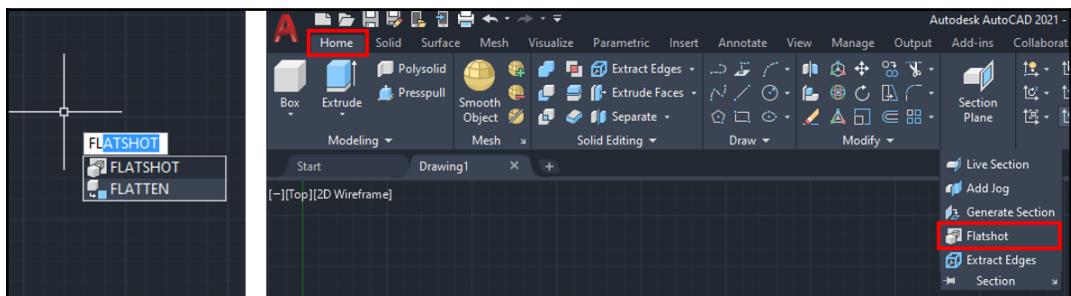
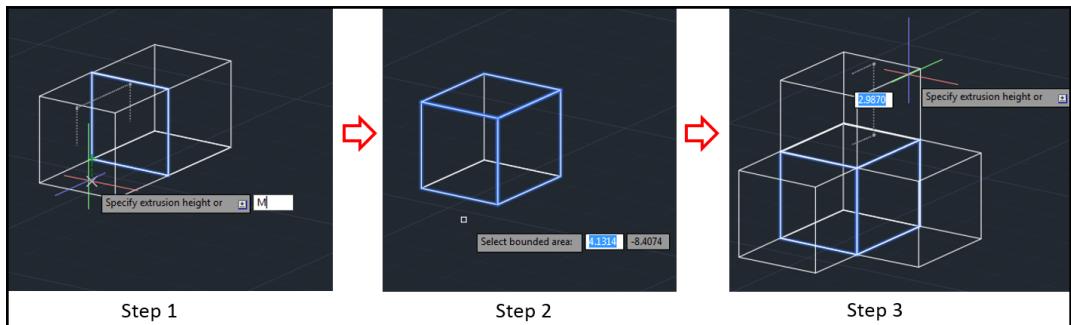


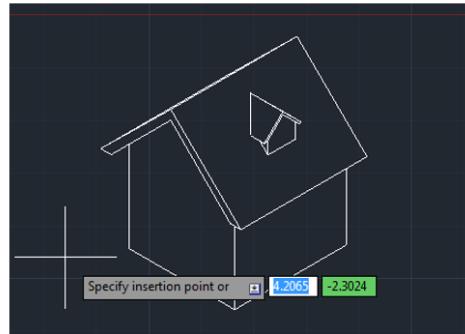




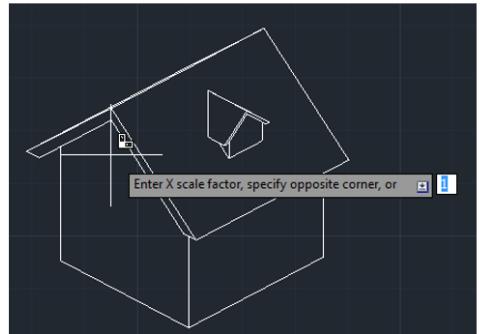




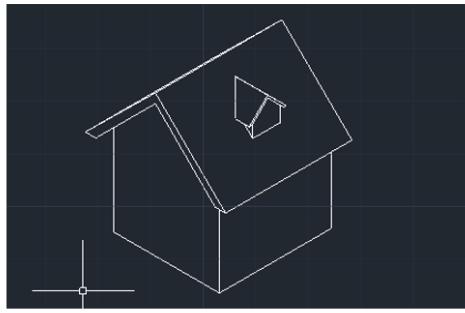




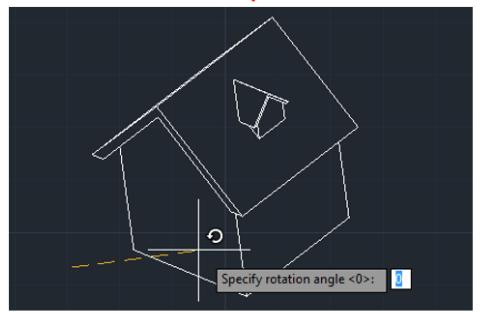
Step 4



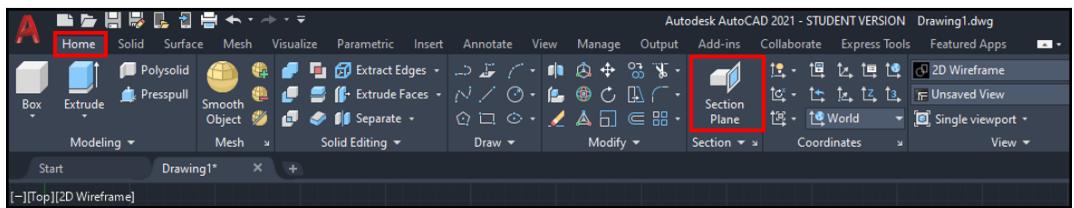
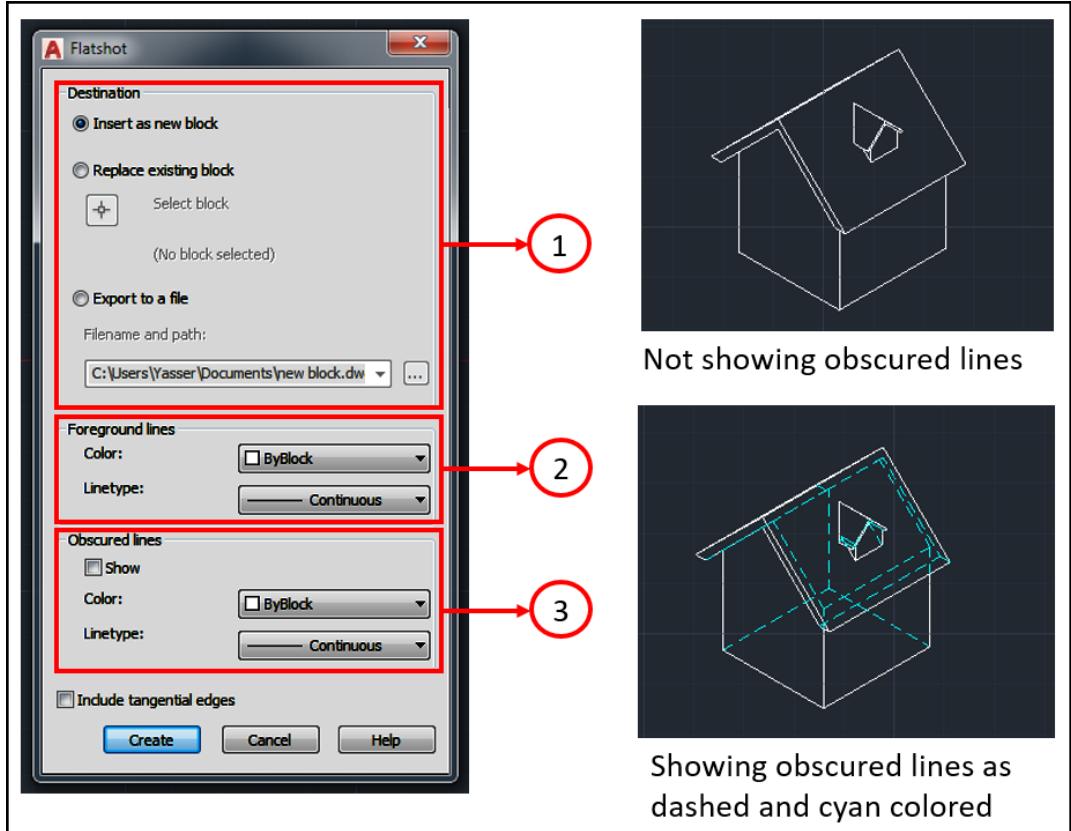
Step 5

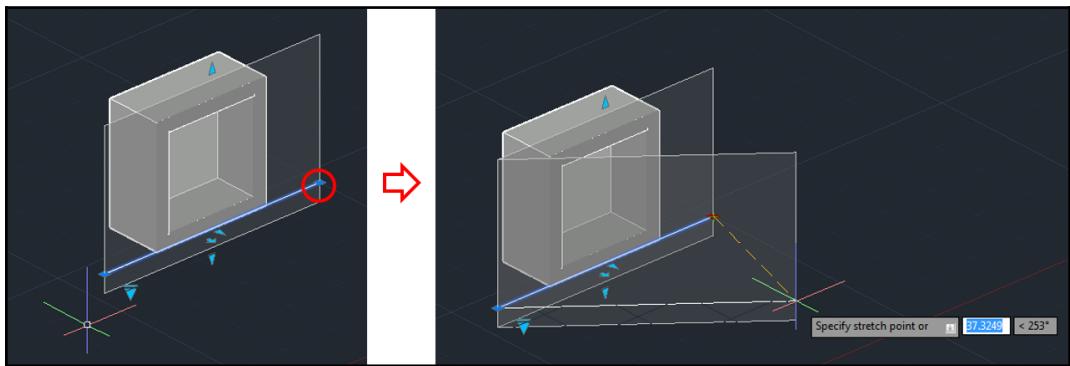
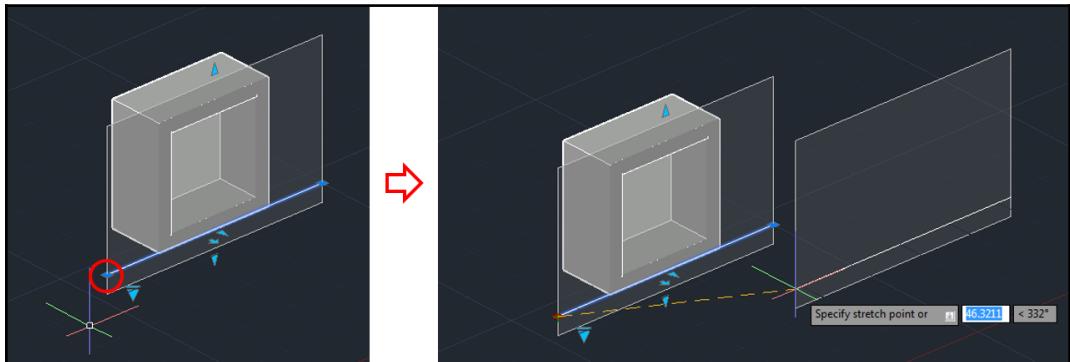
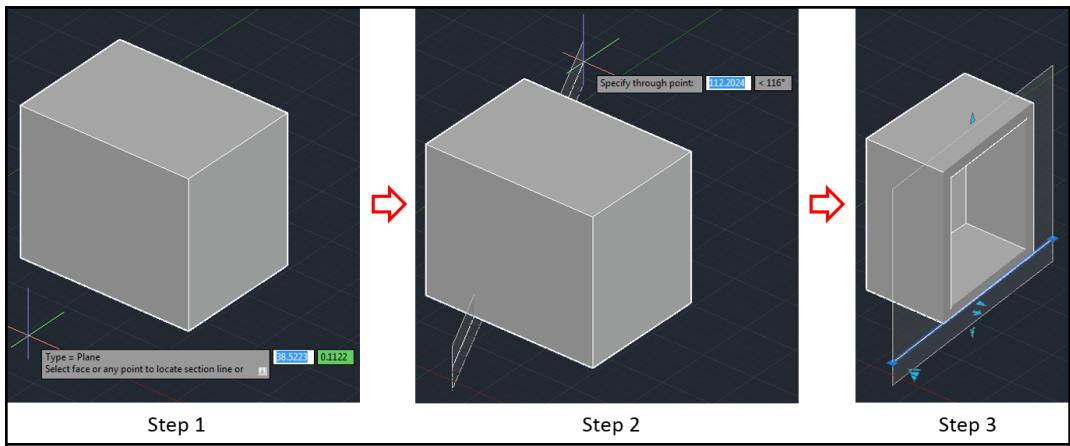


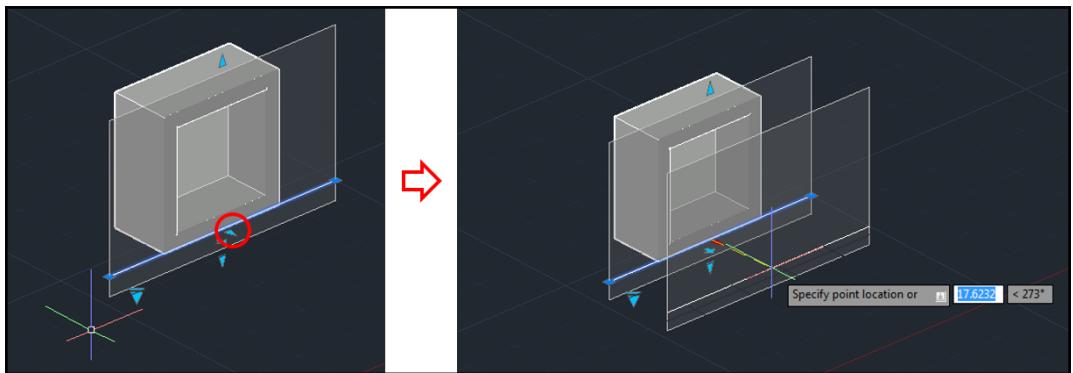
Step 7



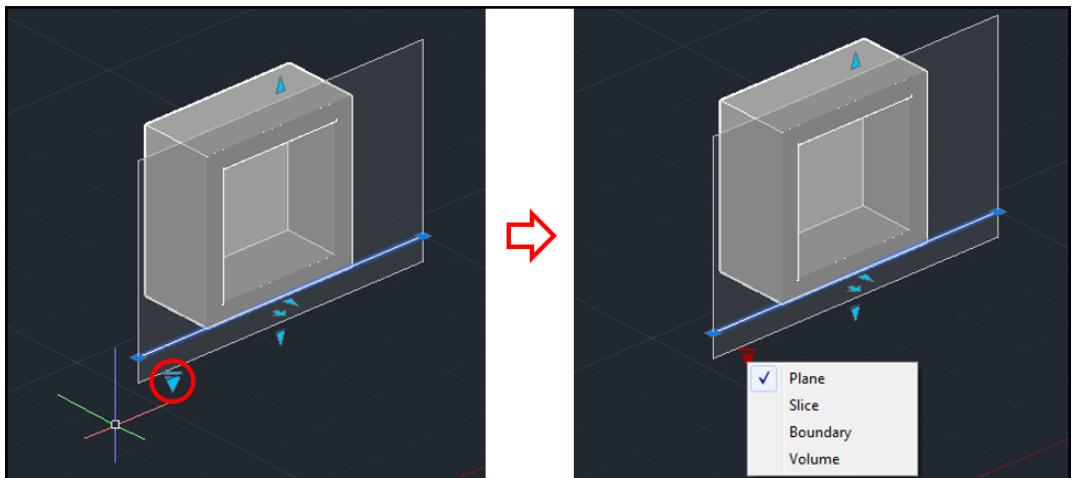
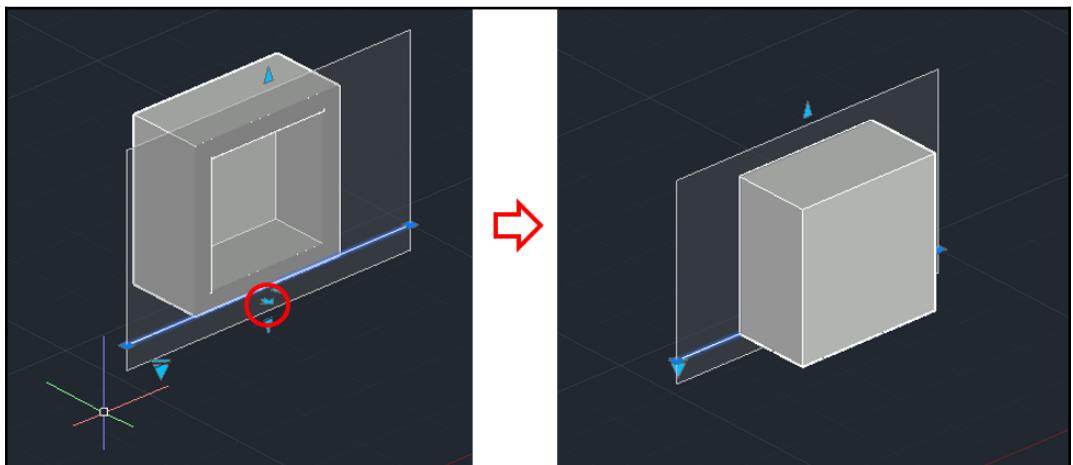
Step 6

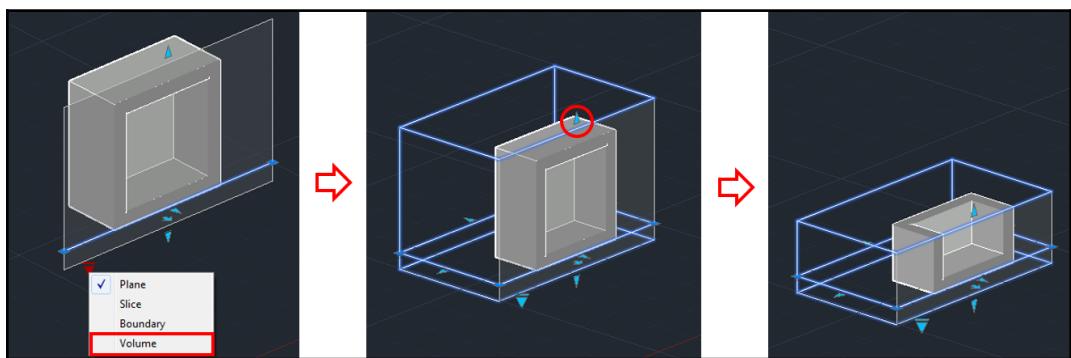
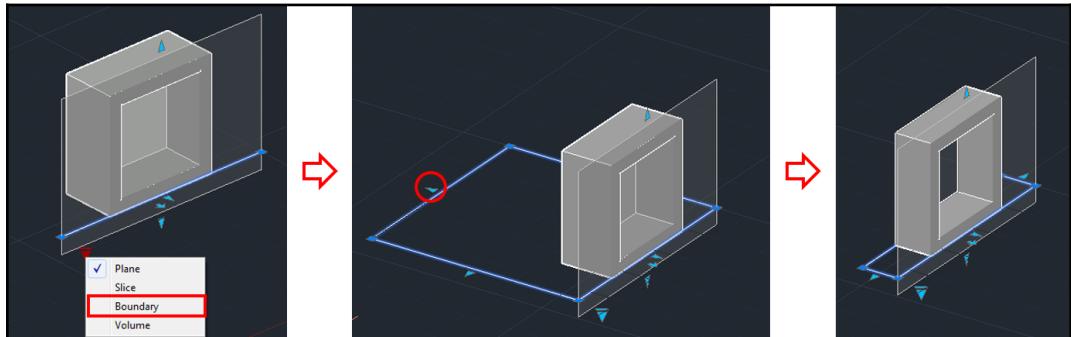
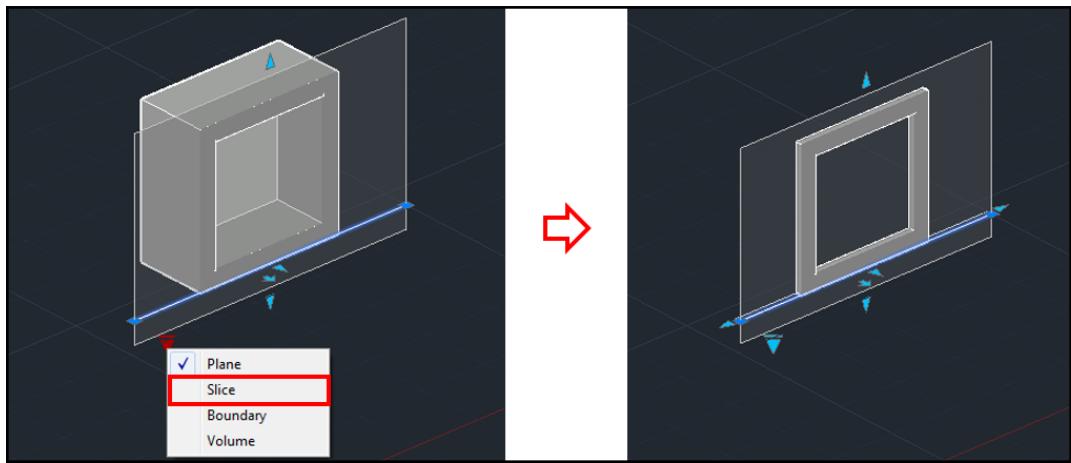


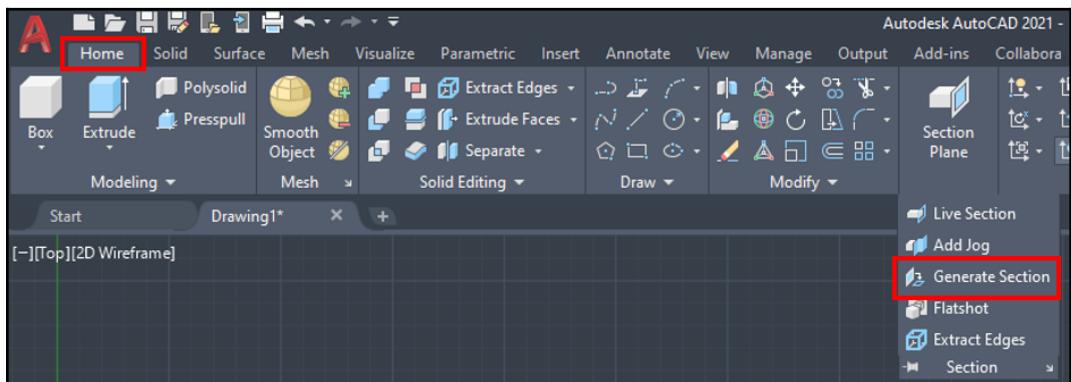
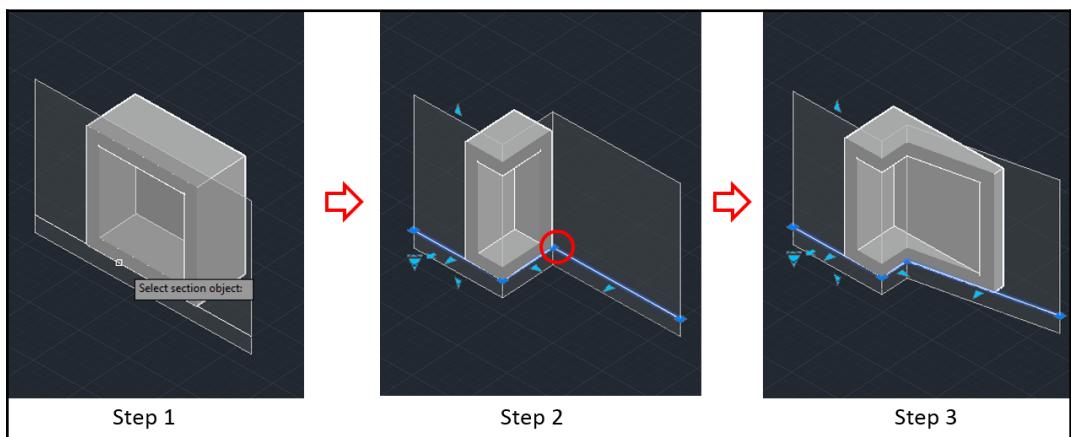
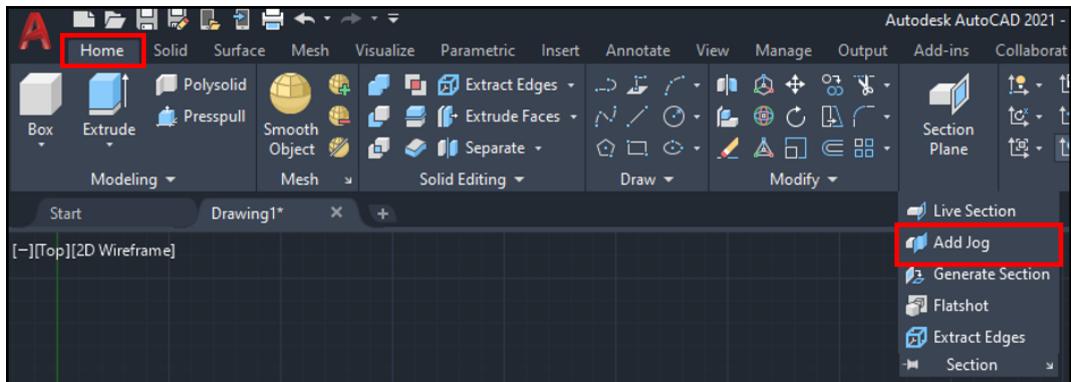


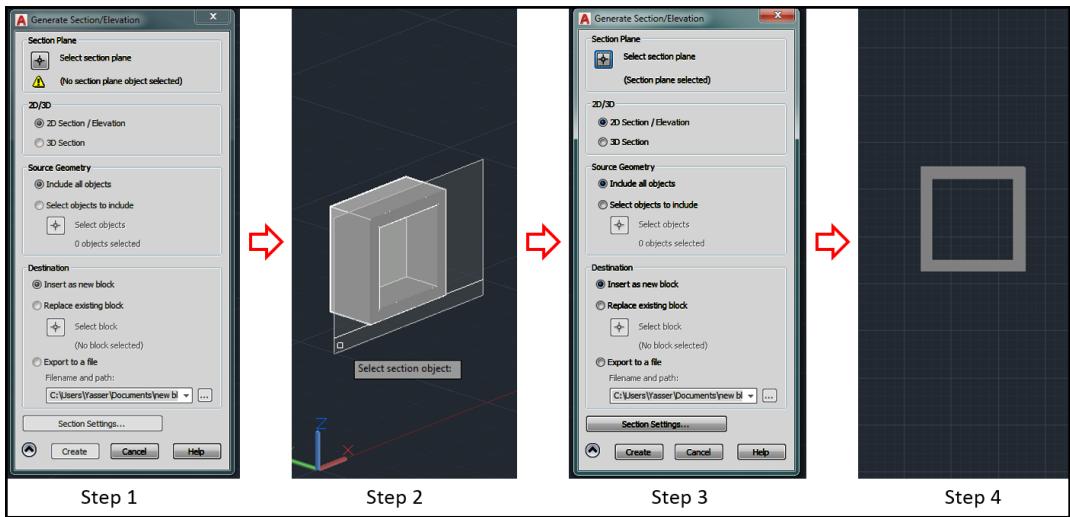


Specify point location or [Plane/Slice/Boundary/Volume] < 17.622 < 273°

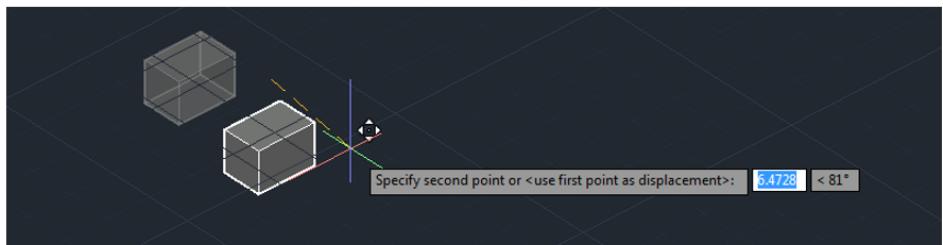
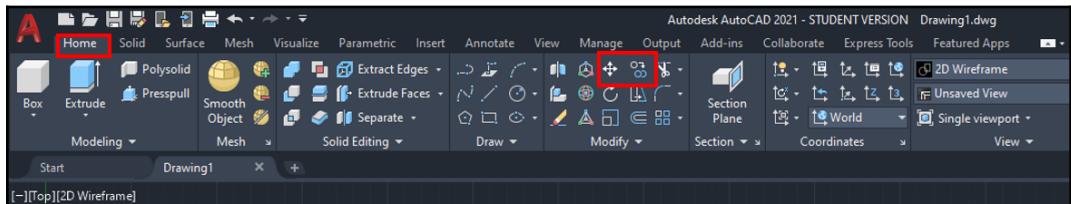




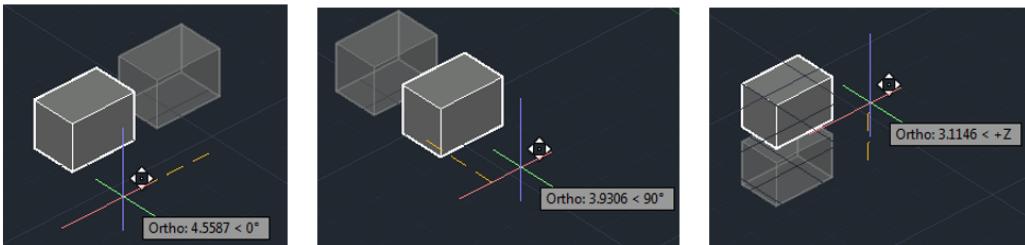




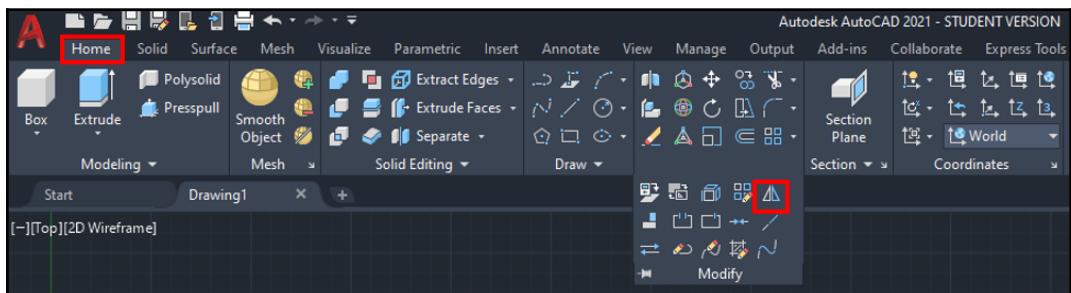
Chapter 13: Modifying 3D Objects

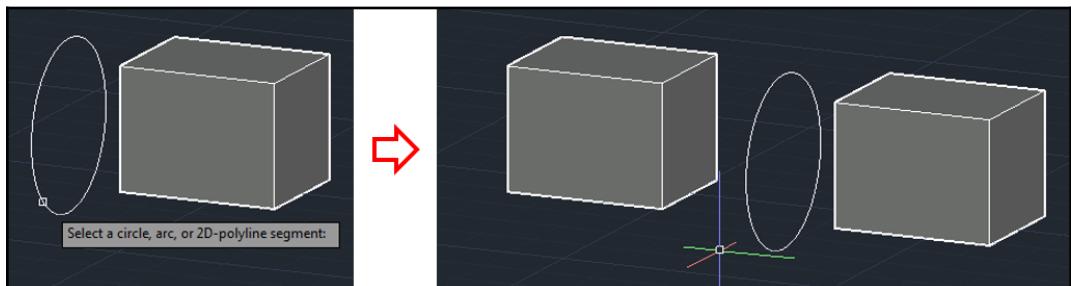
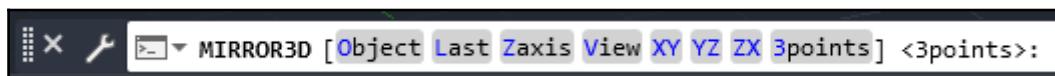
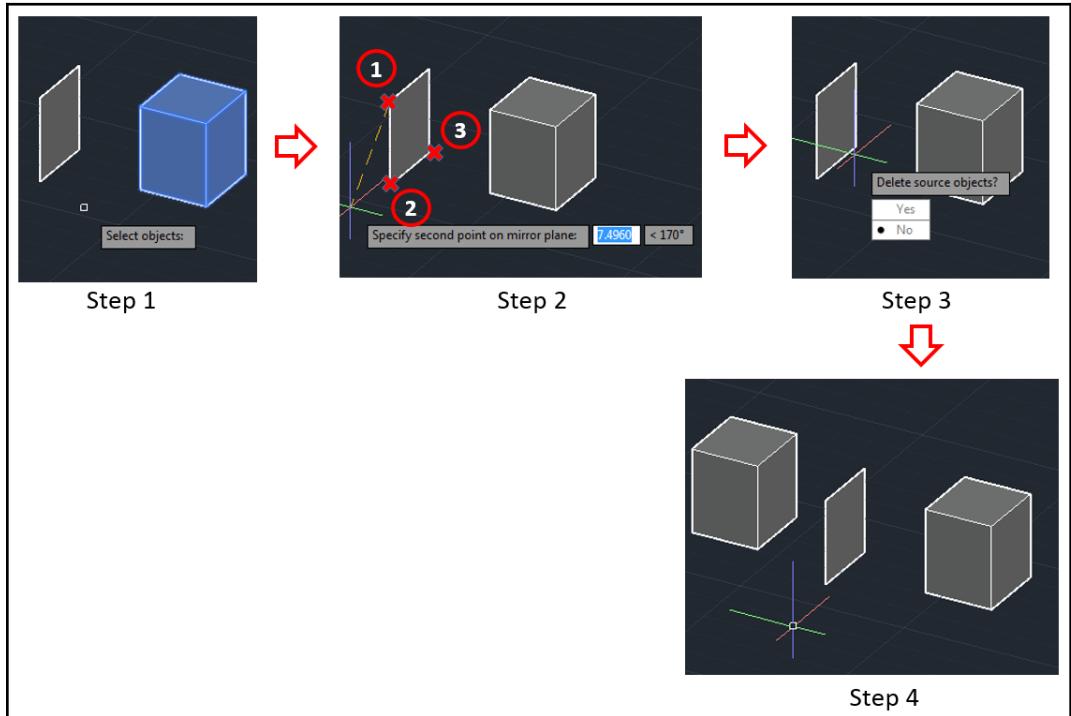
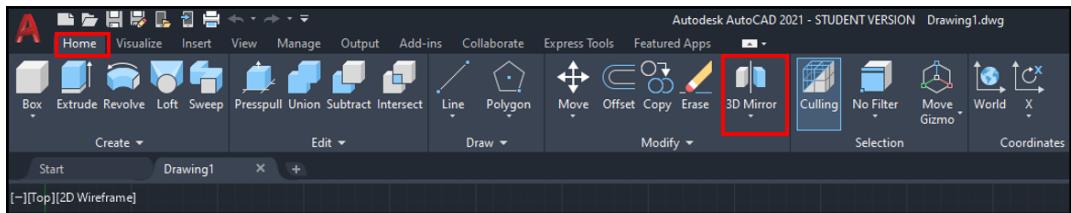


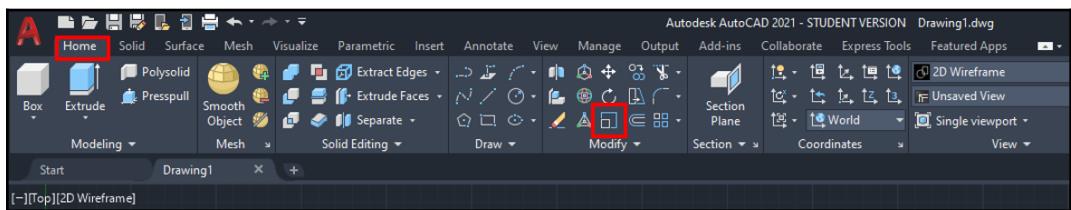
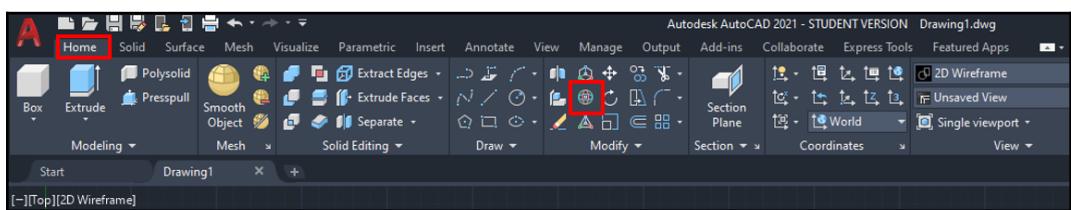
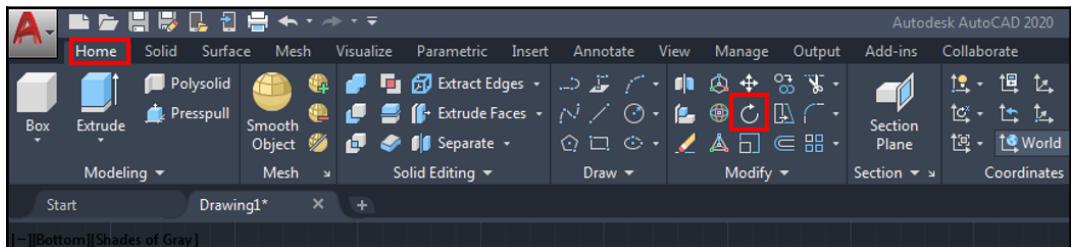
With Ortho mode deactivated you are restricted in xy plane

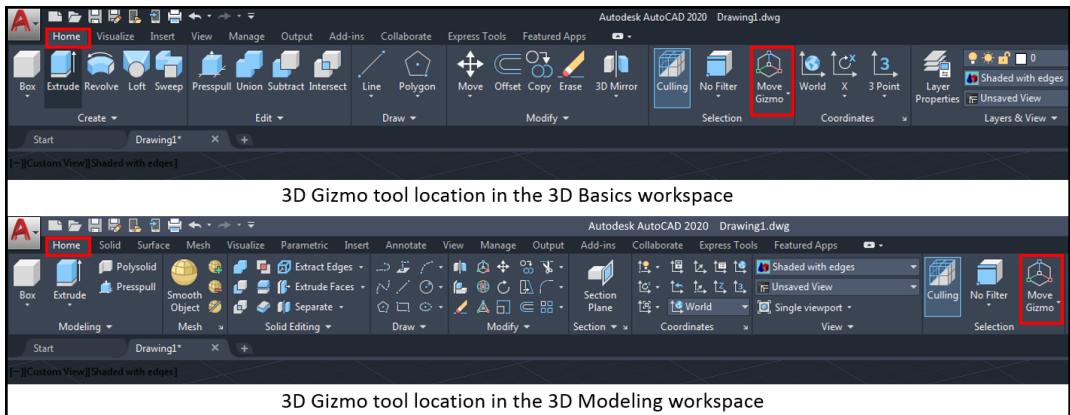


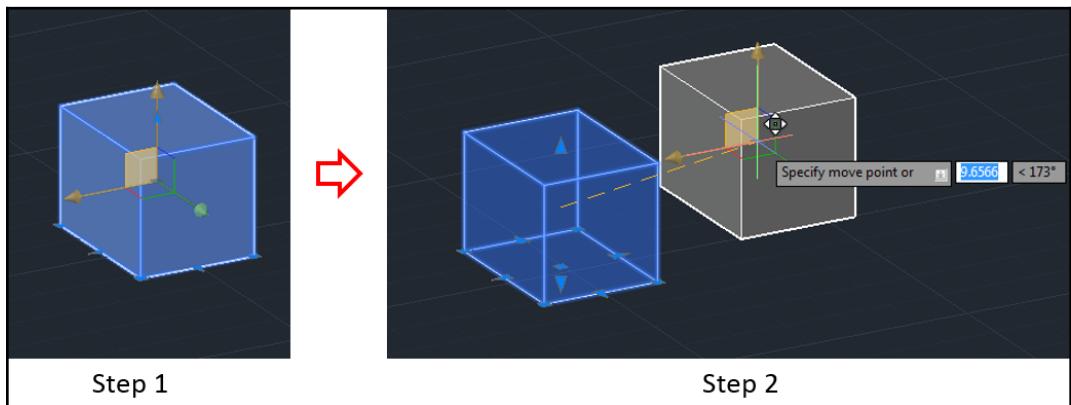
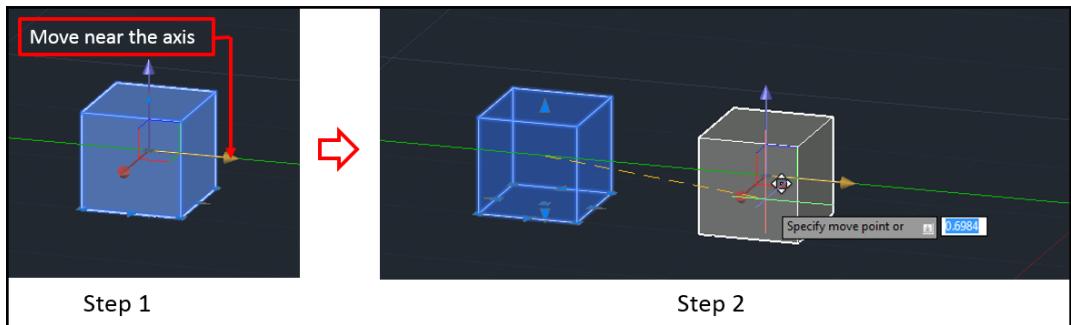
With Ortho mode activated you can move/copy the object in the 3 dimensions



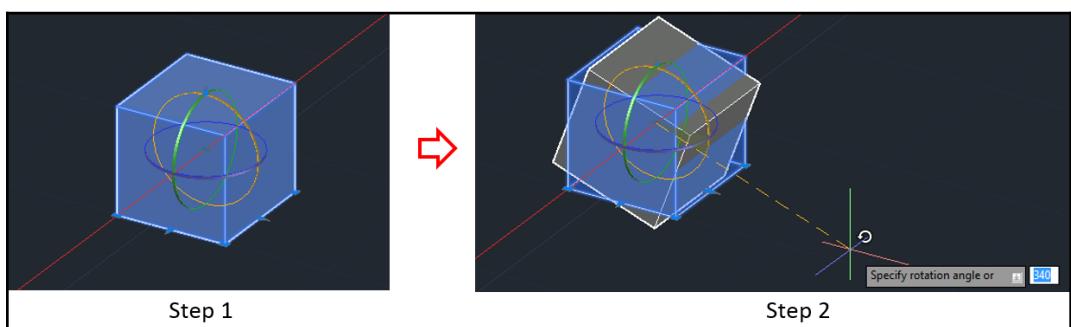




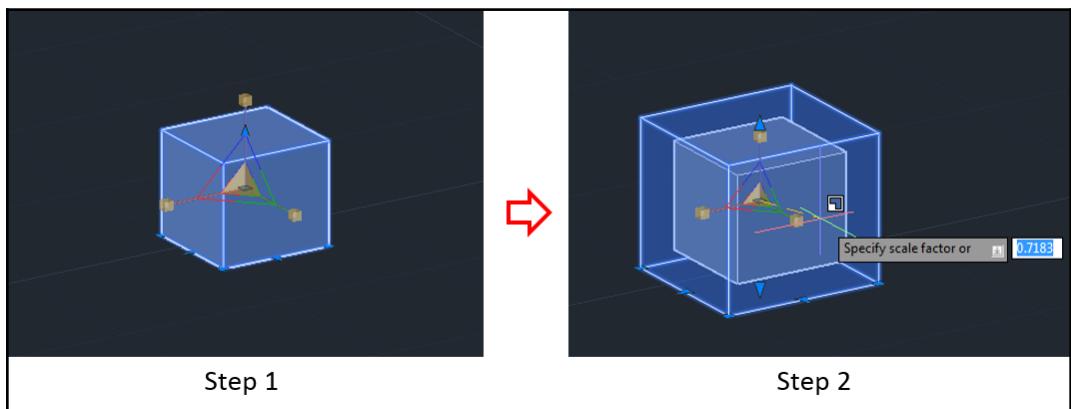
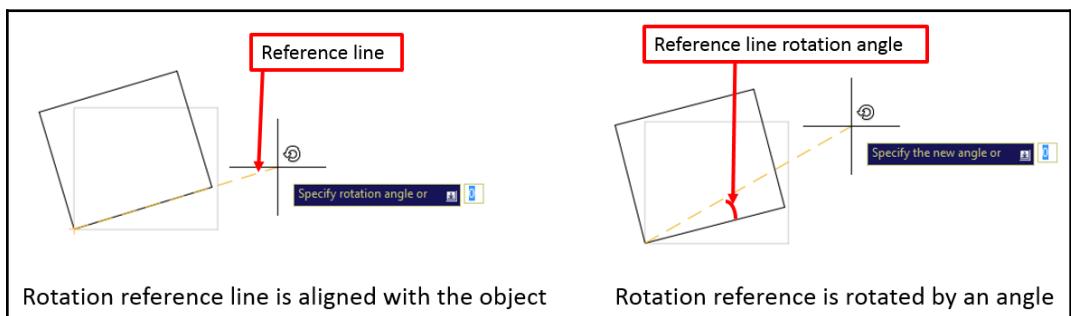
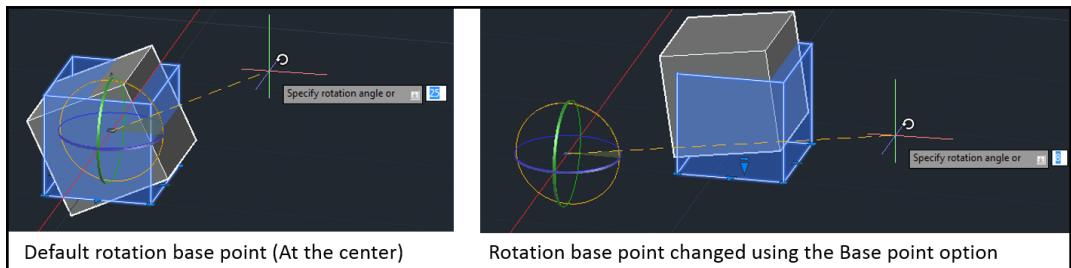




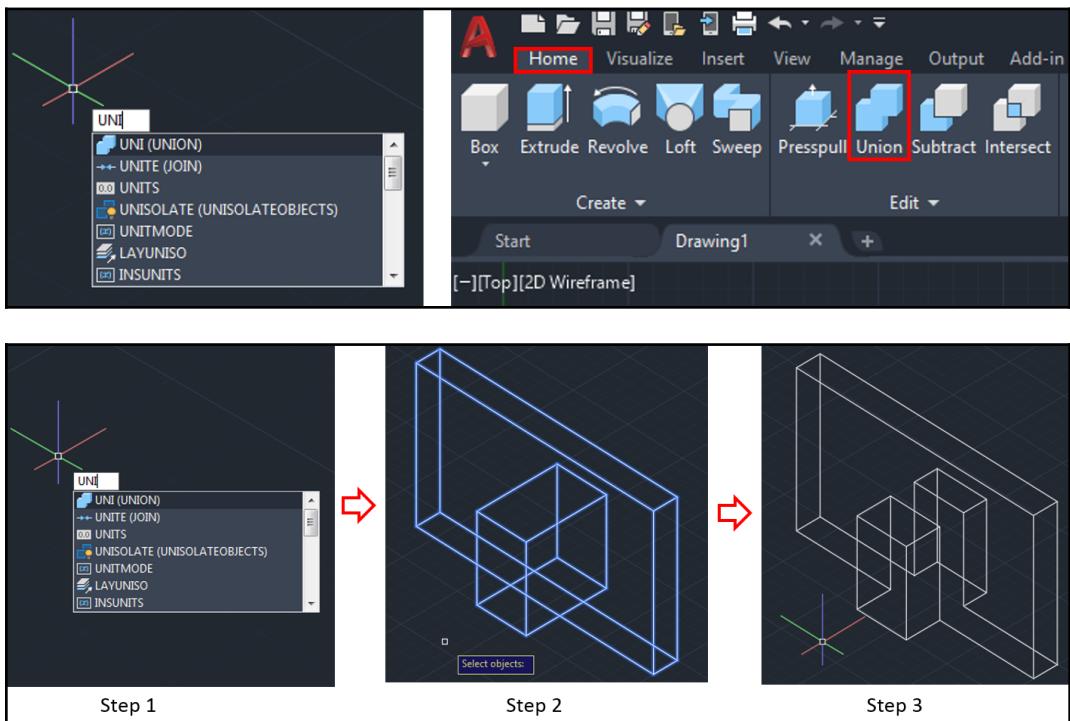
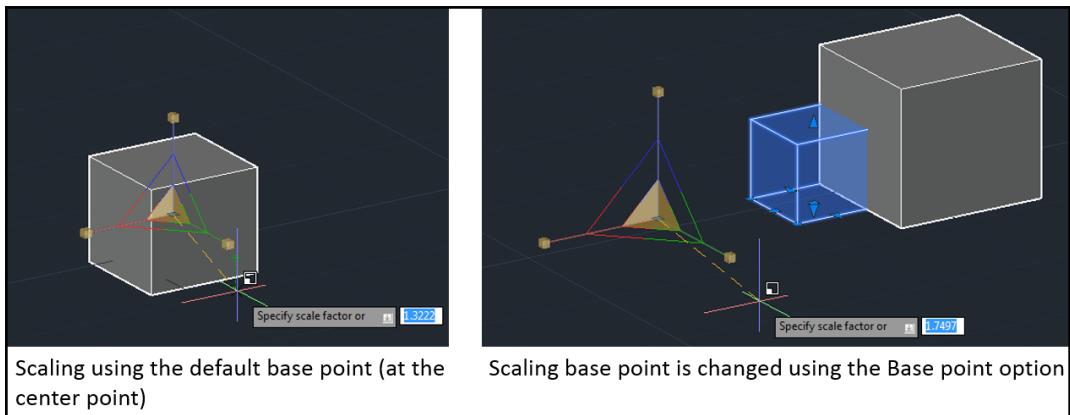
Specify move point or [Base point Copy Undo eXit]:

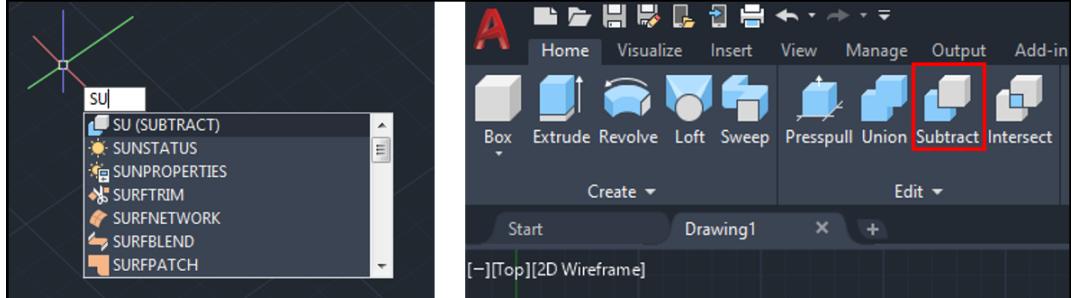
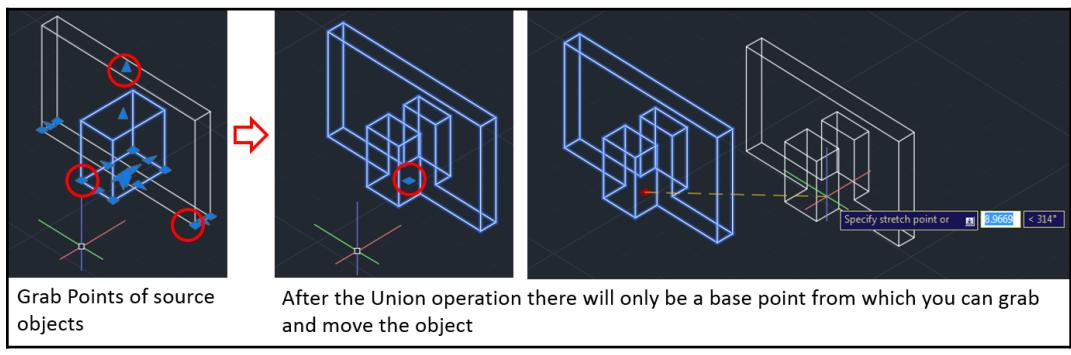


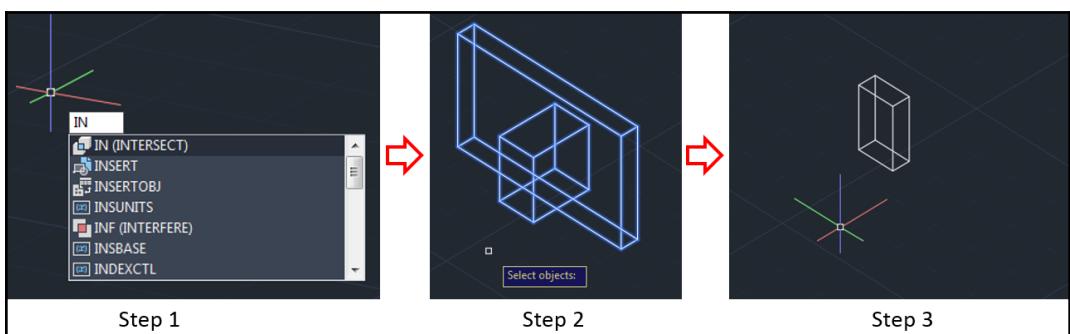
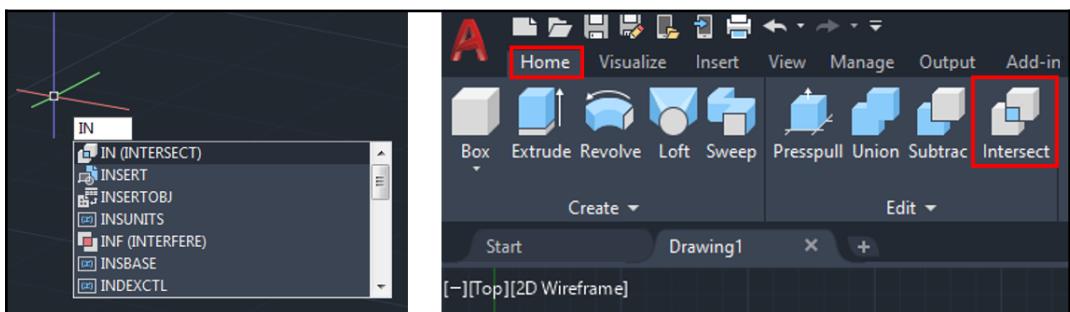
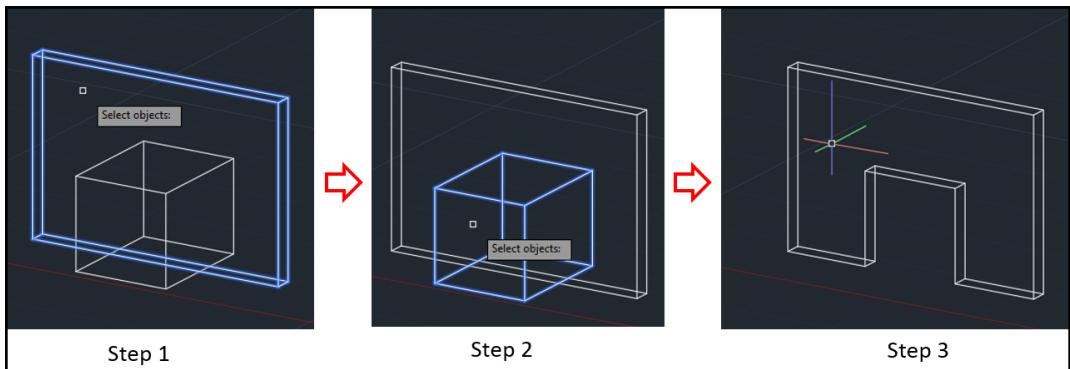
Specify rotation angle or [Base point Copy Undo Reference eXit]: <Ortho off>

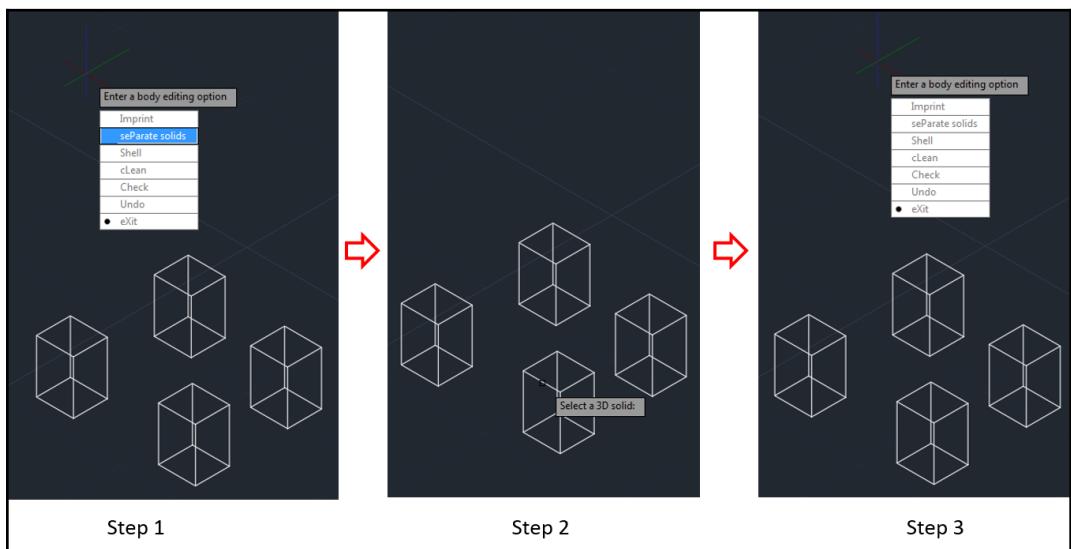
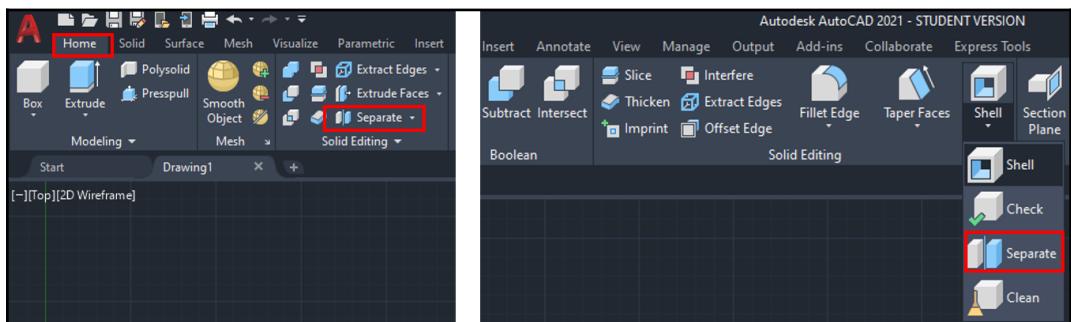
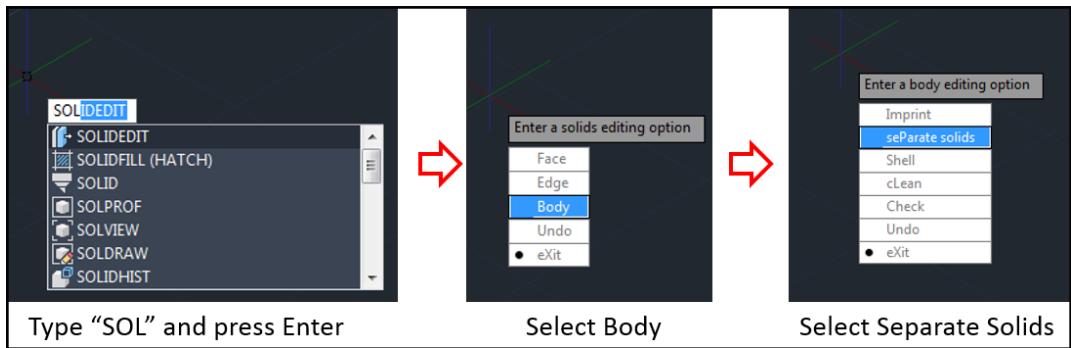


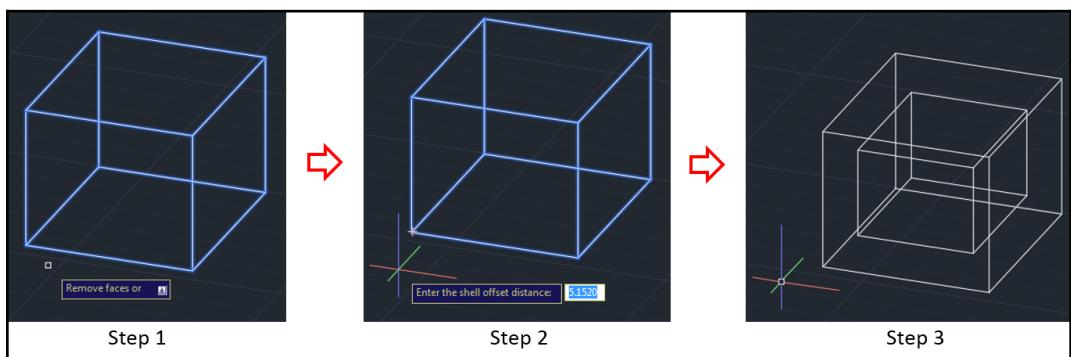
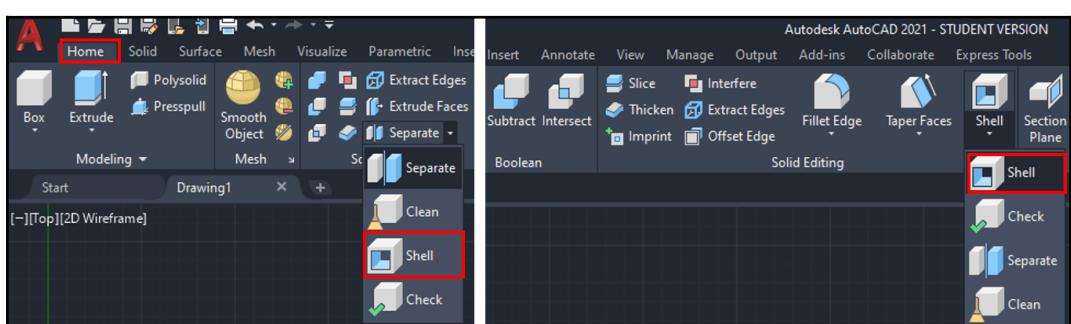
```
Specify scale factor or [Base point Copy Undo Reference eXit]:
```

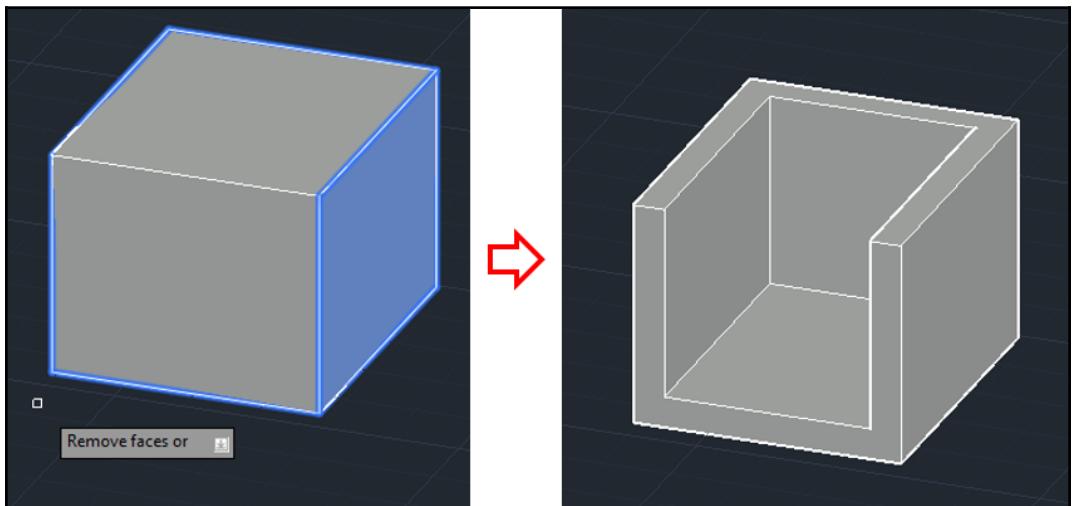
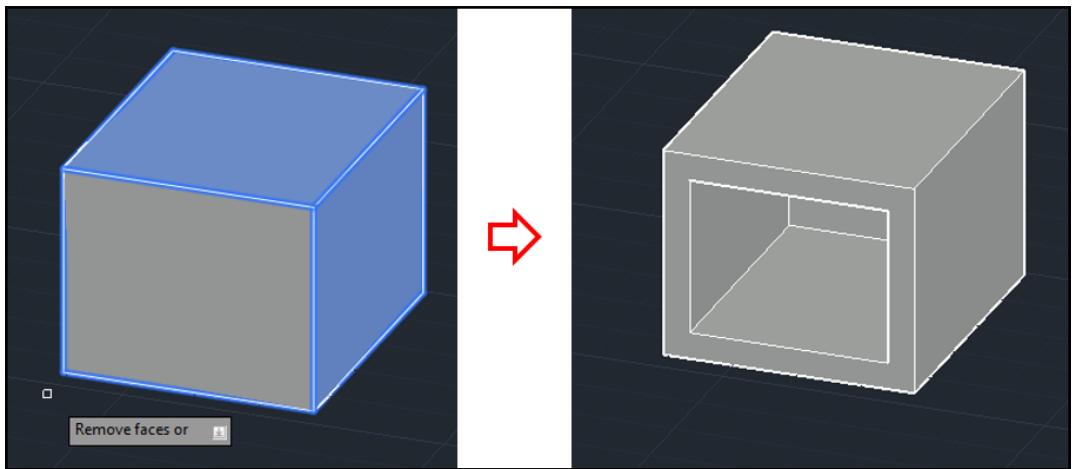


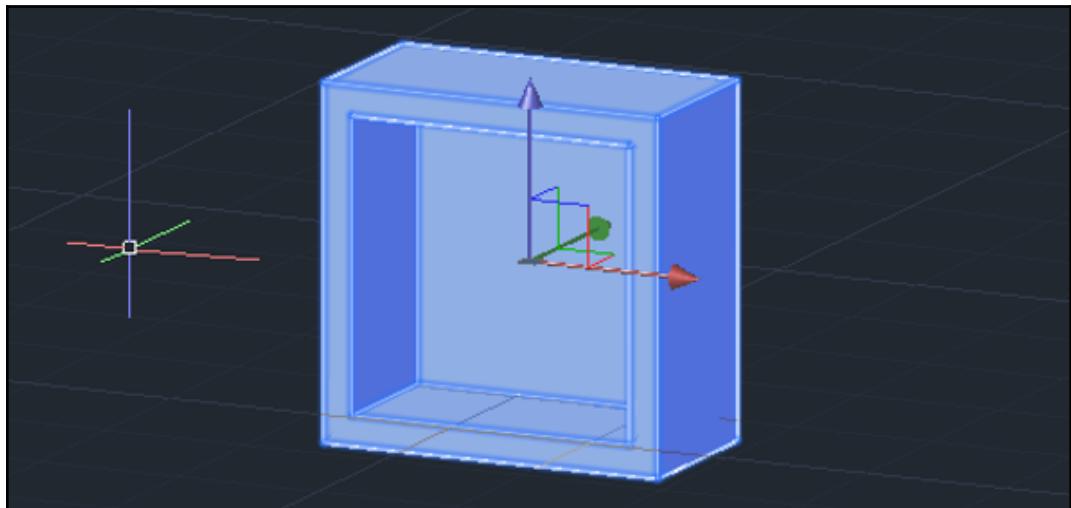
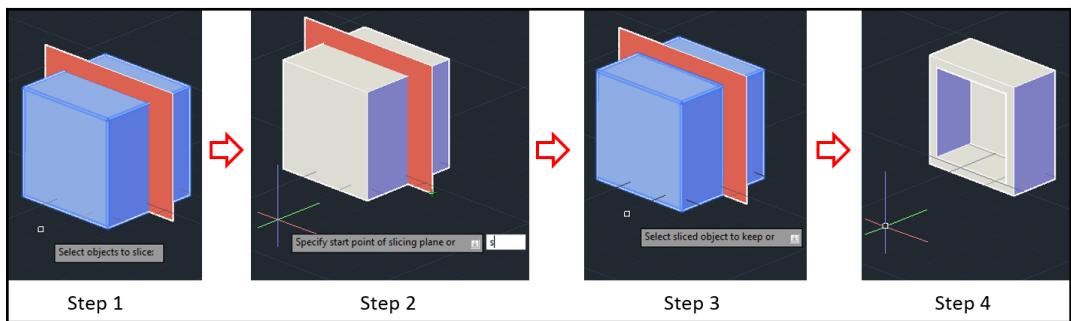
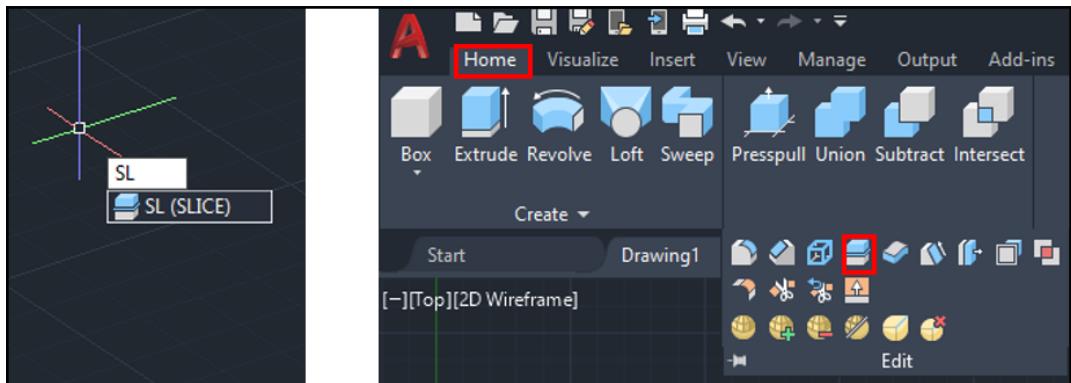




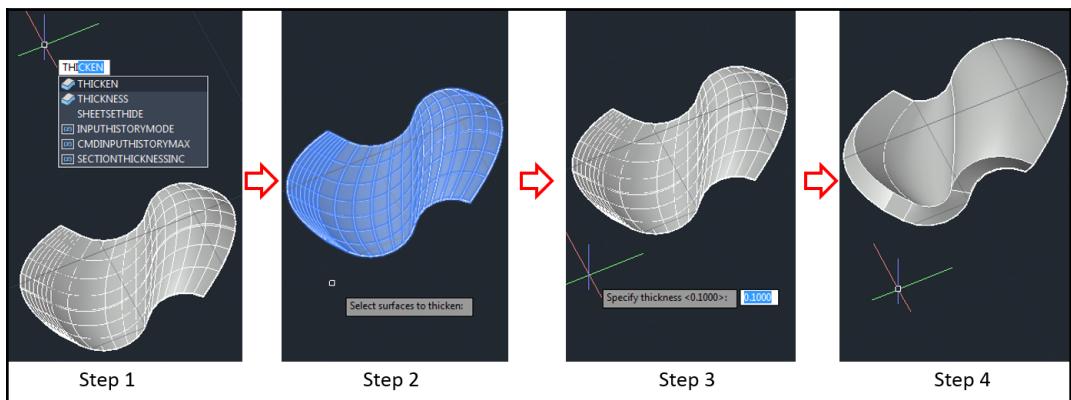
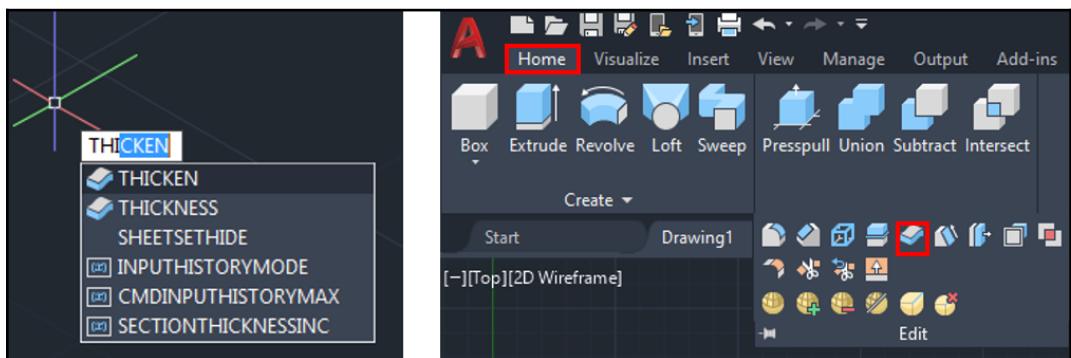
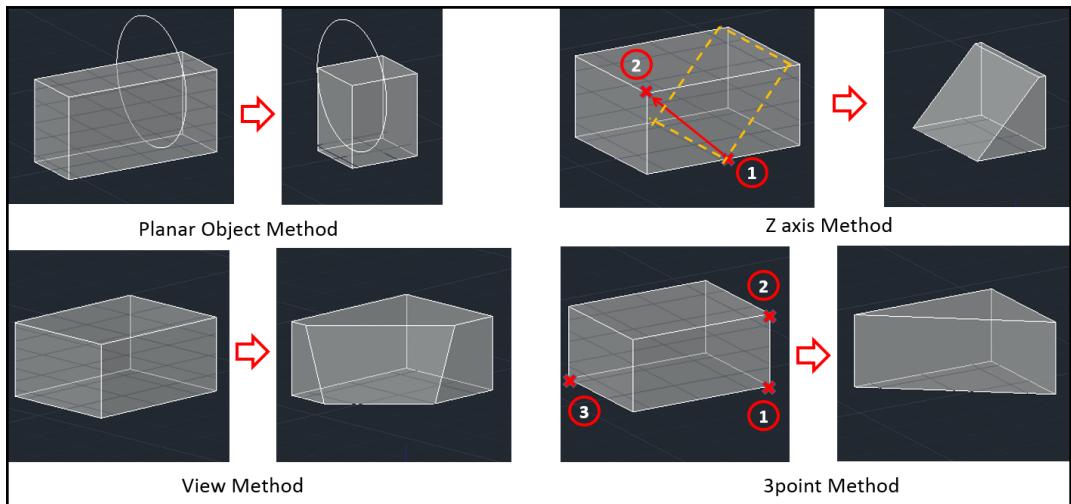


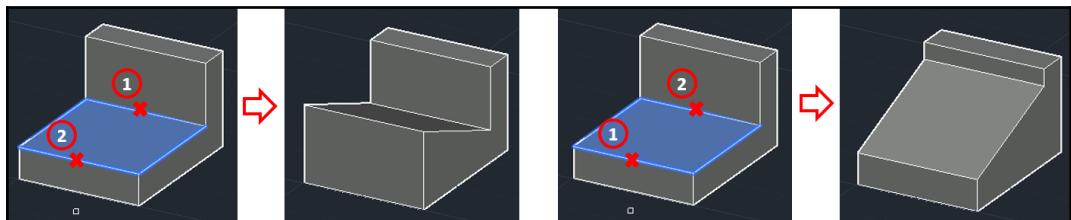
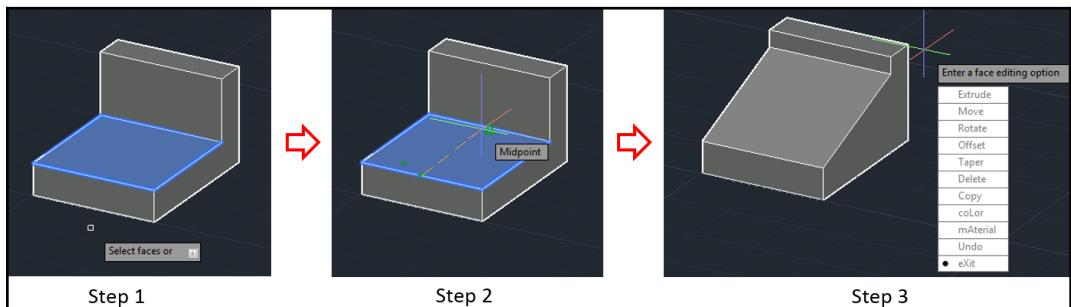
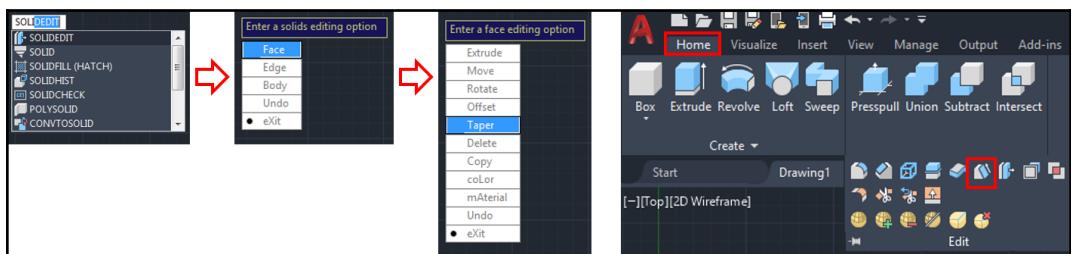
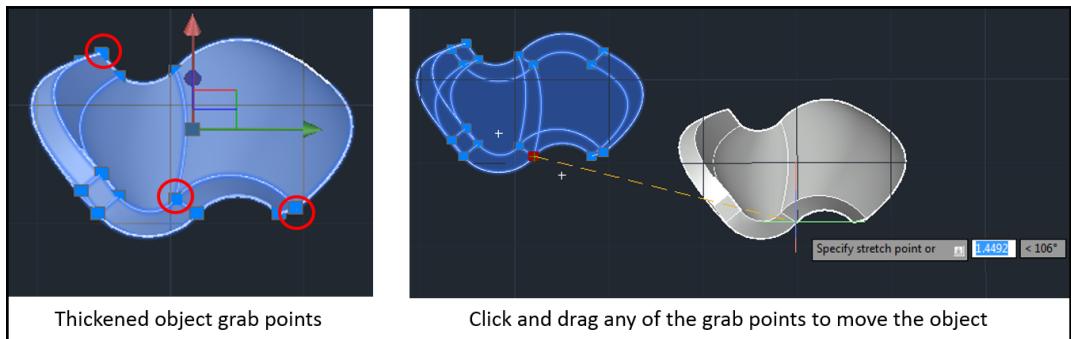


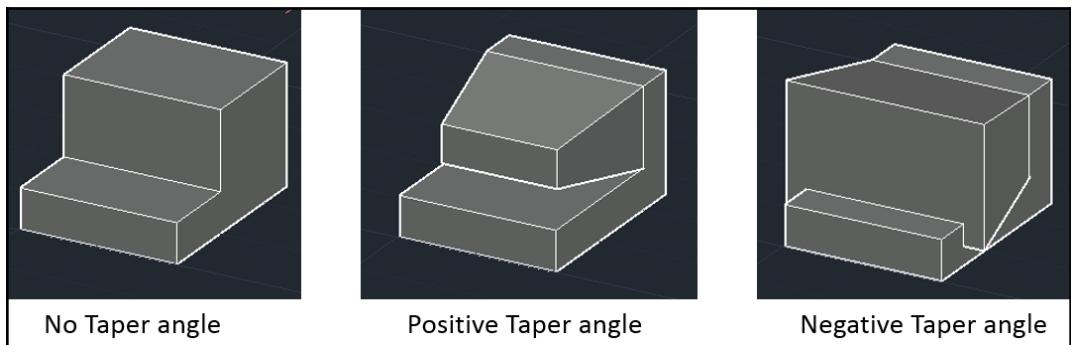
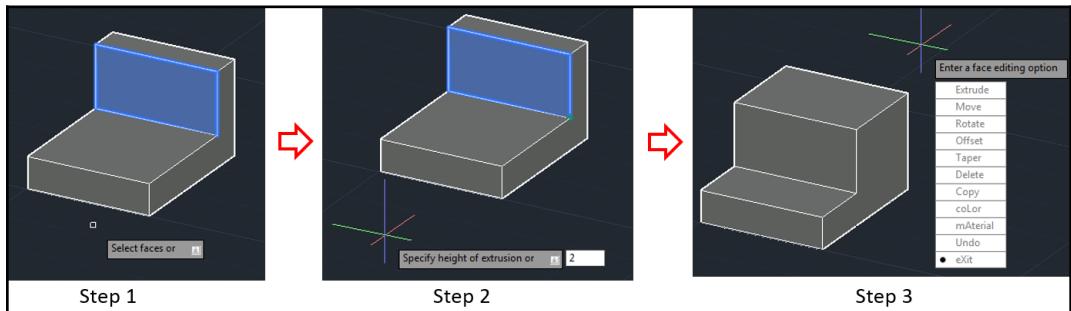
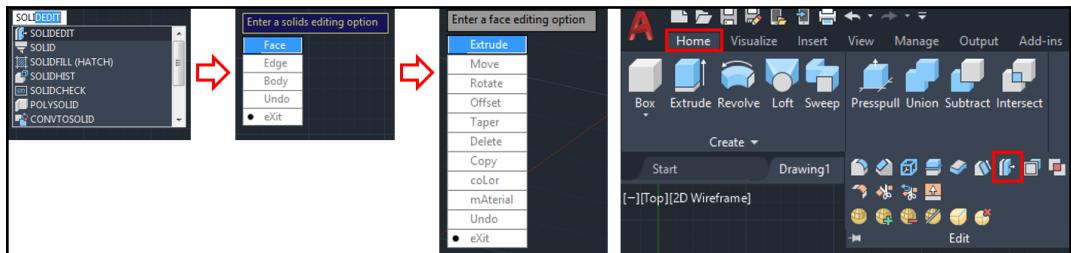
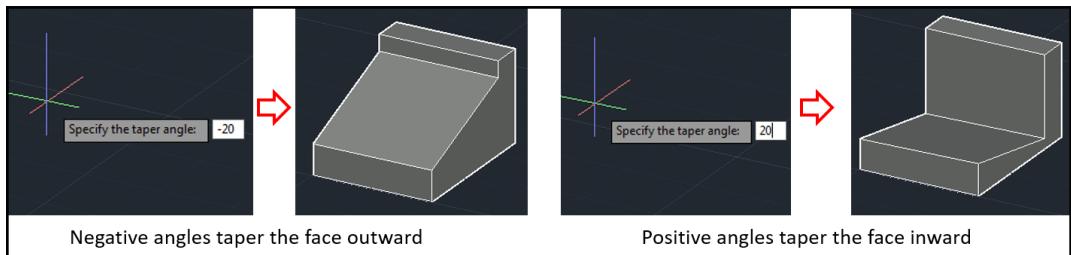


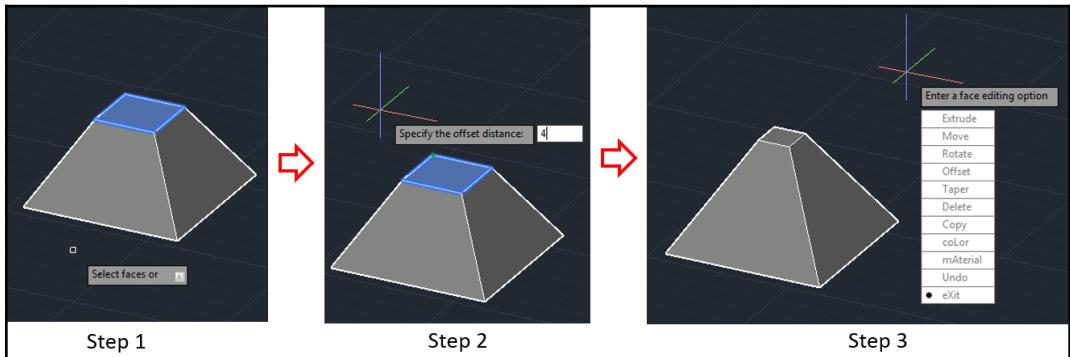
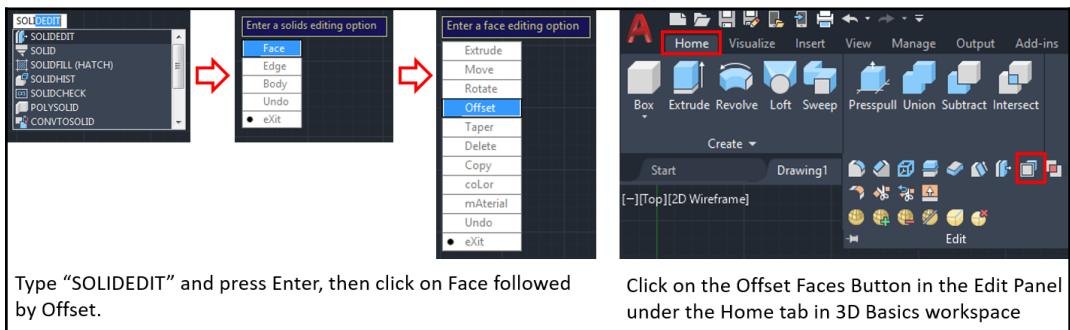
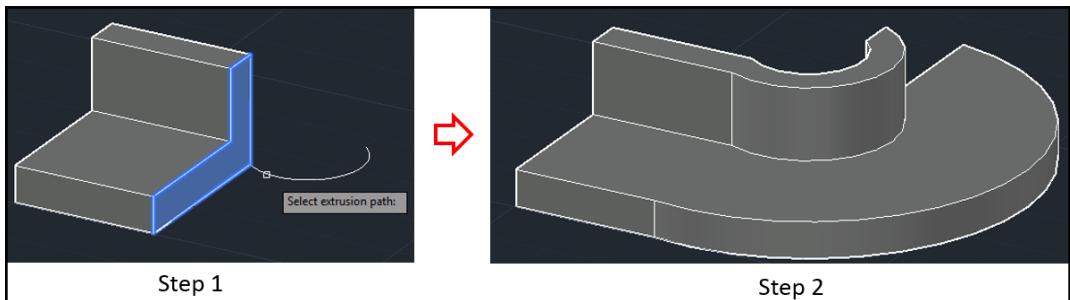


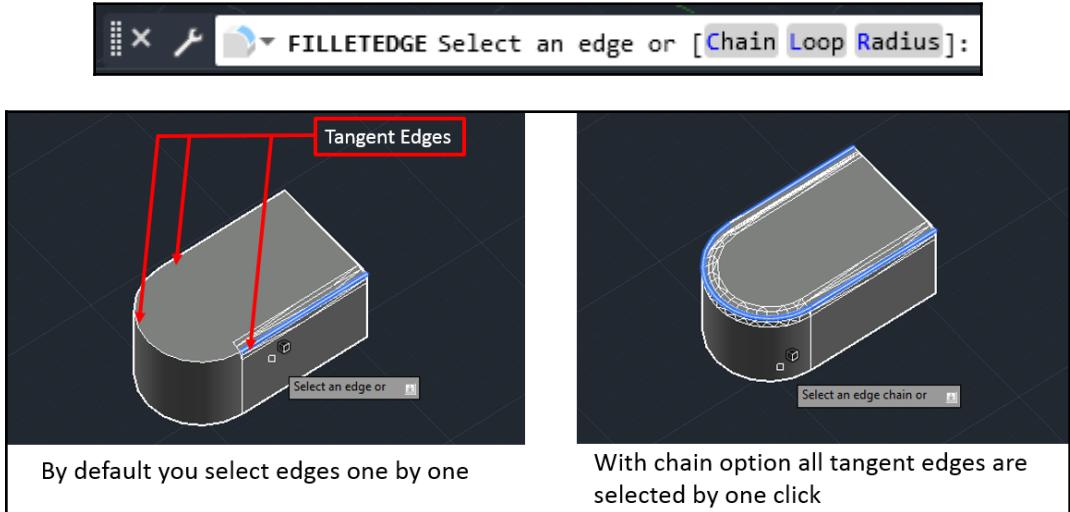
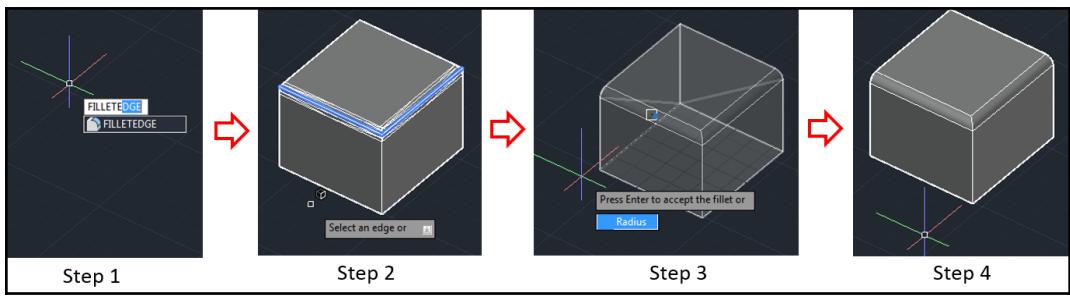
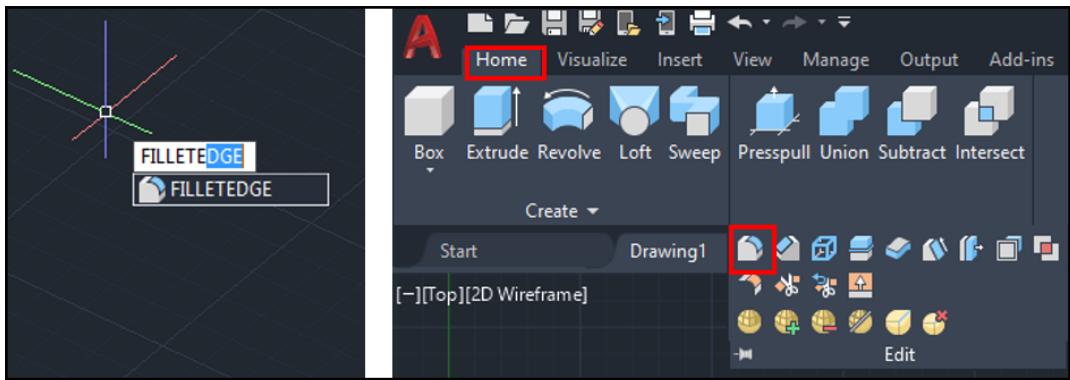
```
SLICE Specify start point of slicing plane or [planar Object Surface Zaxis View XY YZ ZX 3points] <3points>:
```

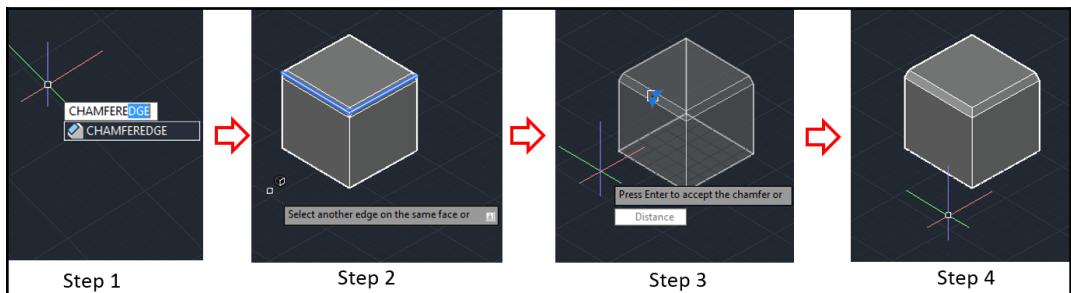
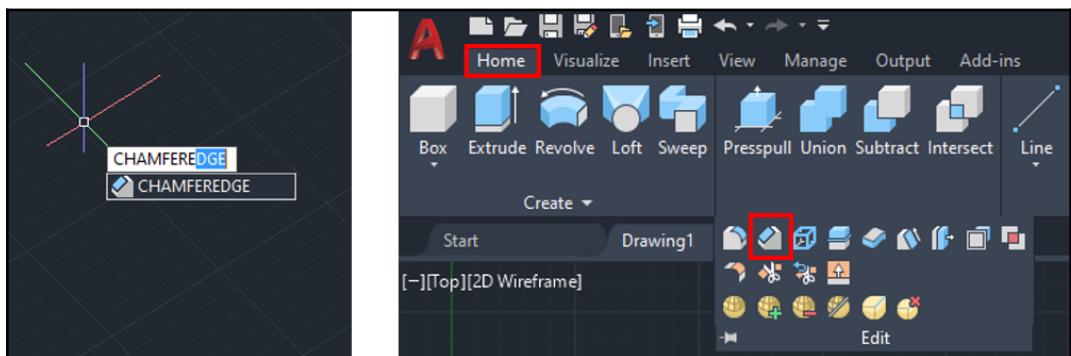
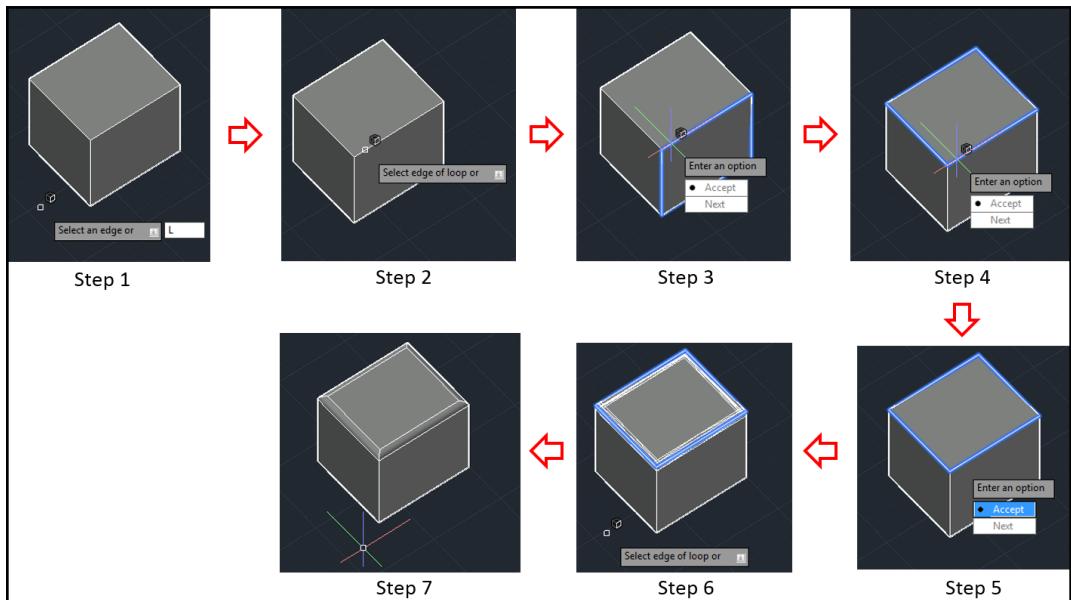


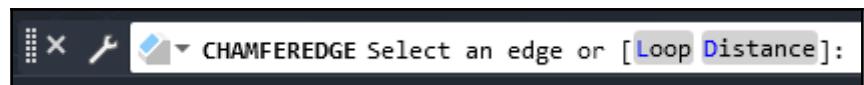




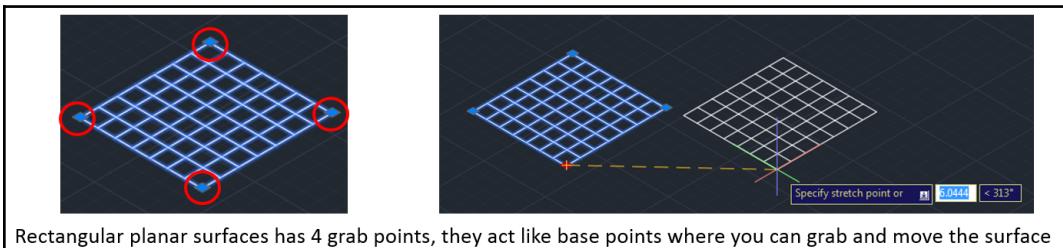
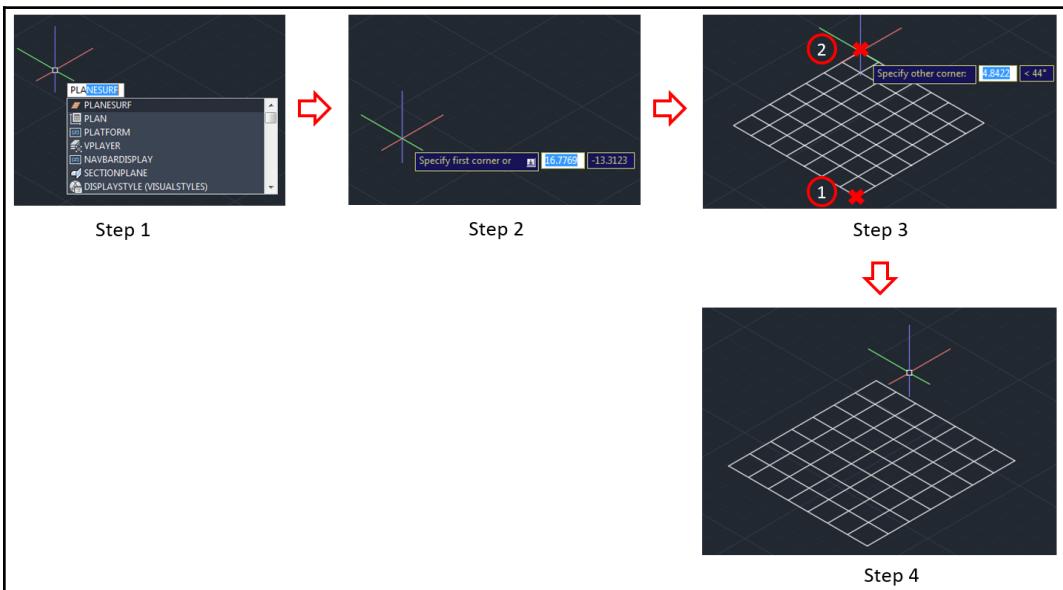
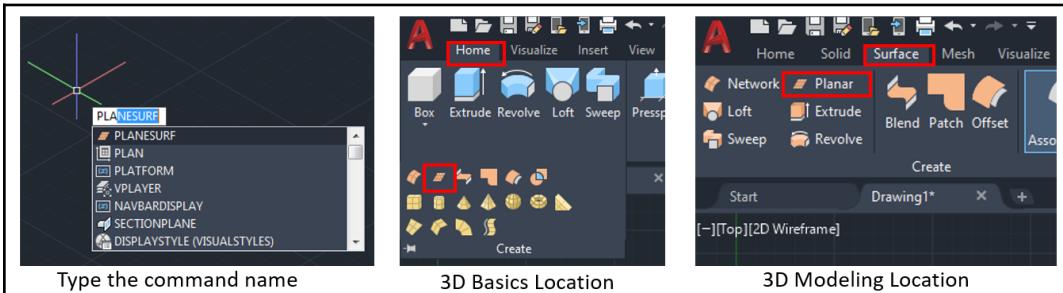






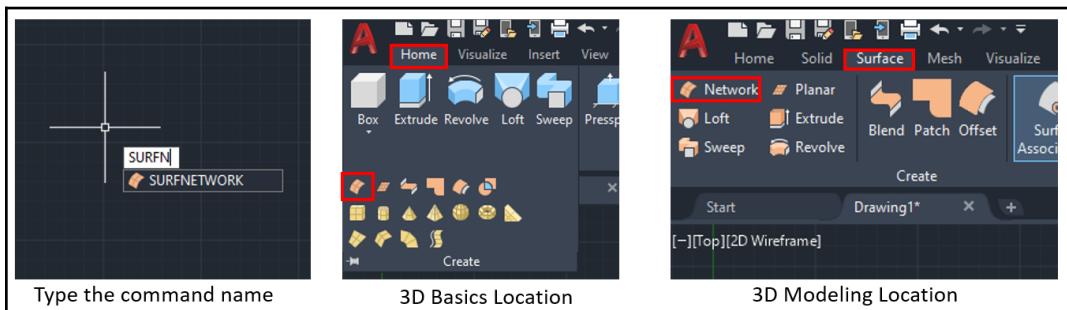
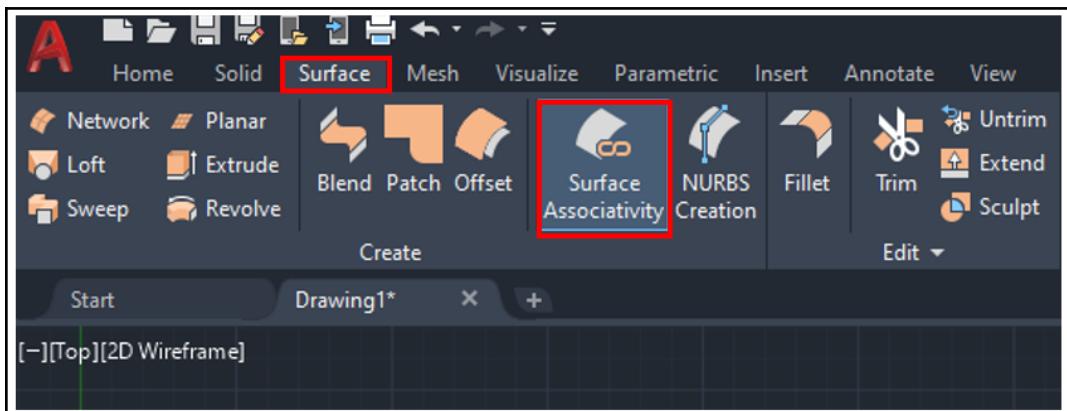
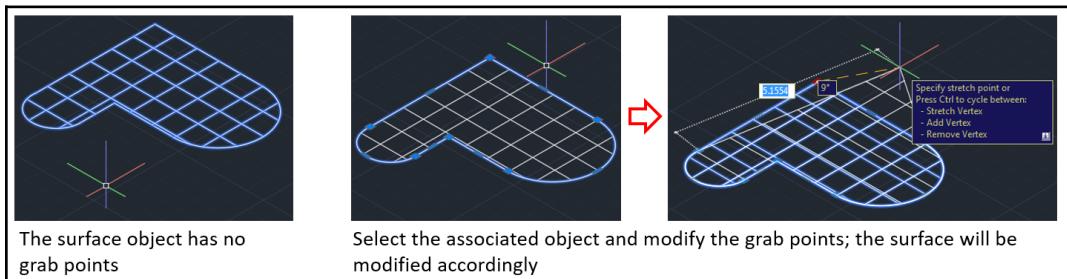
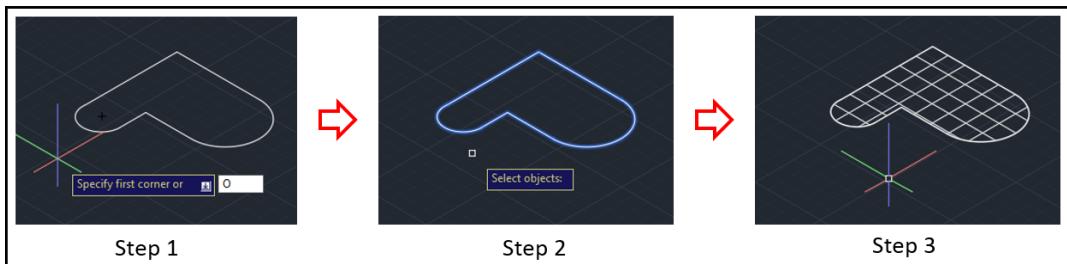


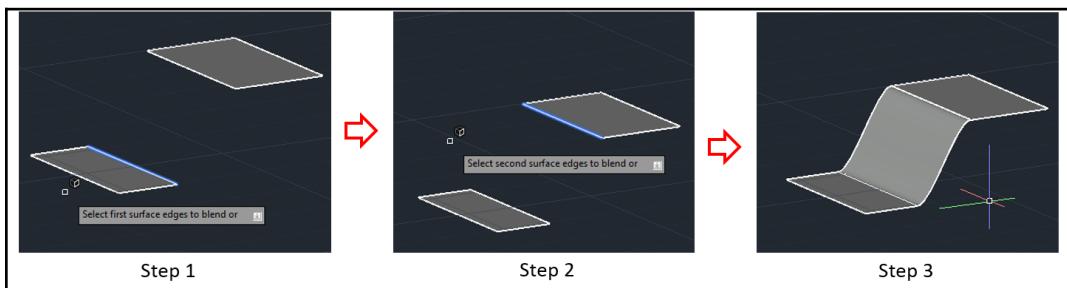
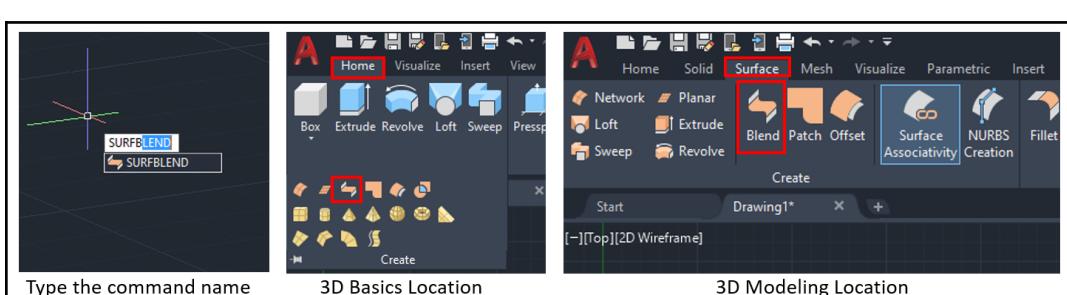
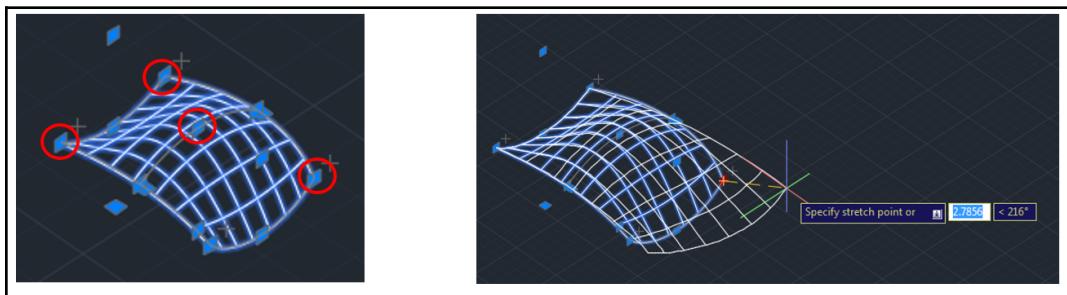
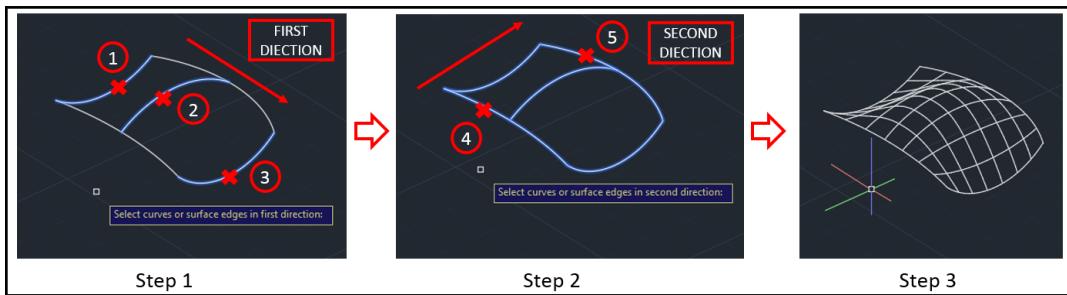
Chapter 14: Surfaces and Mesh Modeling

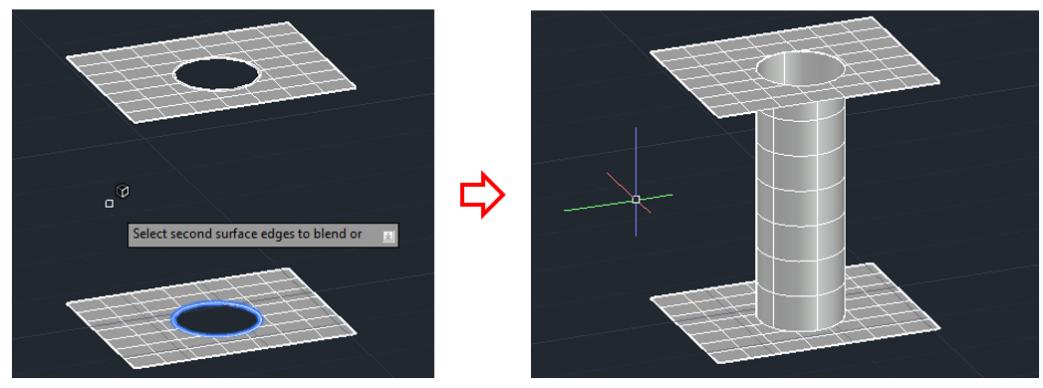
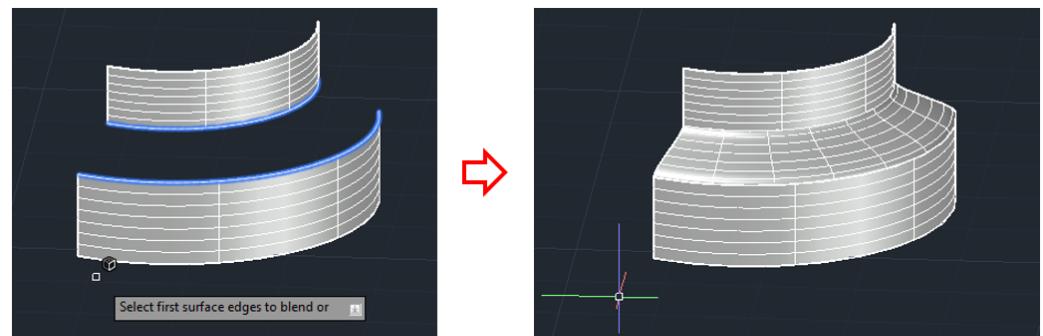


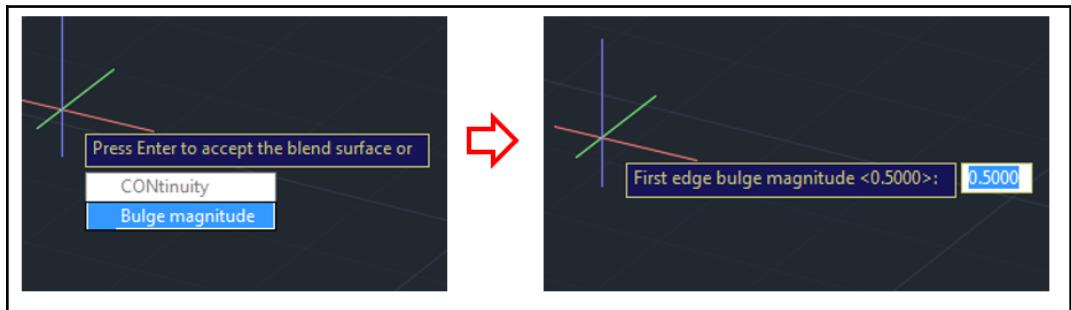
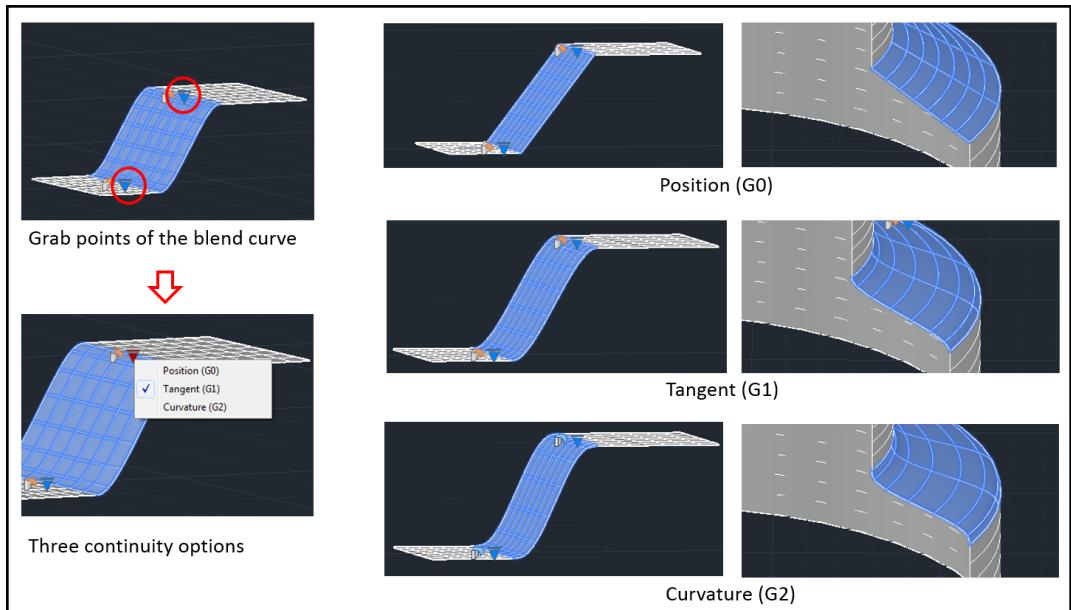
Rectangular planar surfaces has 4 grab points, they act like base points where you can grab and move the surface

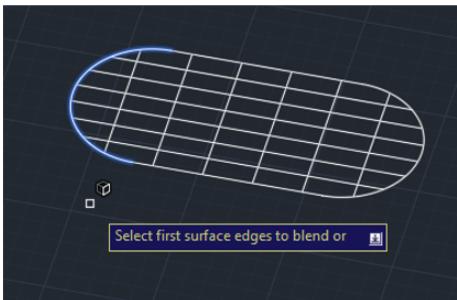
PLANESURF Specify first corner or [Object] <Object>:







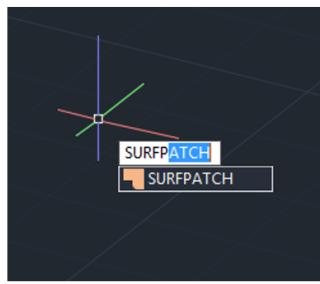




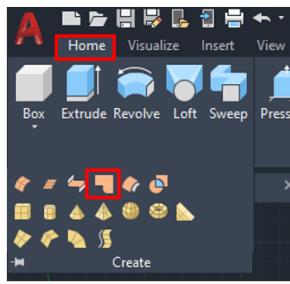
By default, select each edge individually



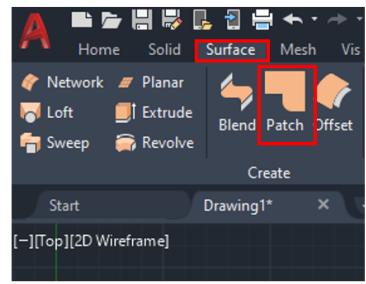
With chain option, all the connected edges will be selected by one click



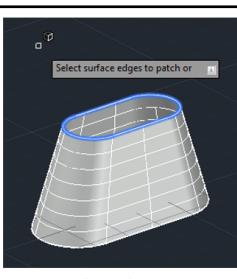
Type the command name



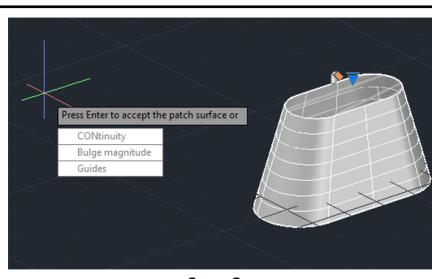
3D Basics Location



3D Modeling Location



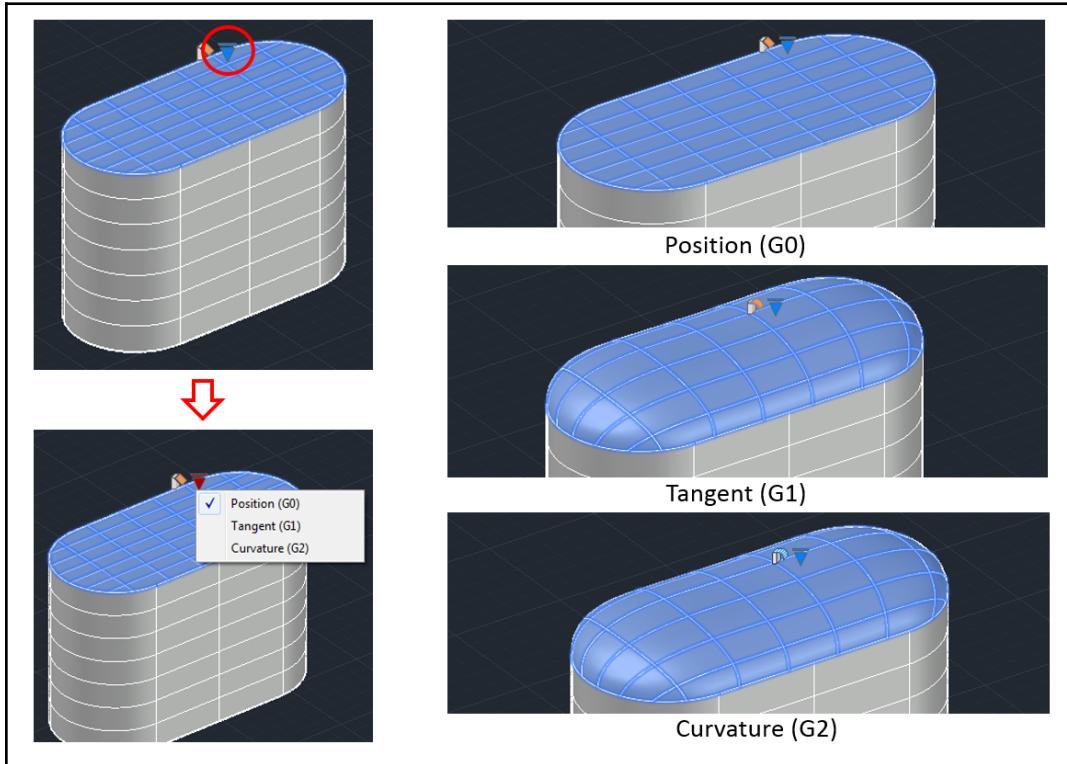
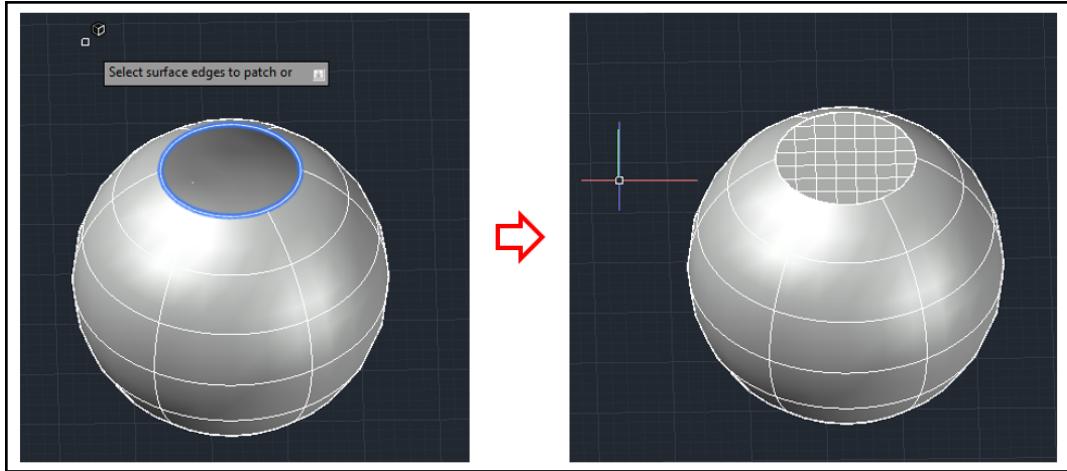
Step 1

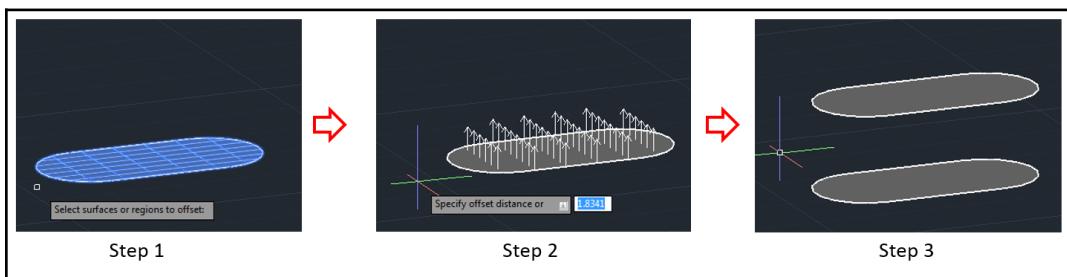
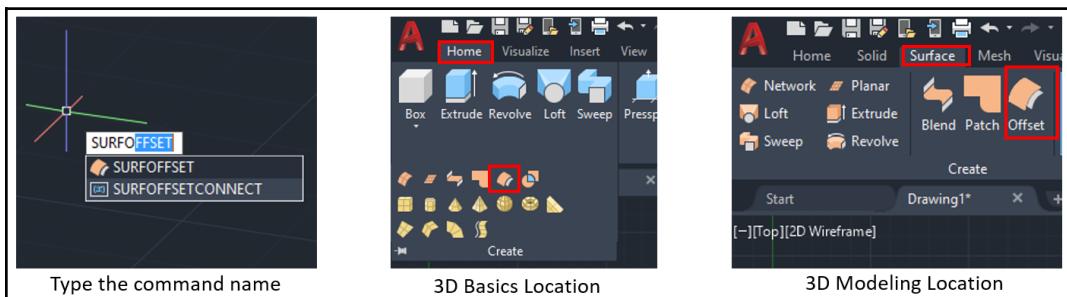
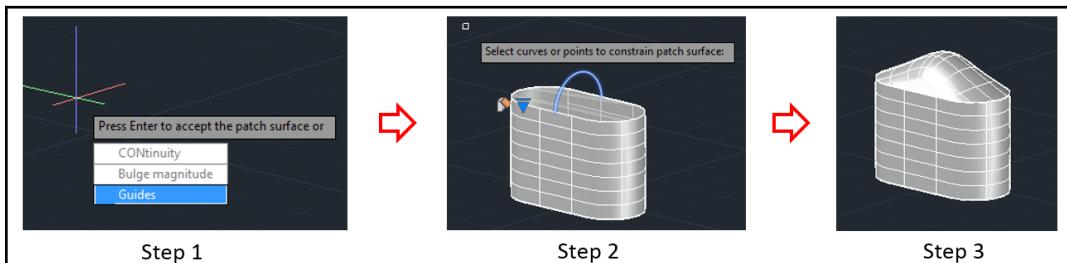
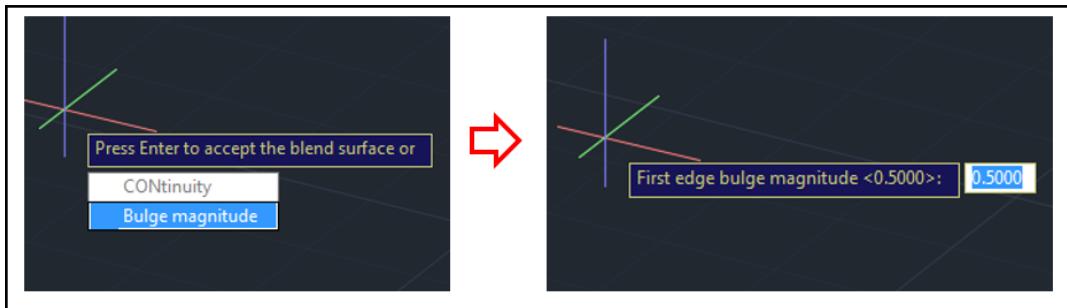


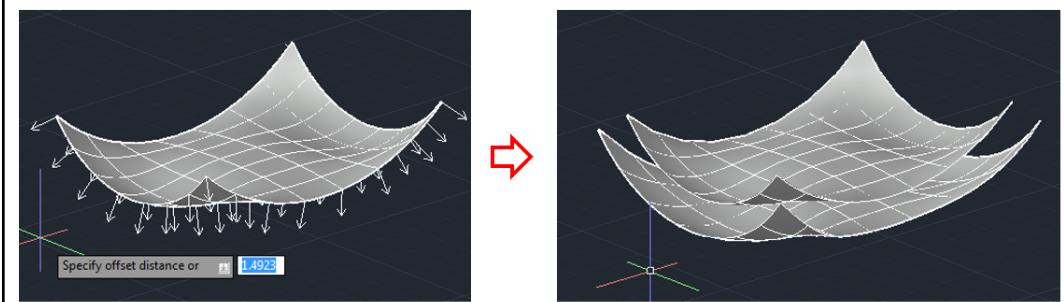
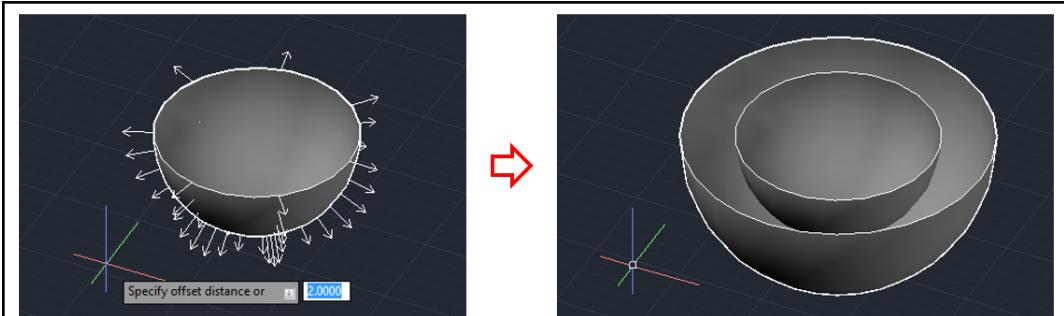
Step 2



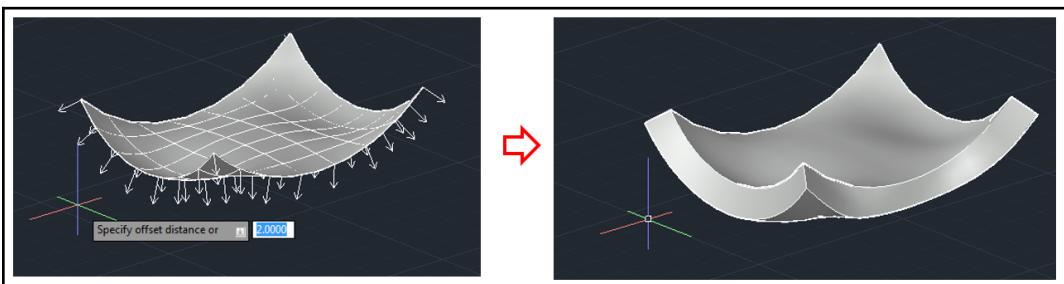
Step 3

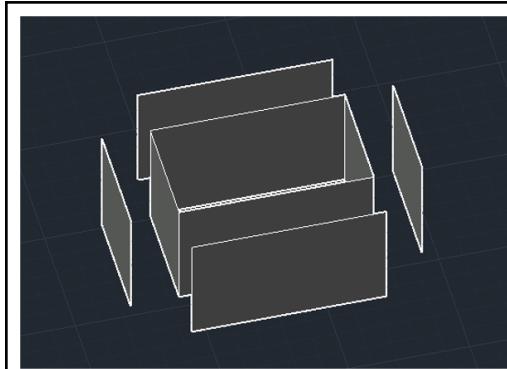




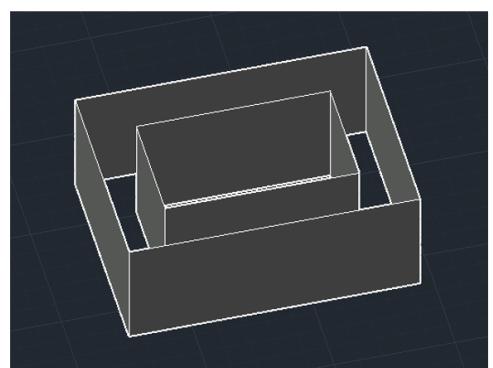


|| x ↗ SURFACEOFFSET Specify offset distance or [Flip direction Both sides Solid Connect] <1.4923>

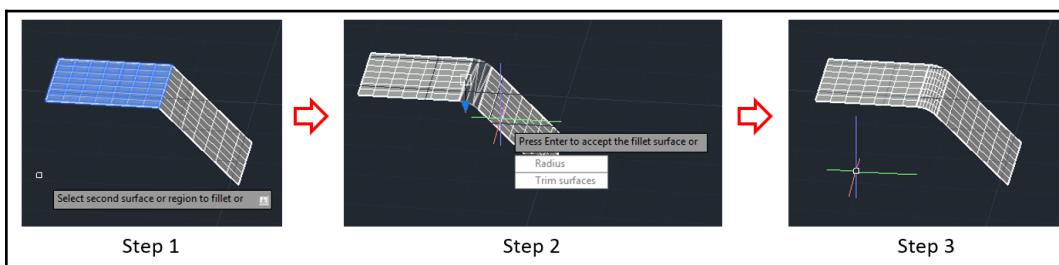
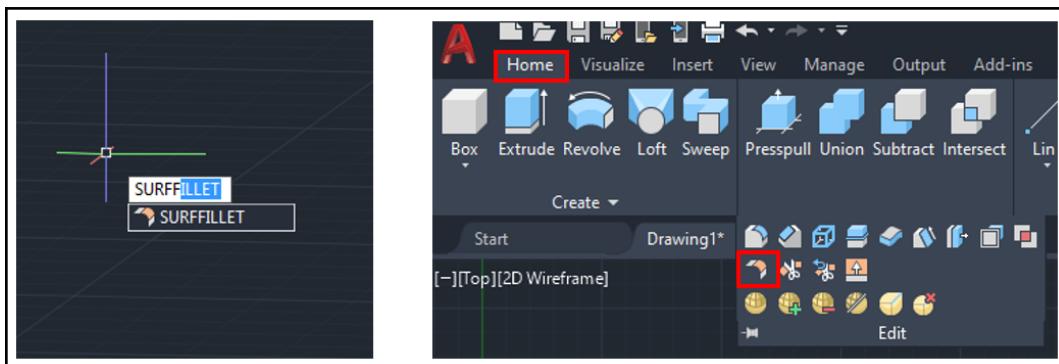


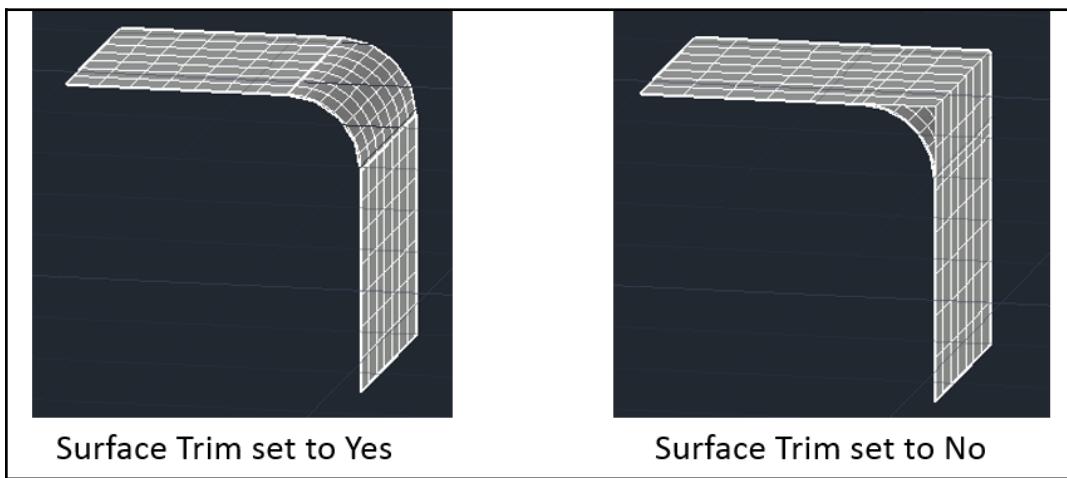
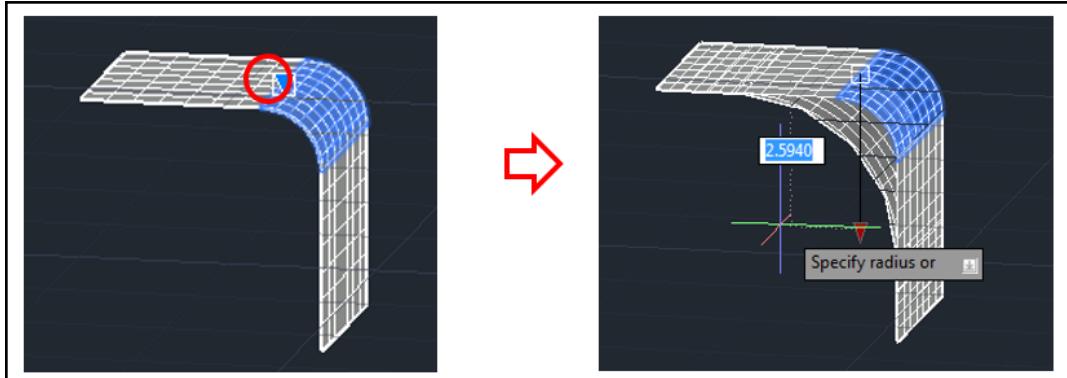


Connect option set to “No”



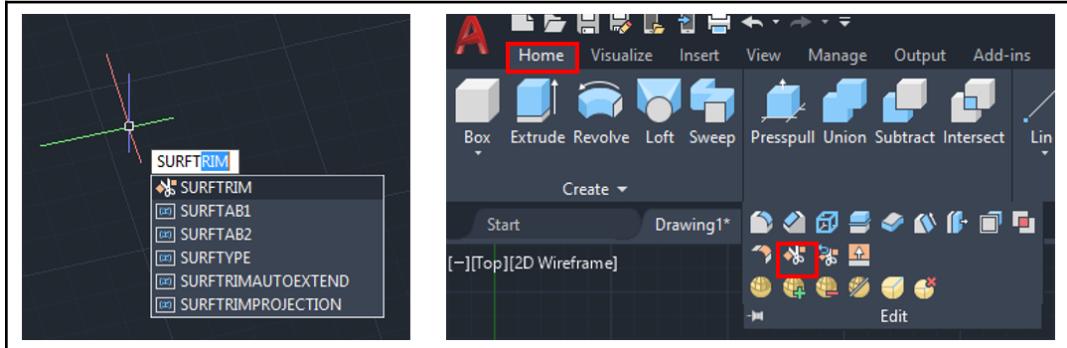
Connect option set to “Yes”

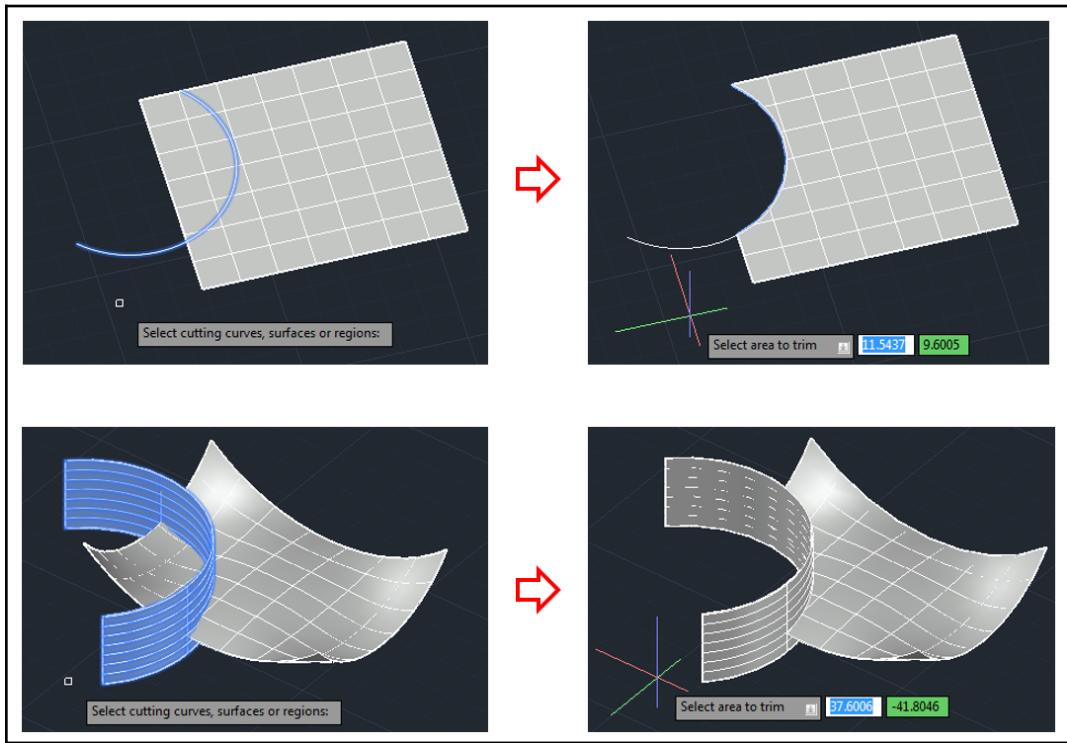
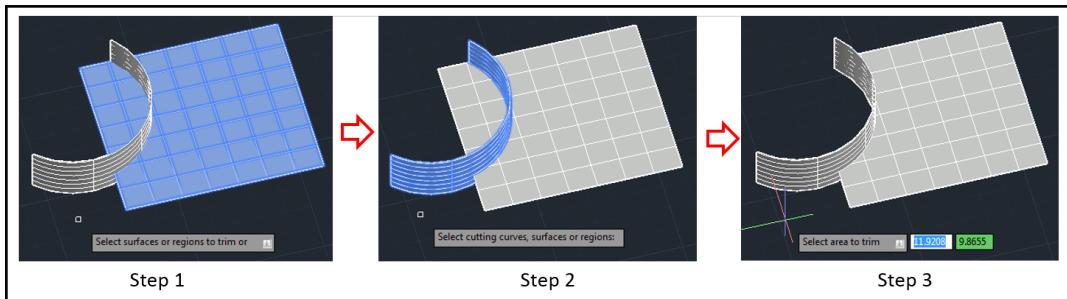




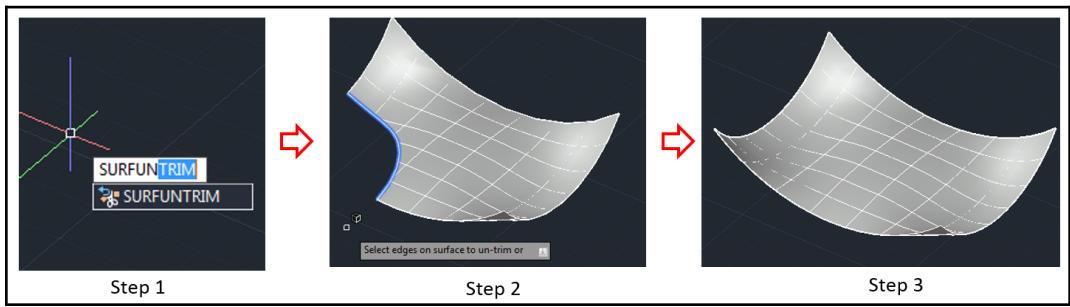
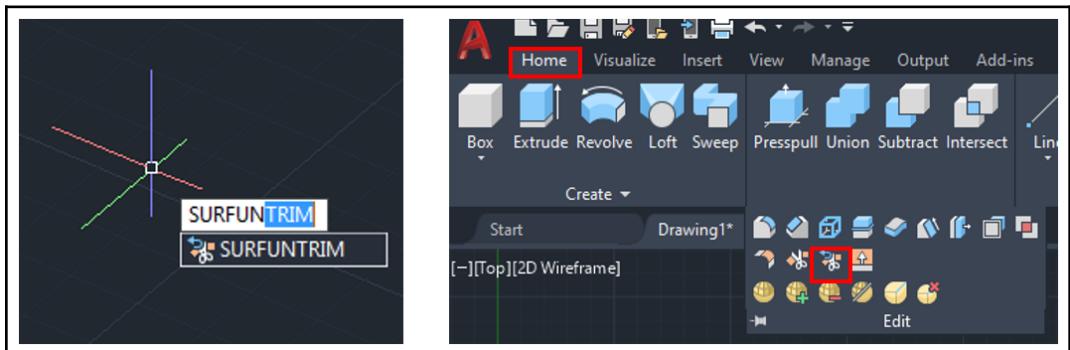
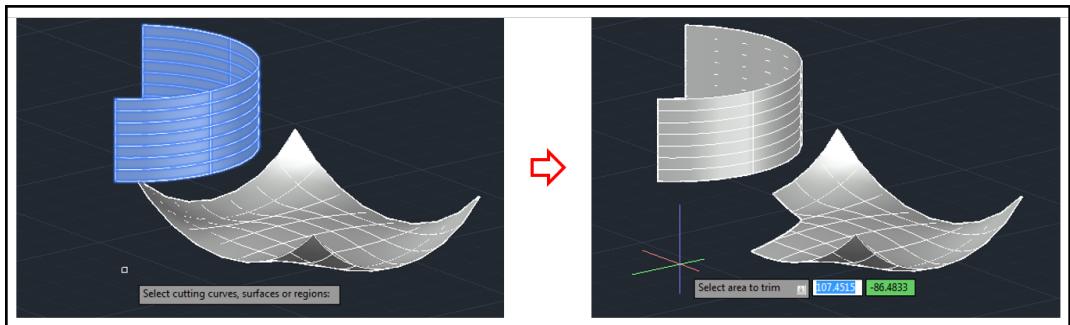
Surface Trim set to Yes

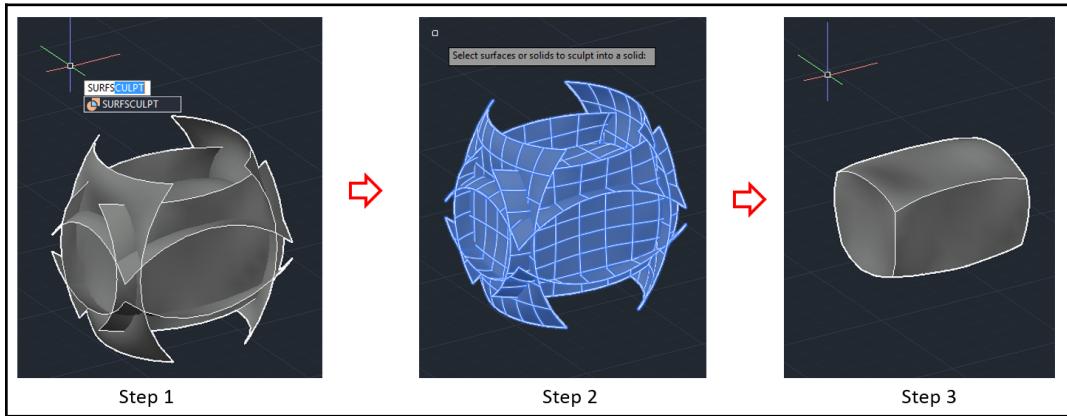
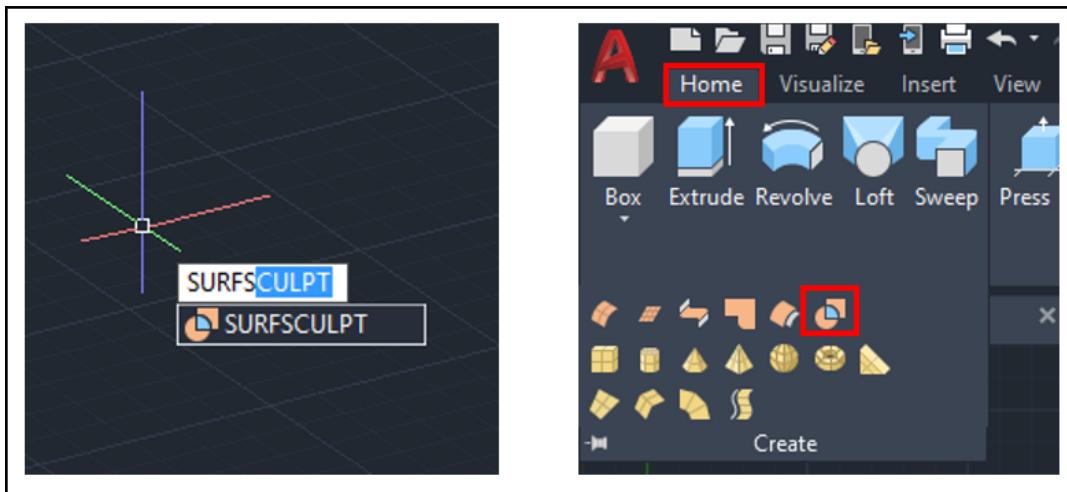
Surface Trim set to No

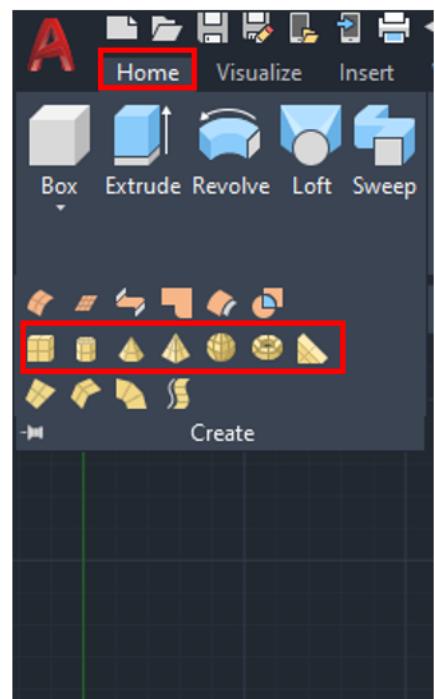




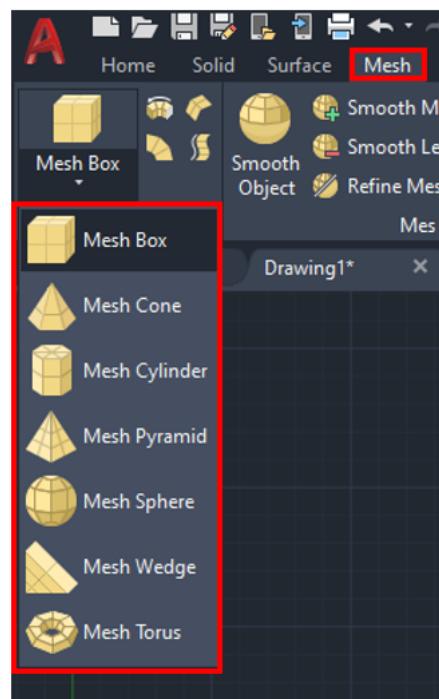
[[X ↵ SURFTRIM Select surfaces or regions to trim or [Extend PROjection direction]:



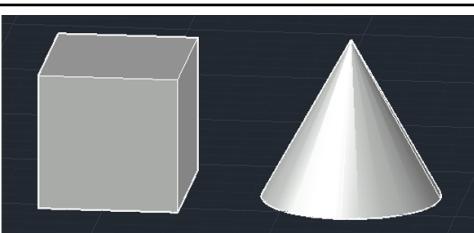




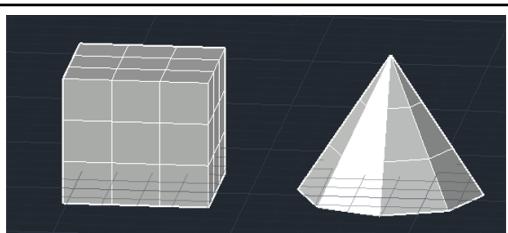
Mesh Primitives buttons in the 3D Basics workspace



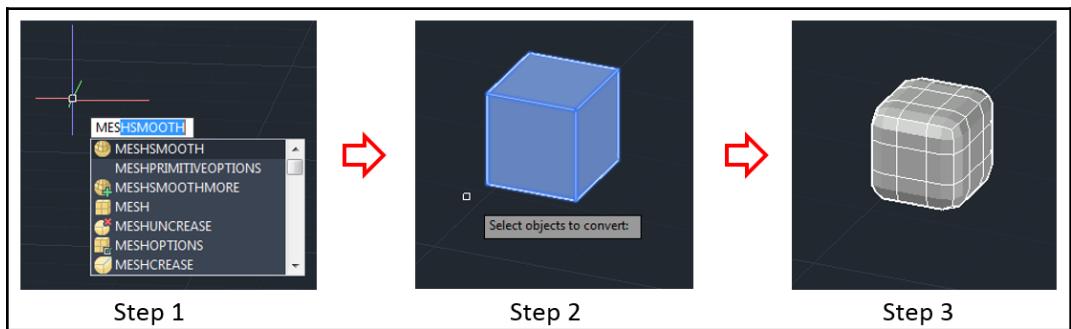
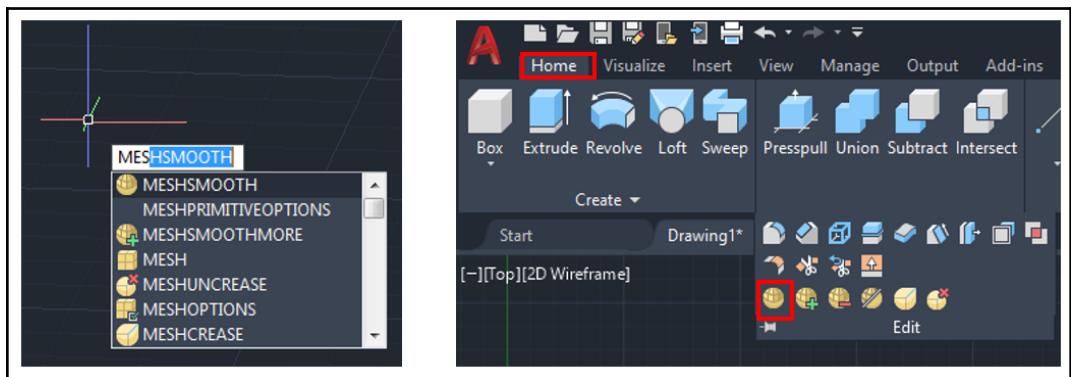
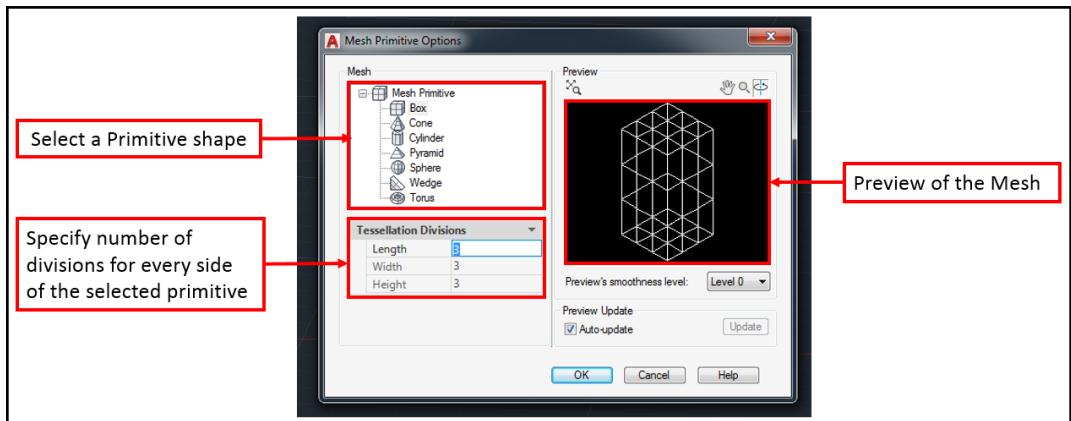
Mesh Primitives buttons in the 3D Modeling workspace

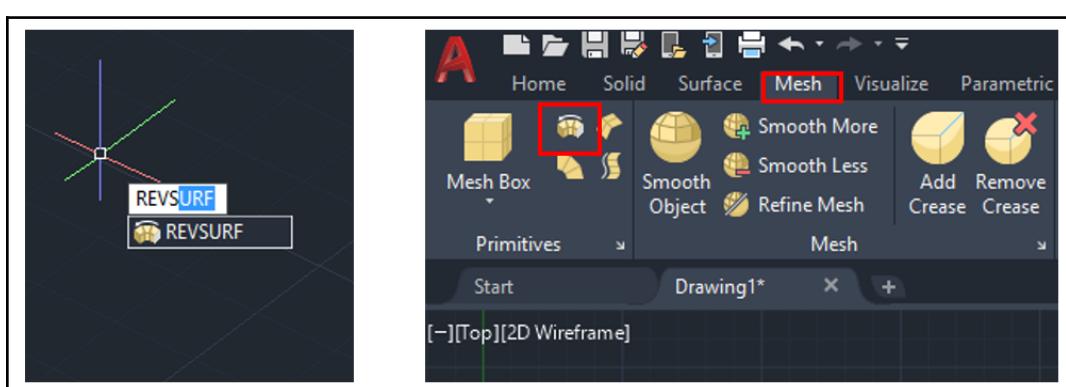
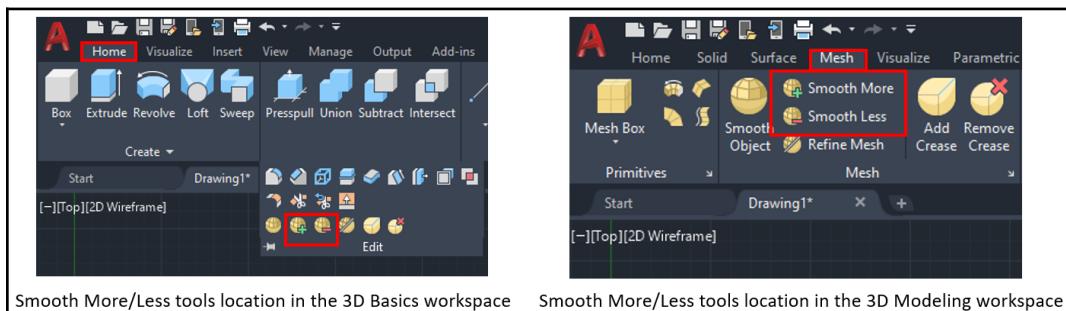
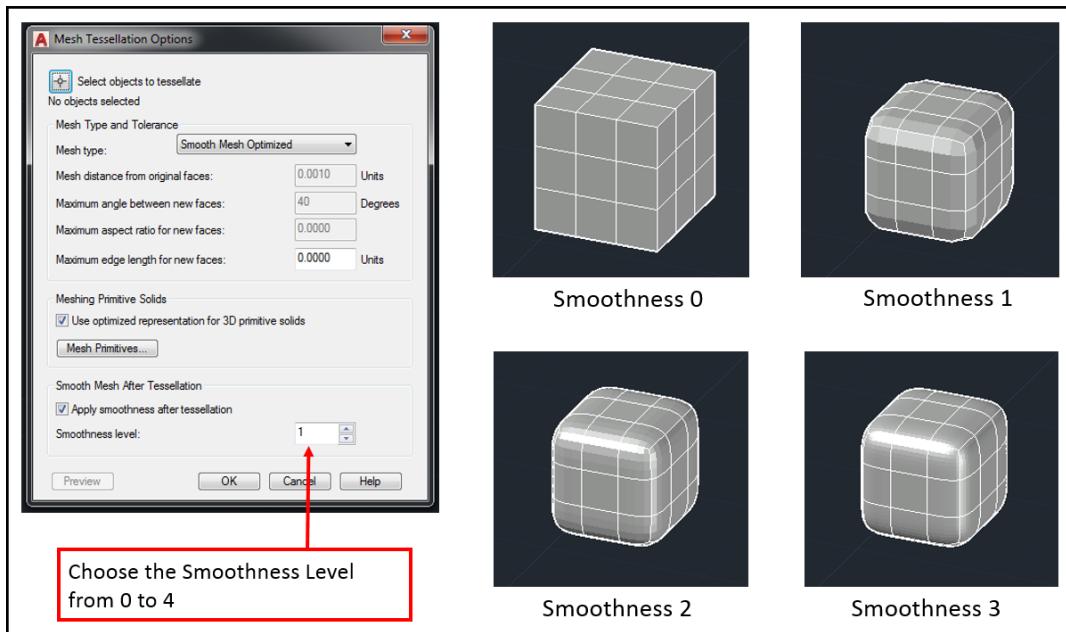


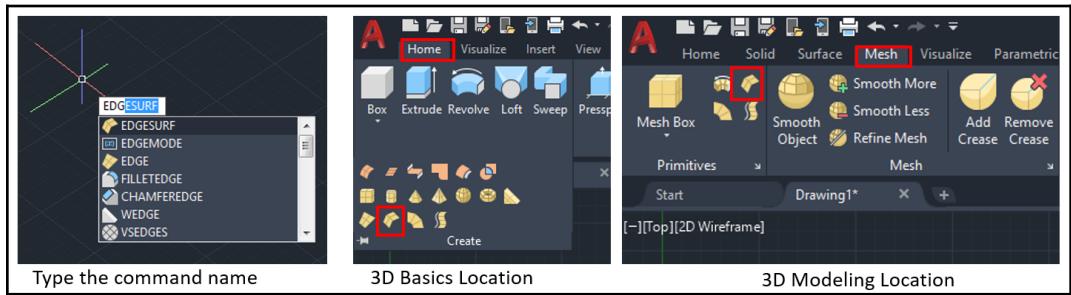
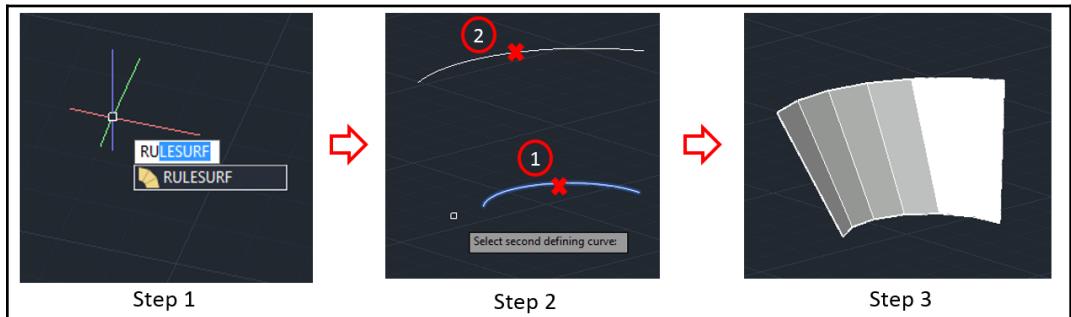
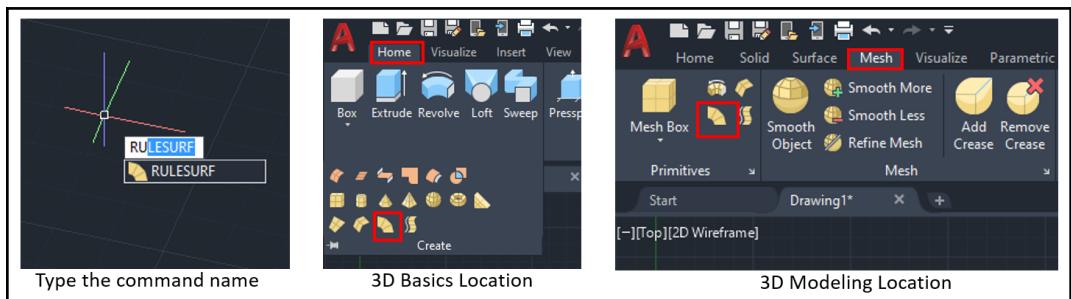
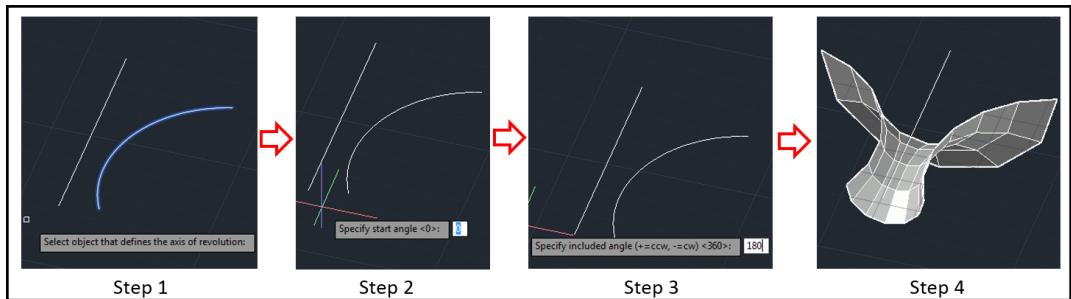
Primitive 3D Solid Objects

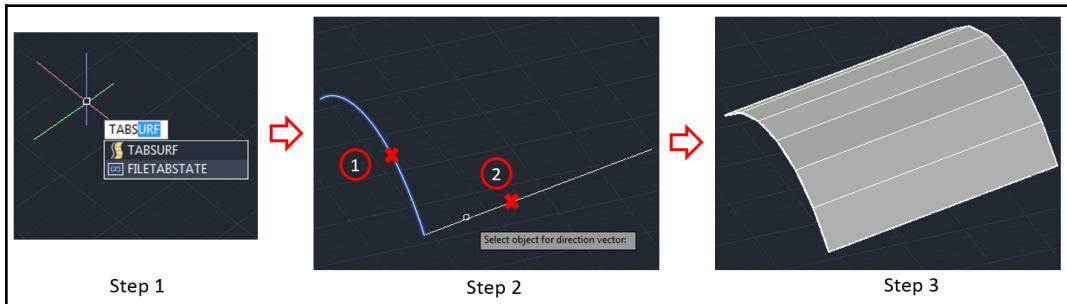
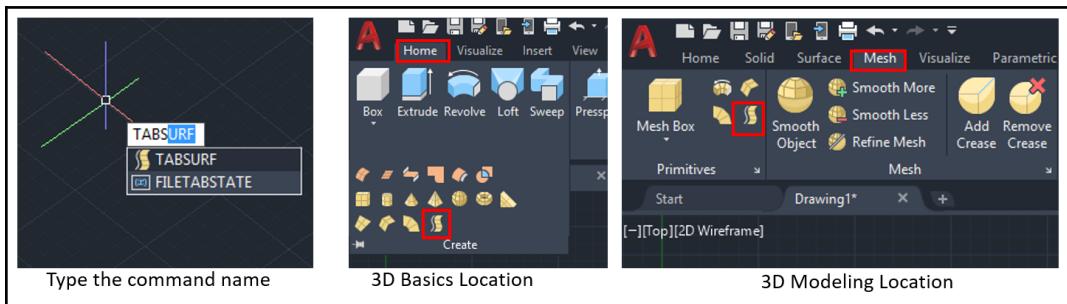
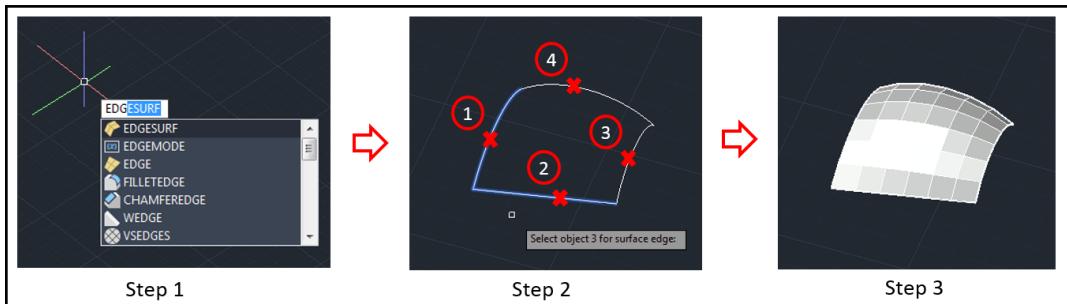


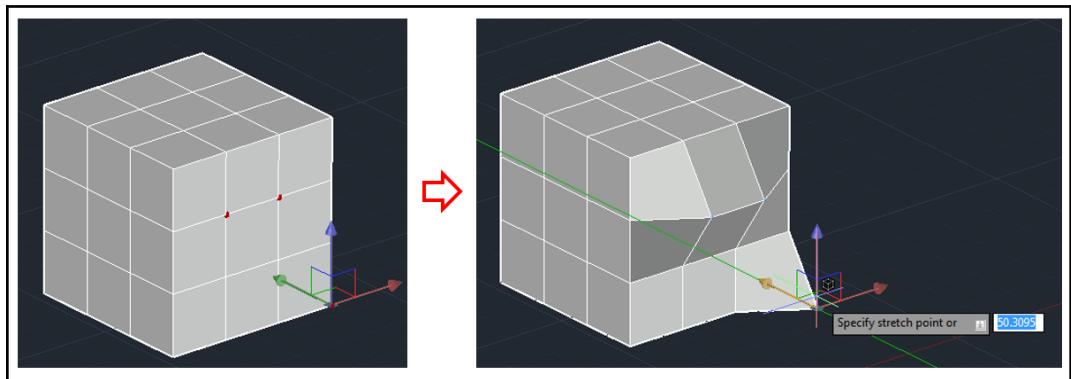
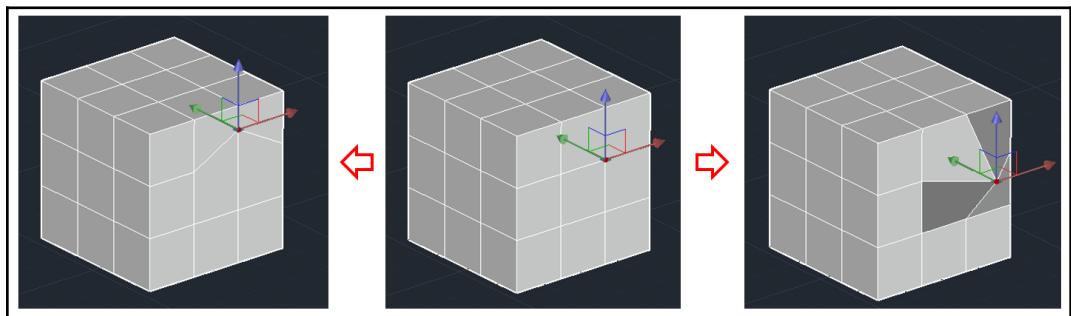
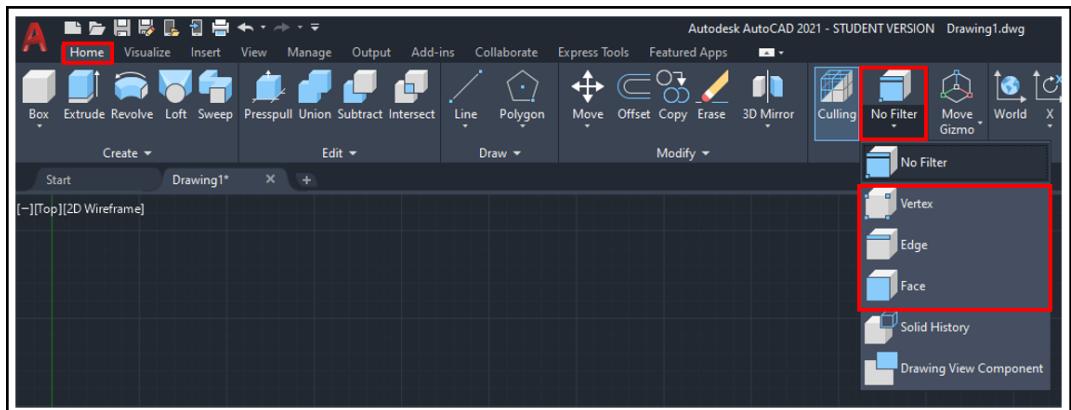
Primitive Mesh Objects

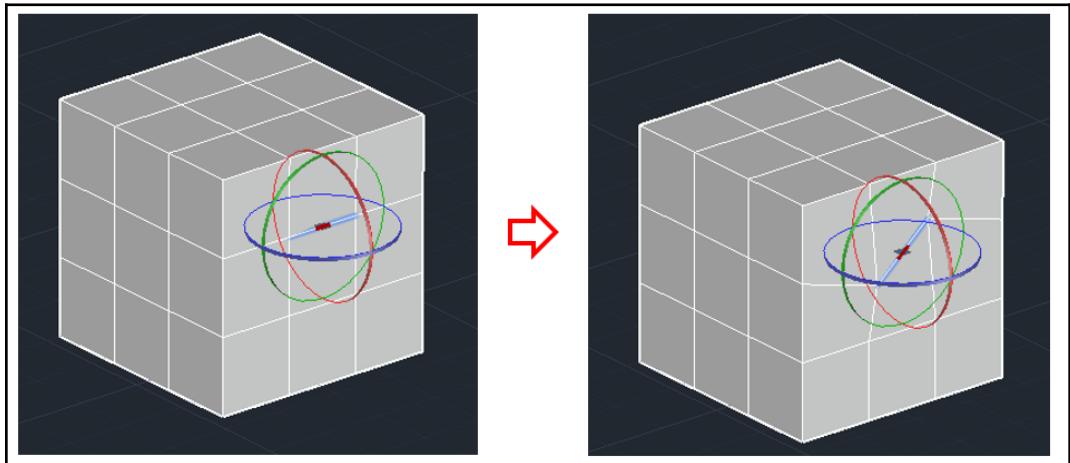
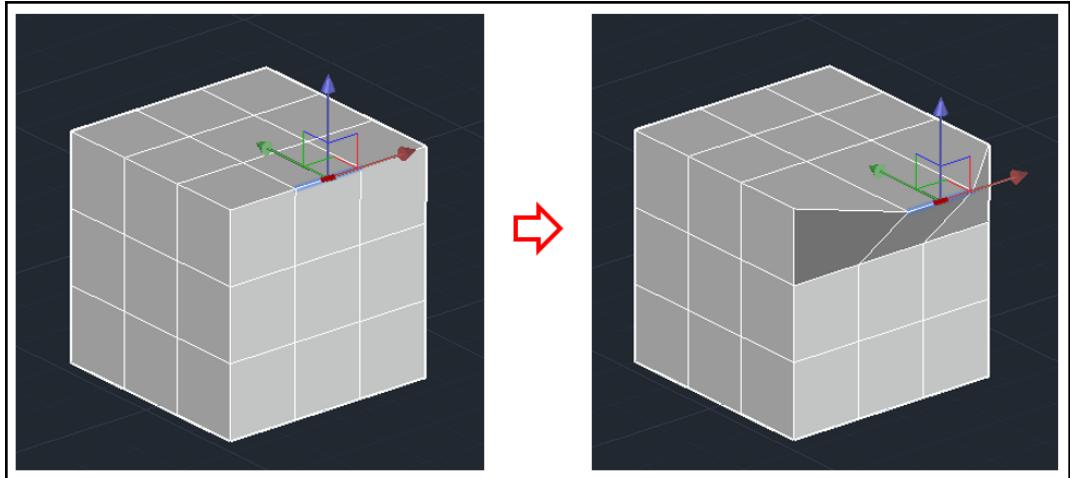


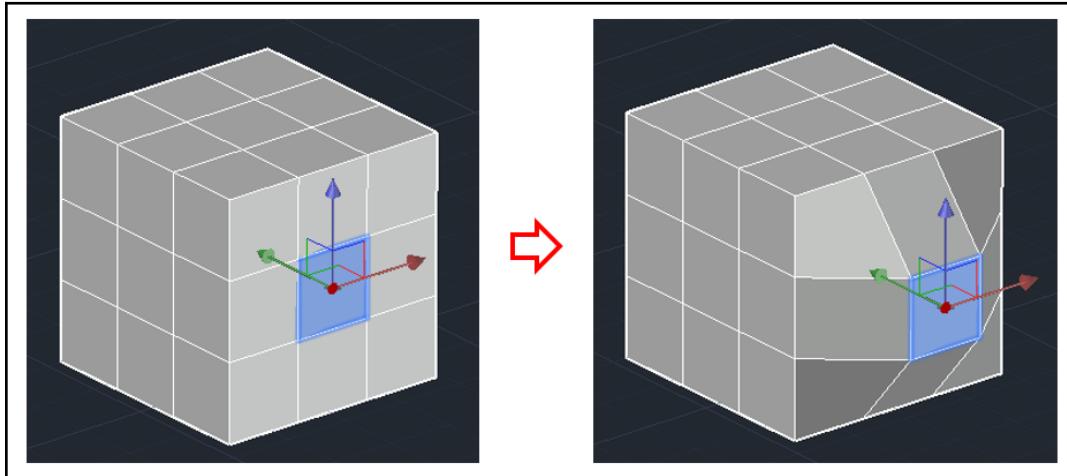
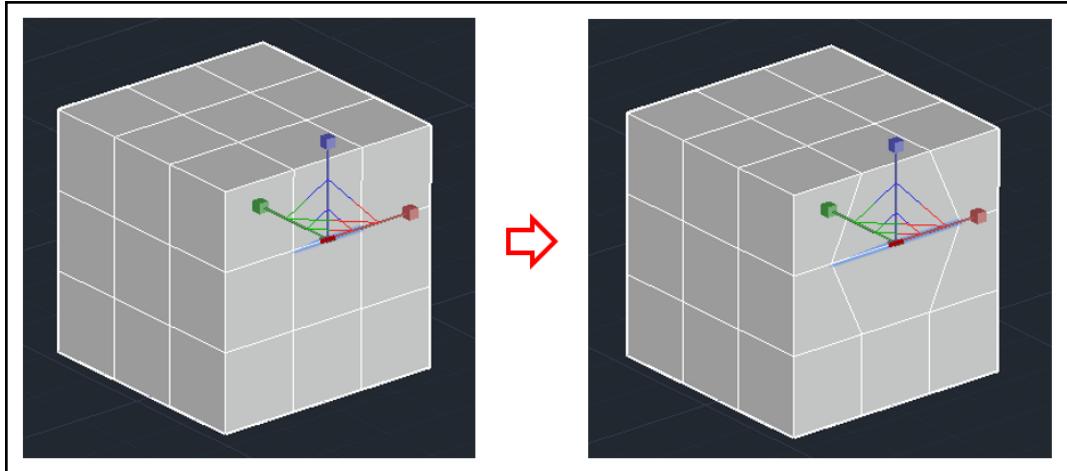


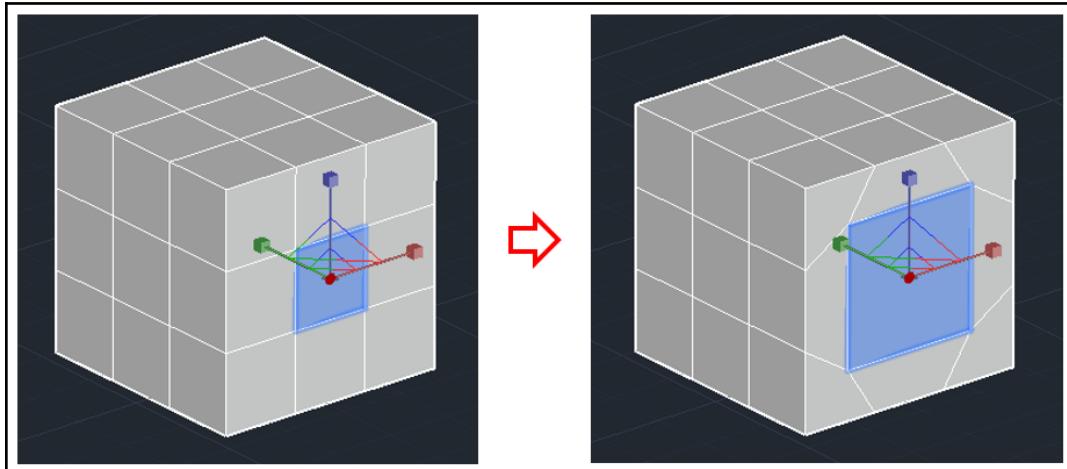
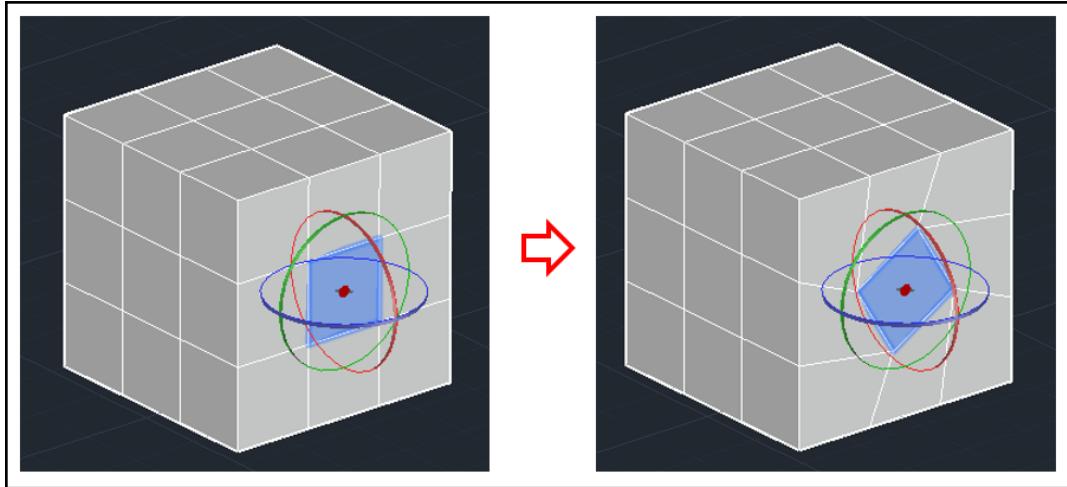


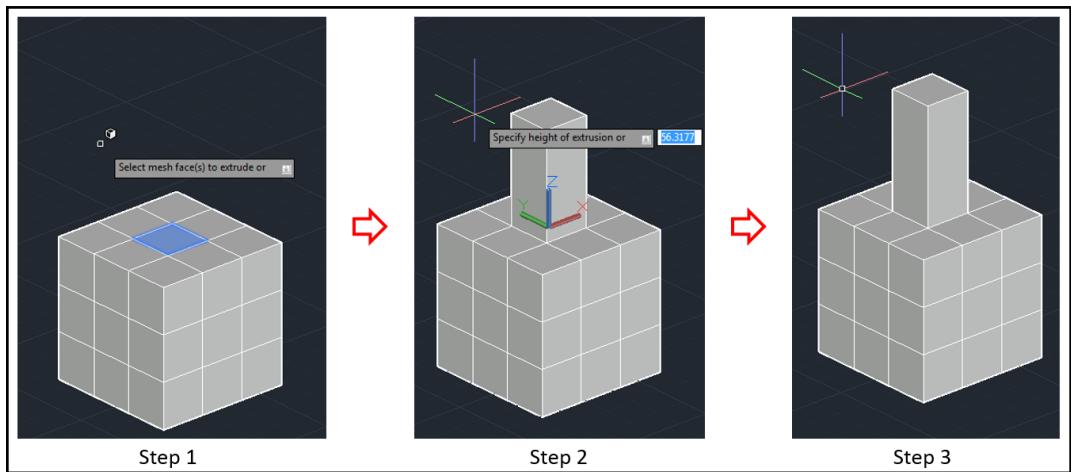
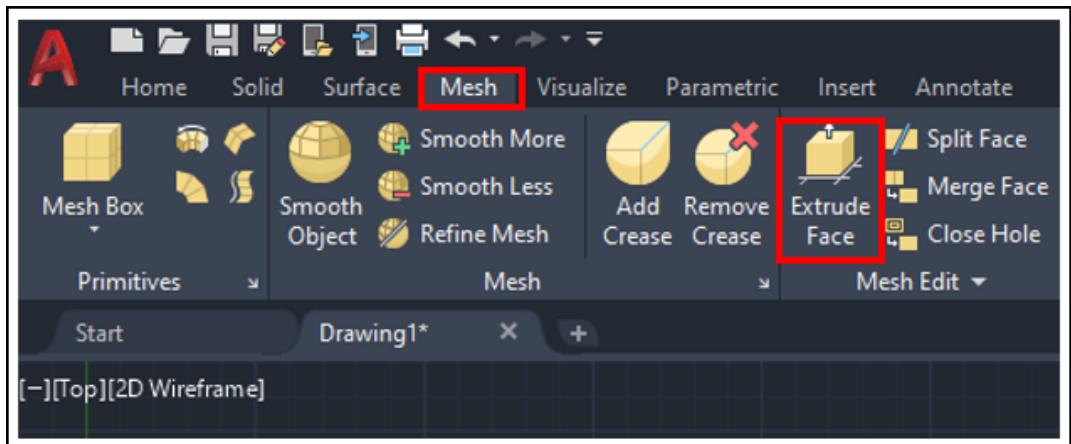


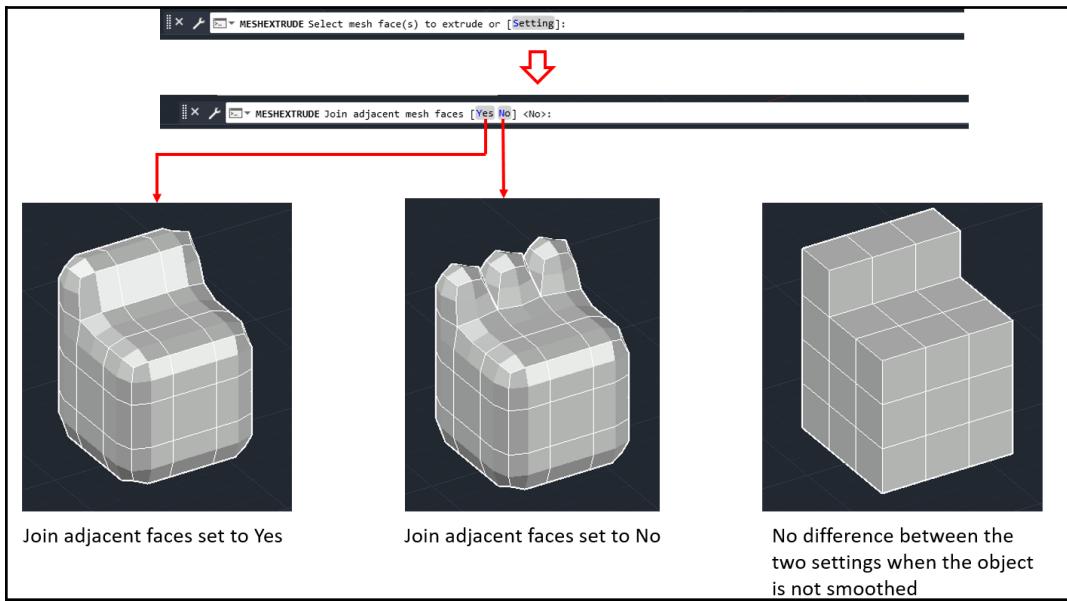
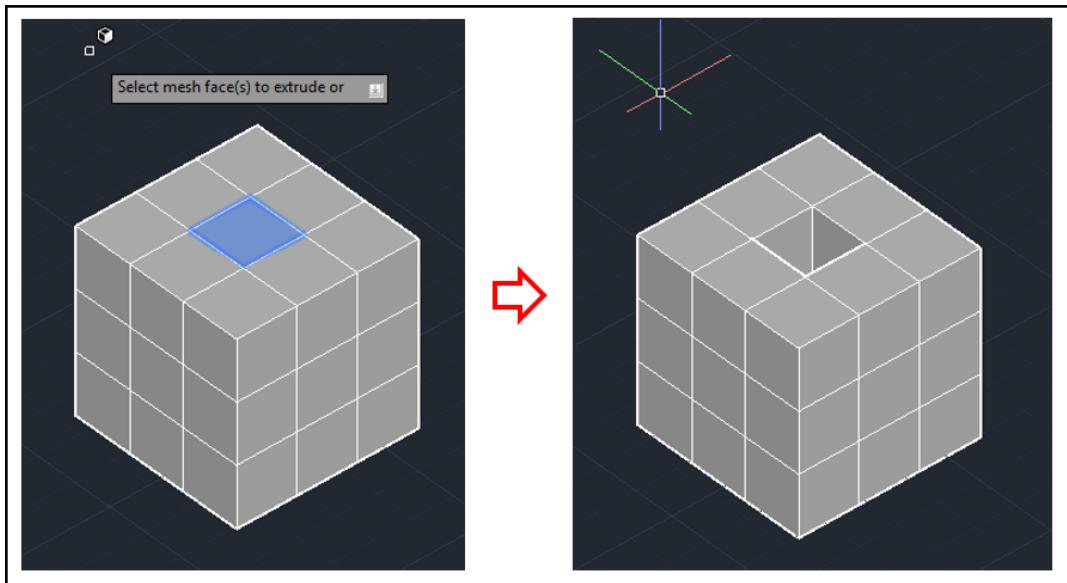




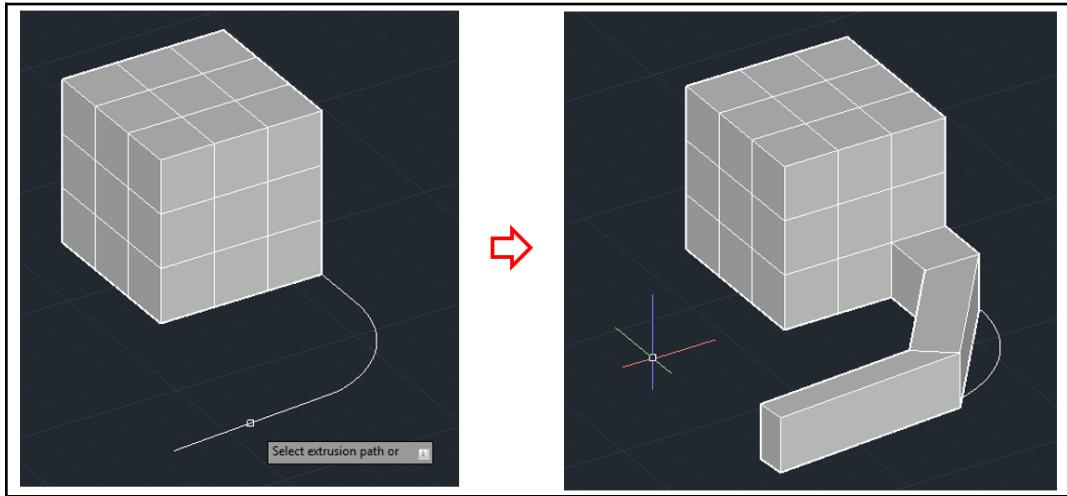
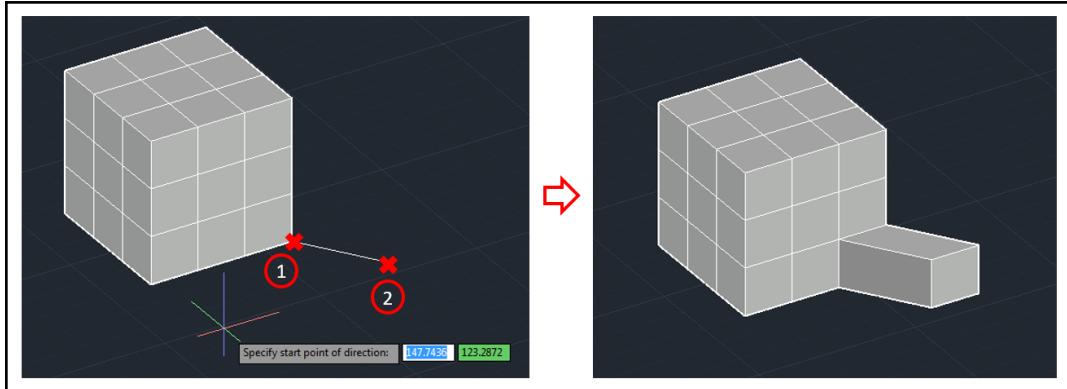


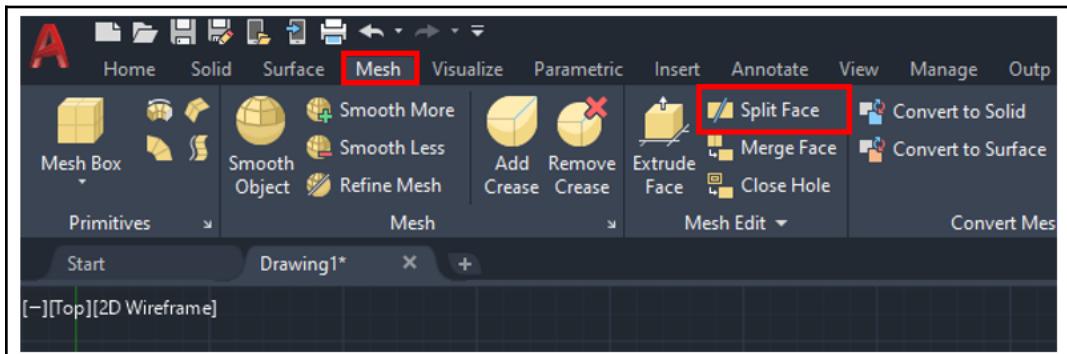
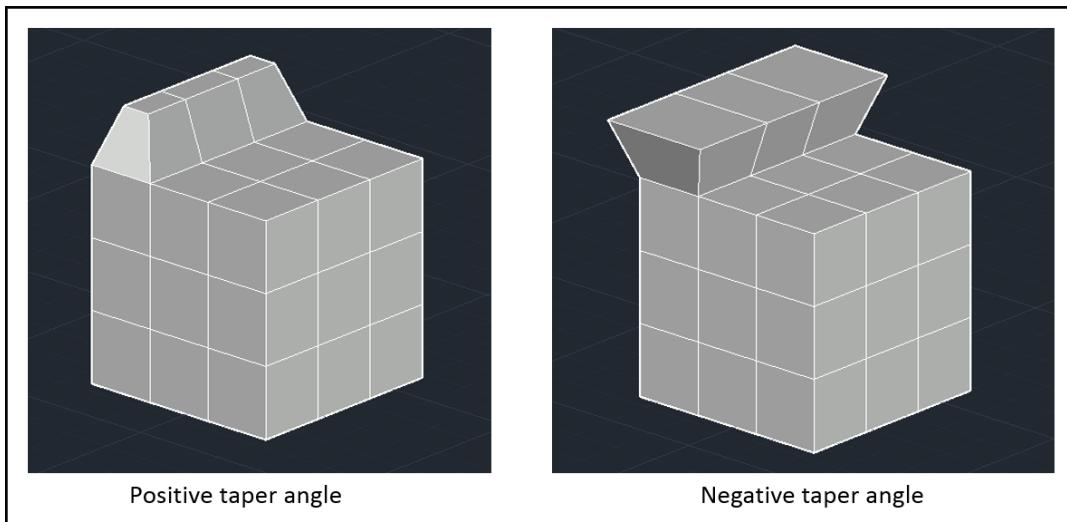


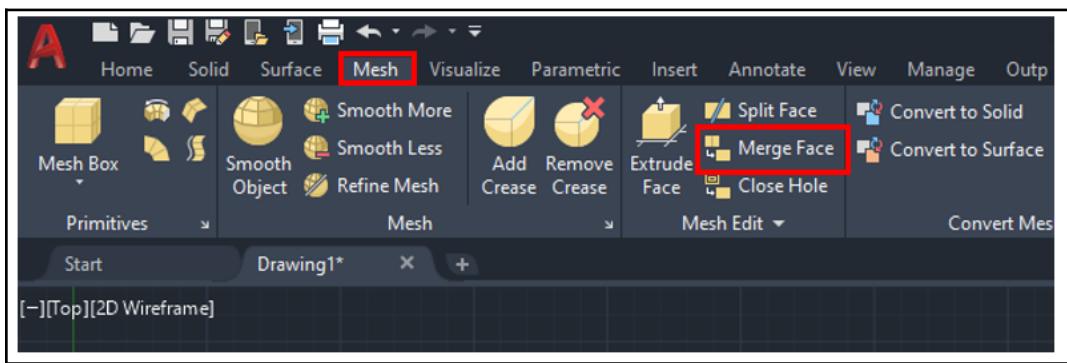
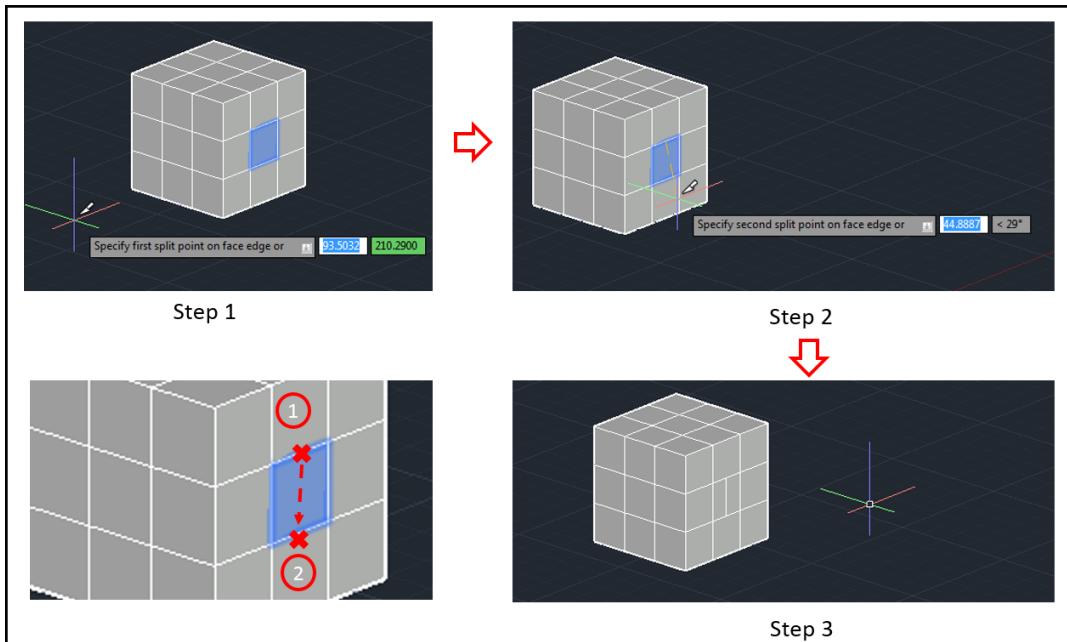


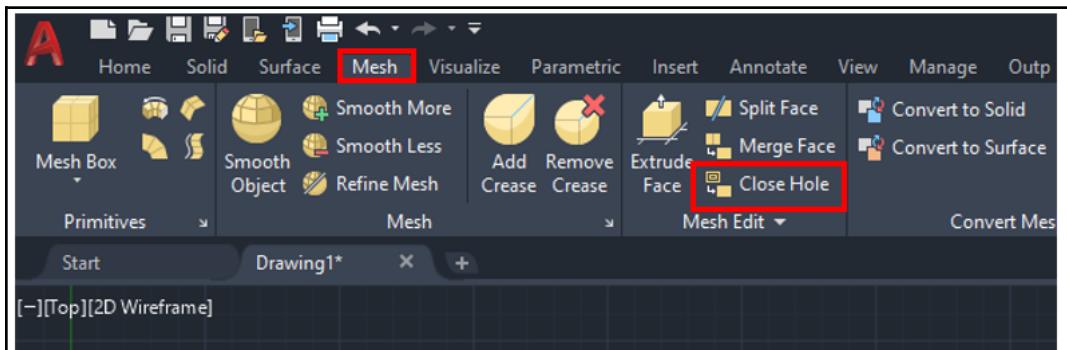
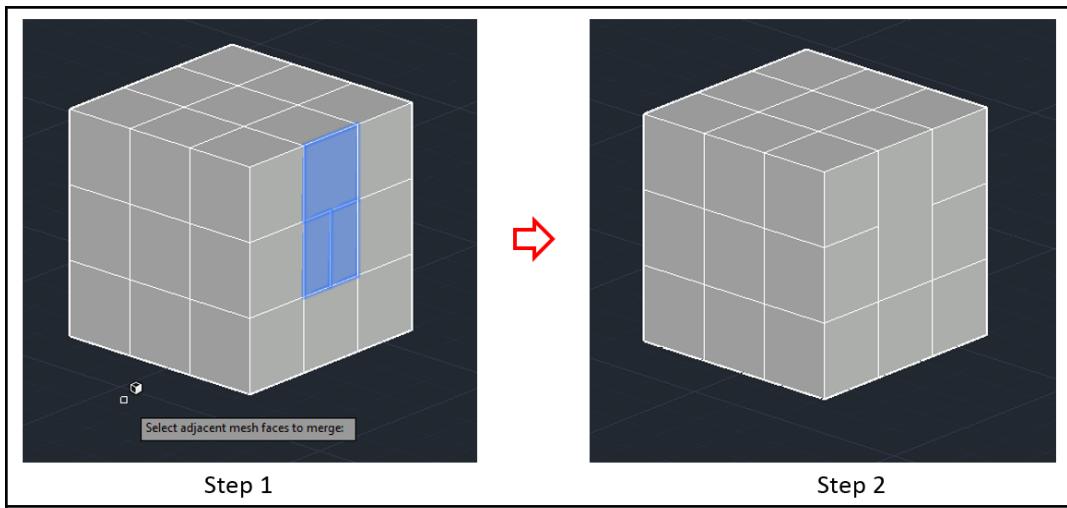


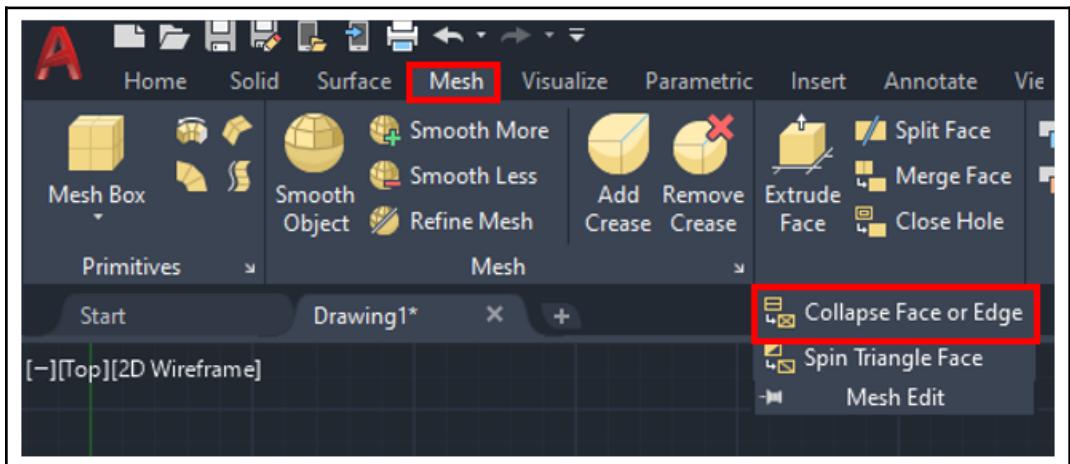
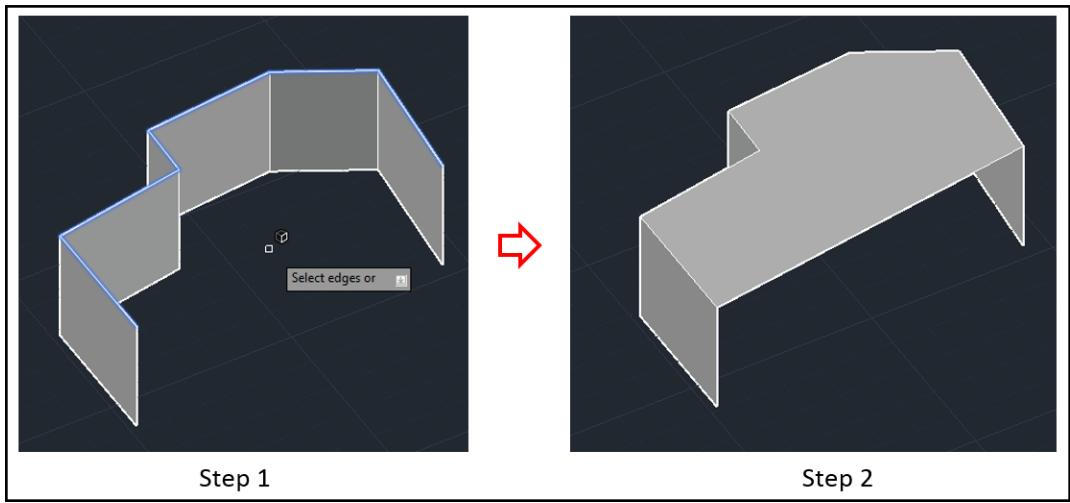
MESHEXTRUDE Specify height of extrusion or [Direction Path Taper angle] <-36.0416>:

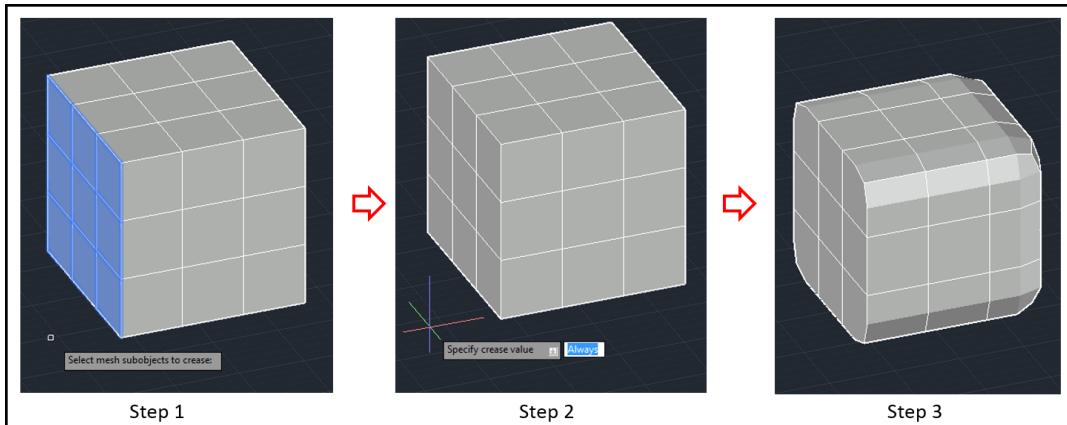
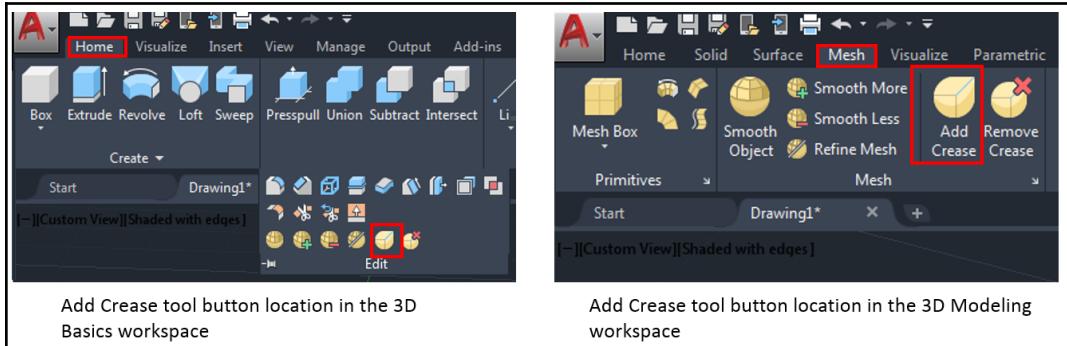
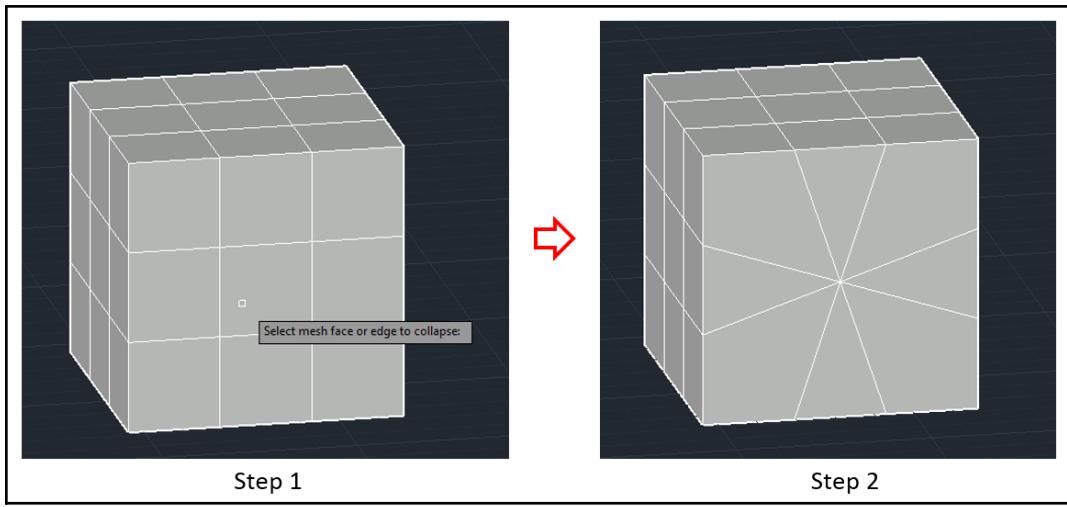


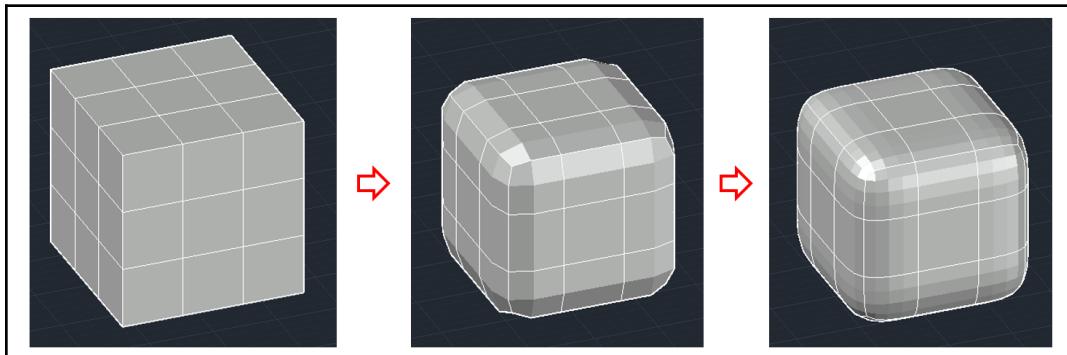
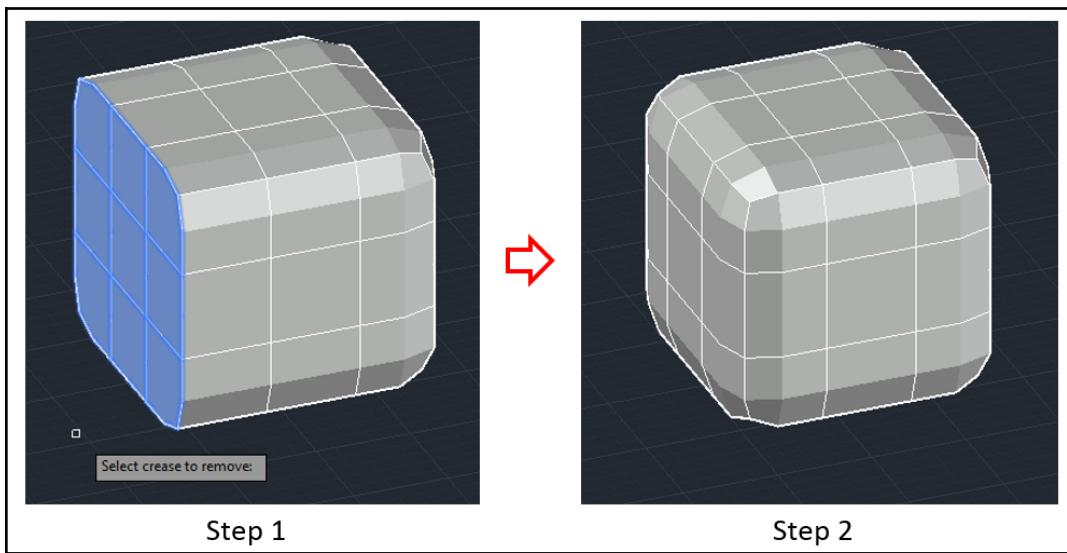
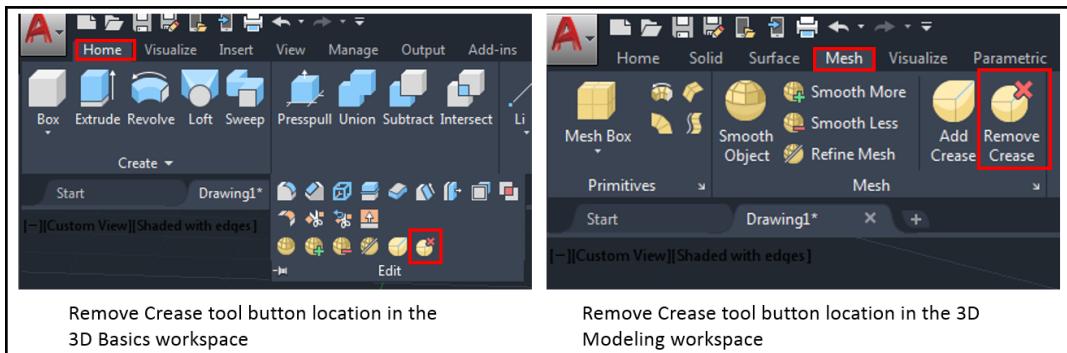


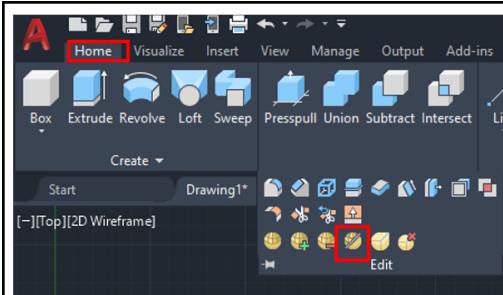




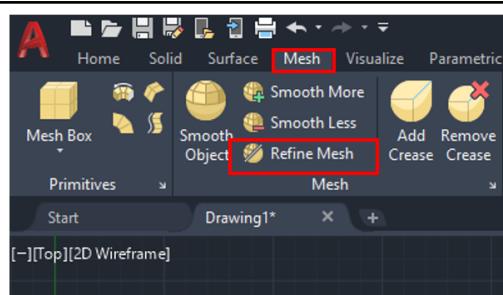




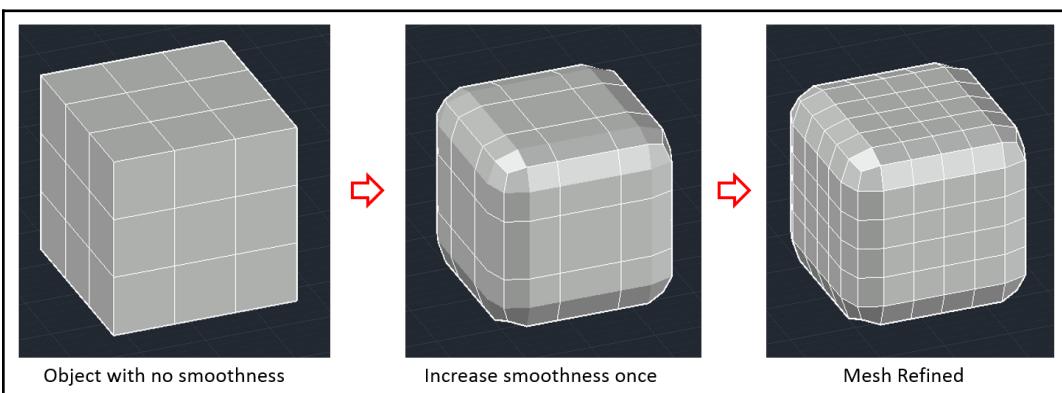




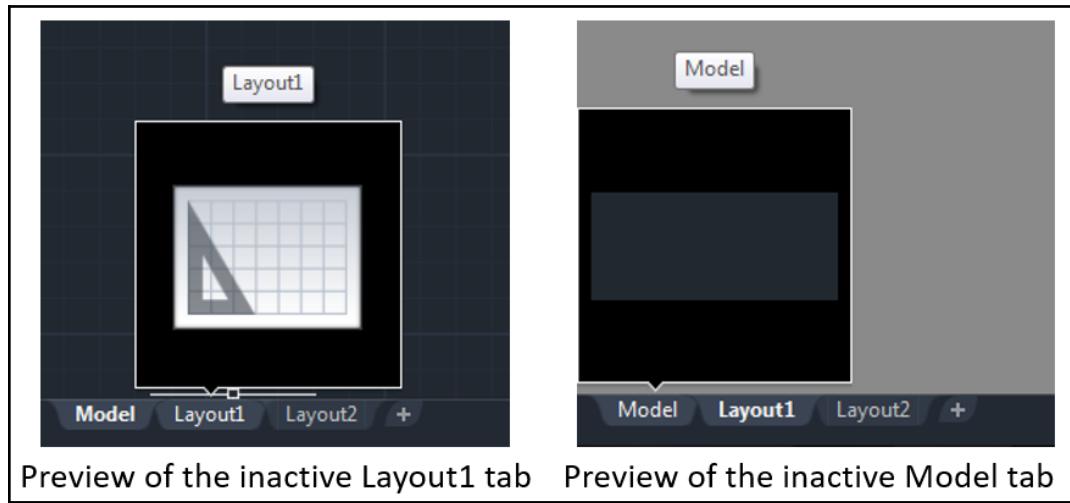
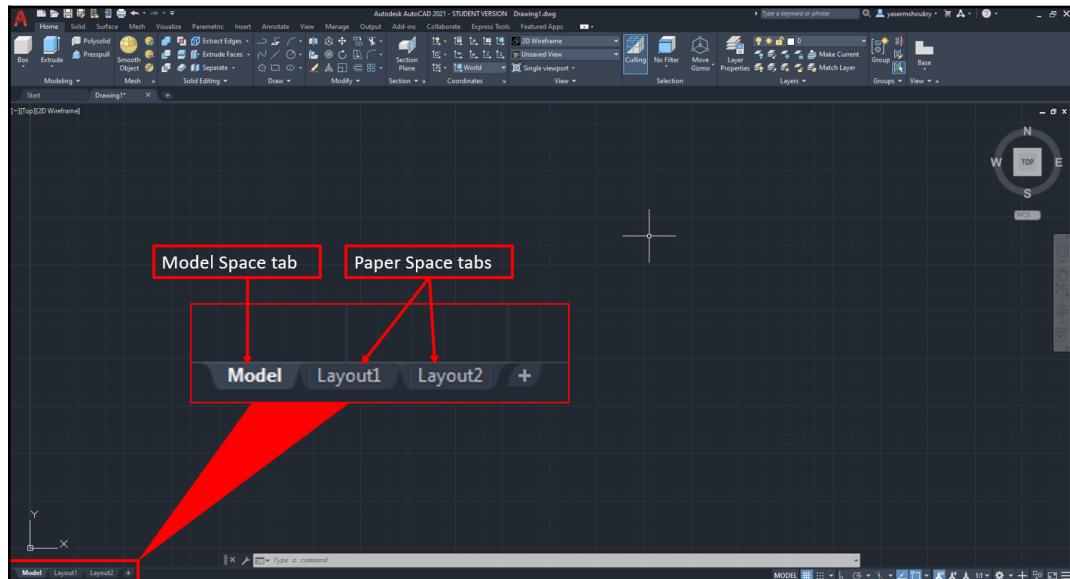
Refine Mesh tool location in the 3D Basics workspace

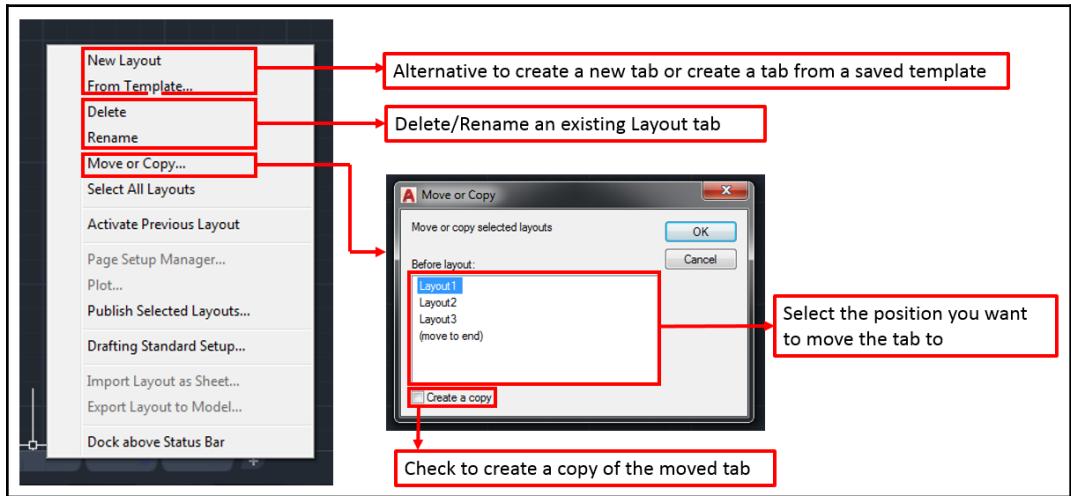
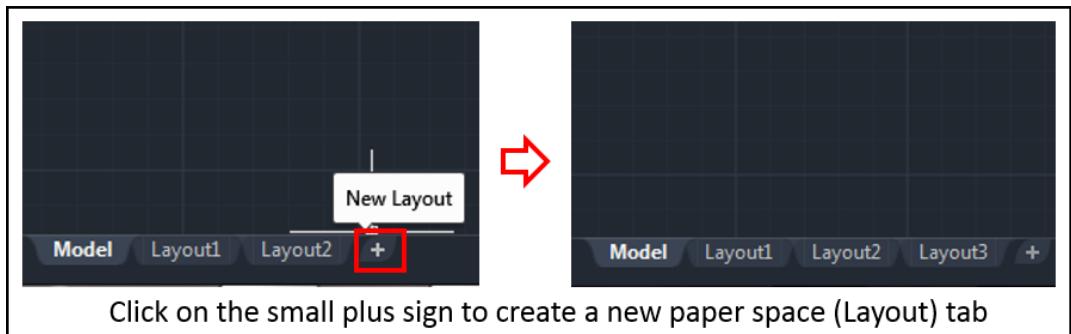


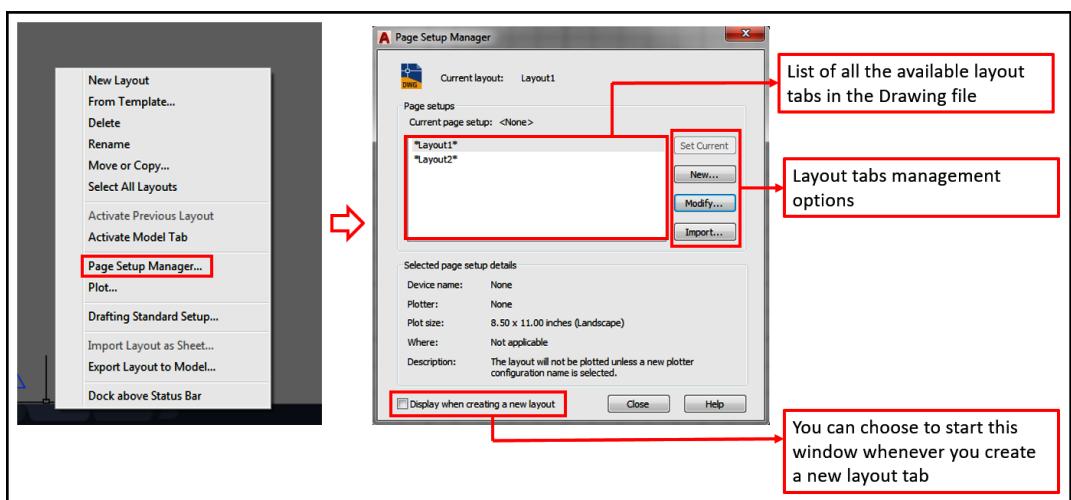
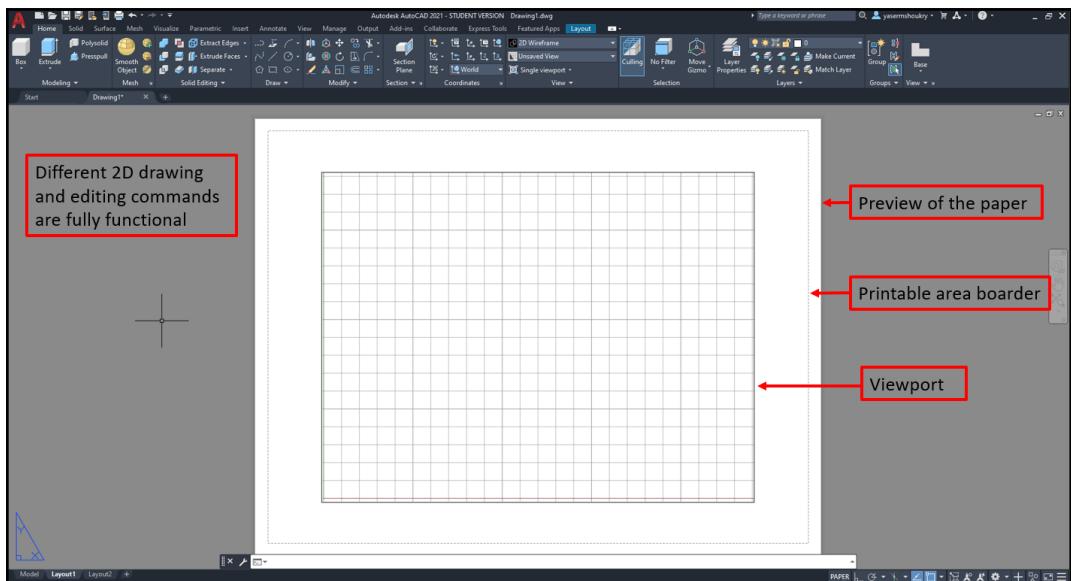
Refine Mesh tool location in the 3D Modeling workspace

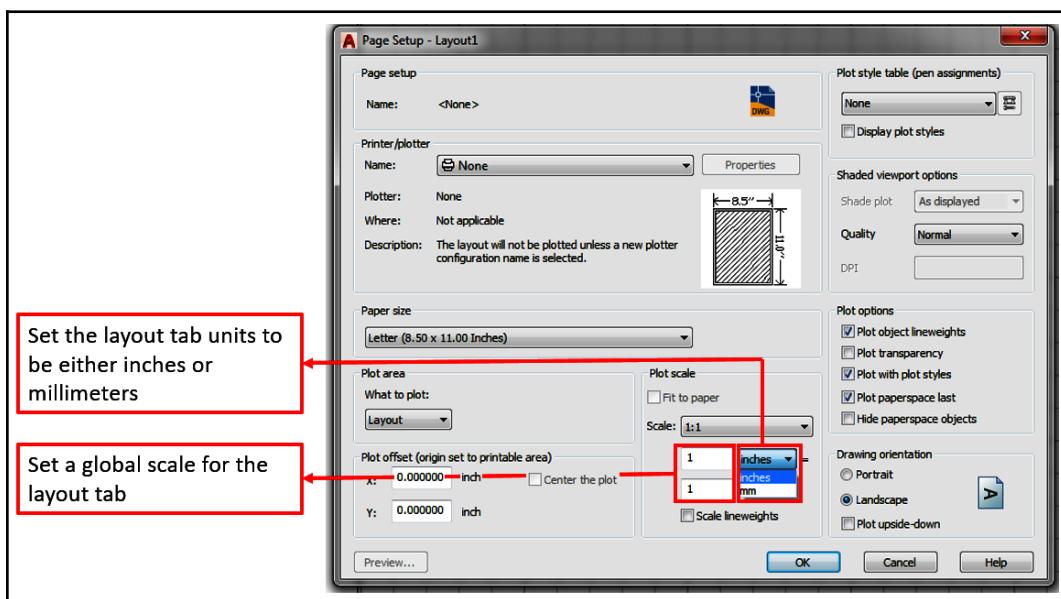
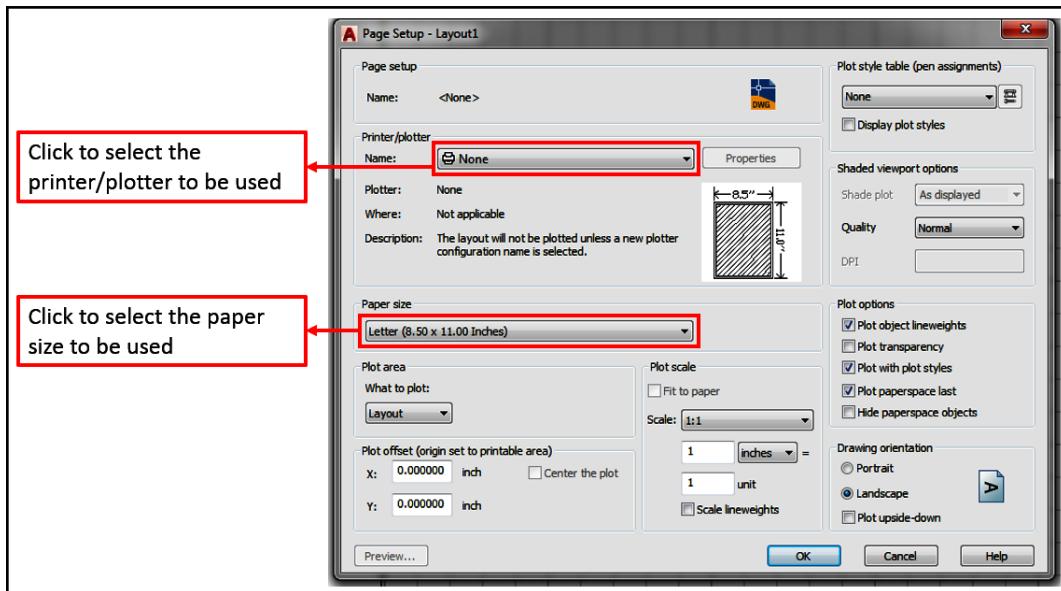


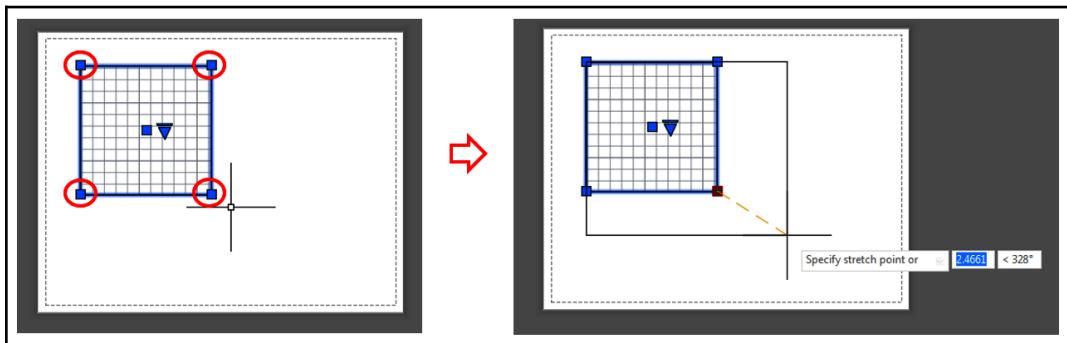
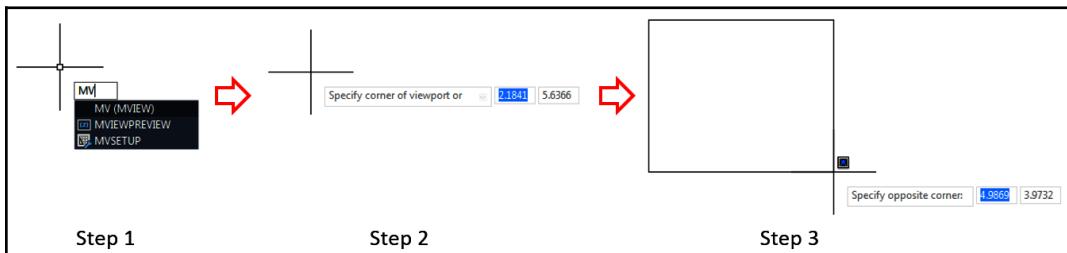
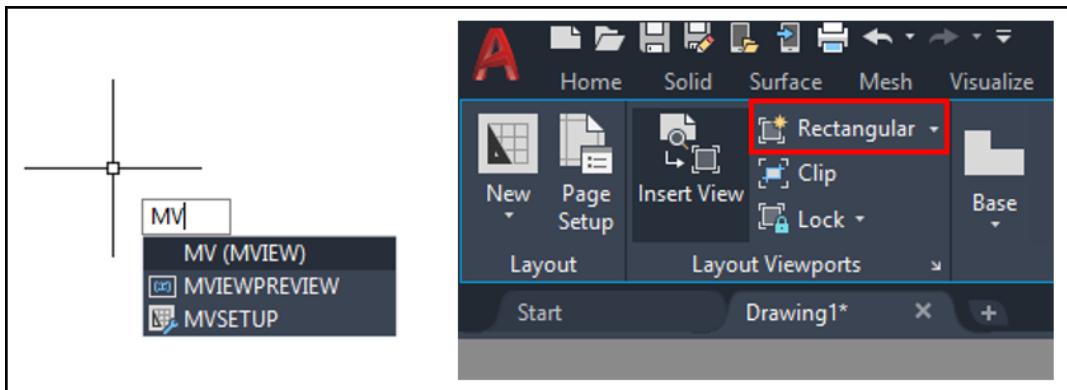
Chapter 15: Paper Space Layouts and Printing

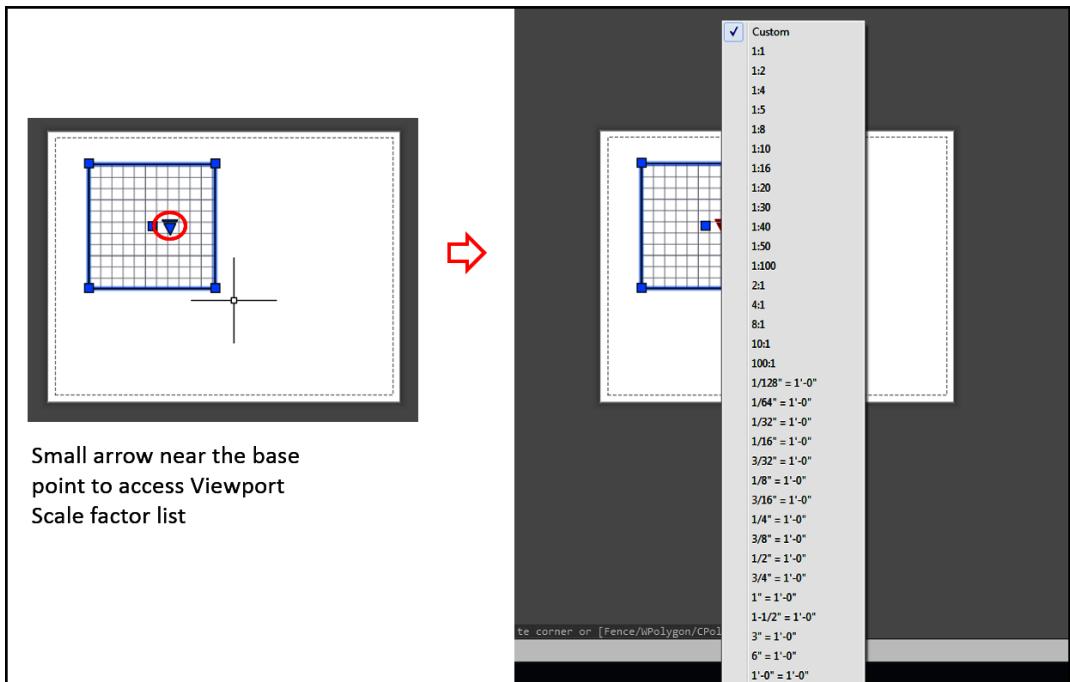




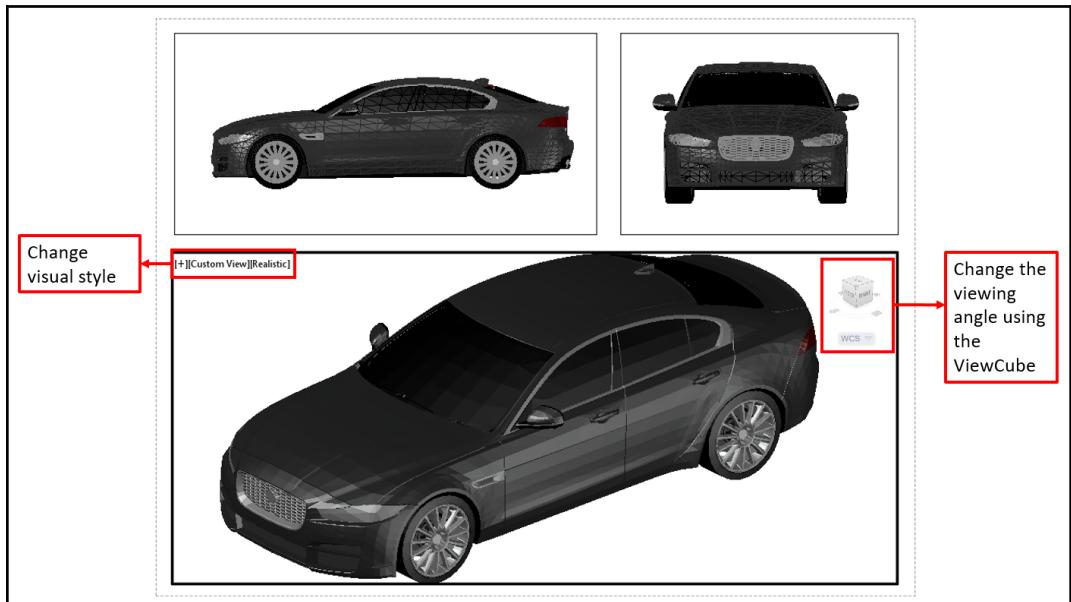
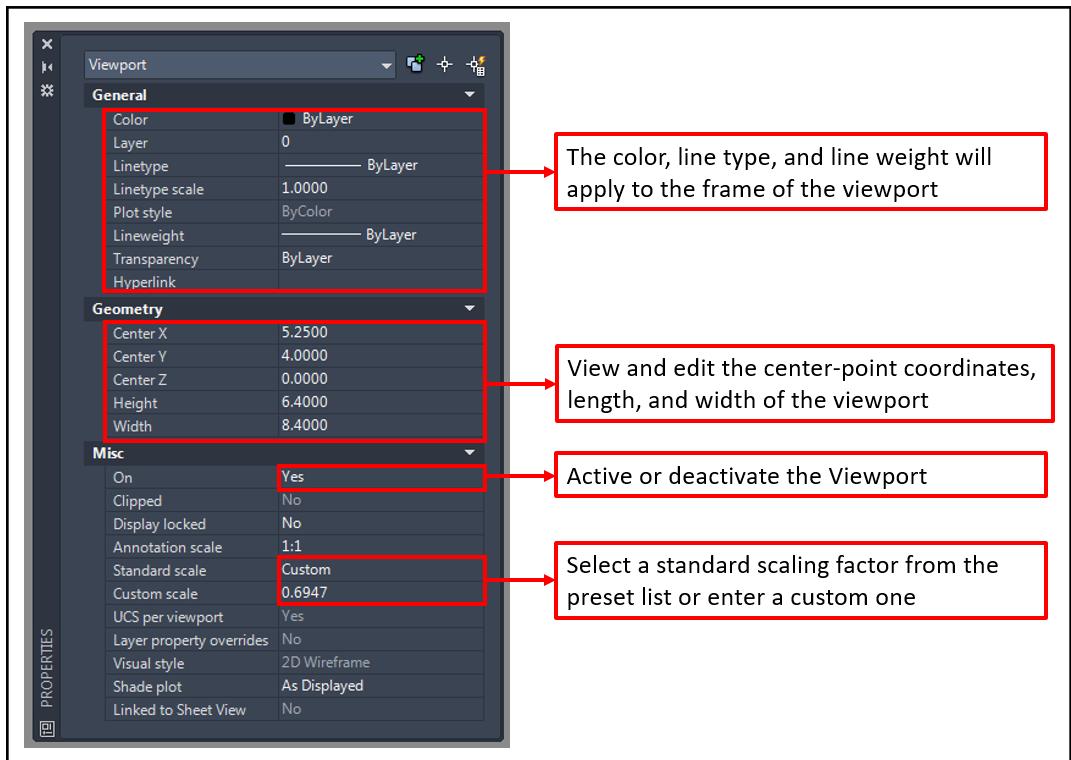


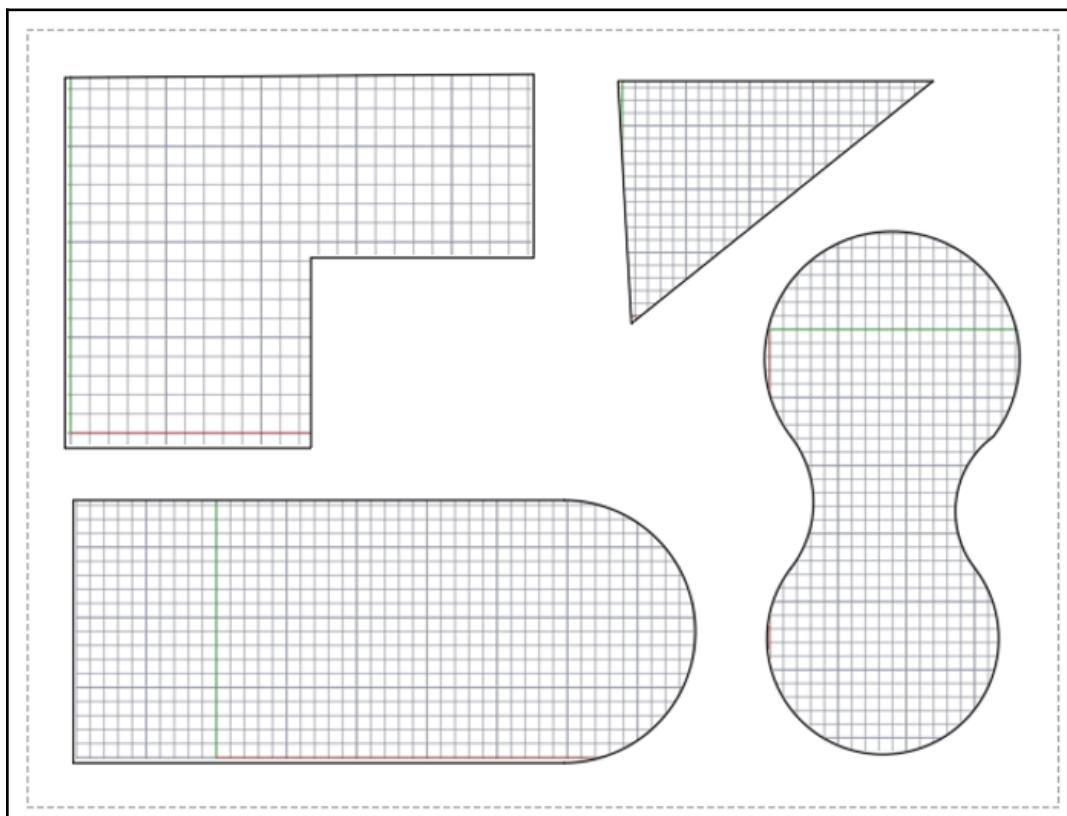
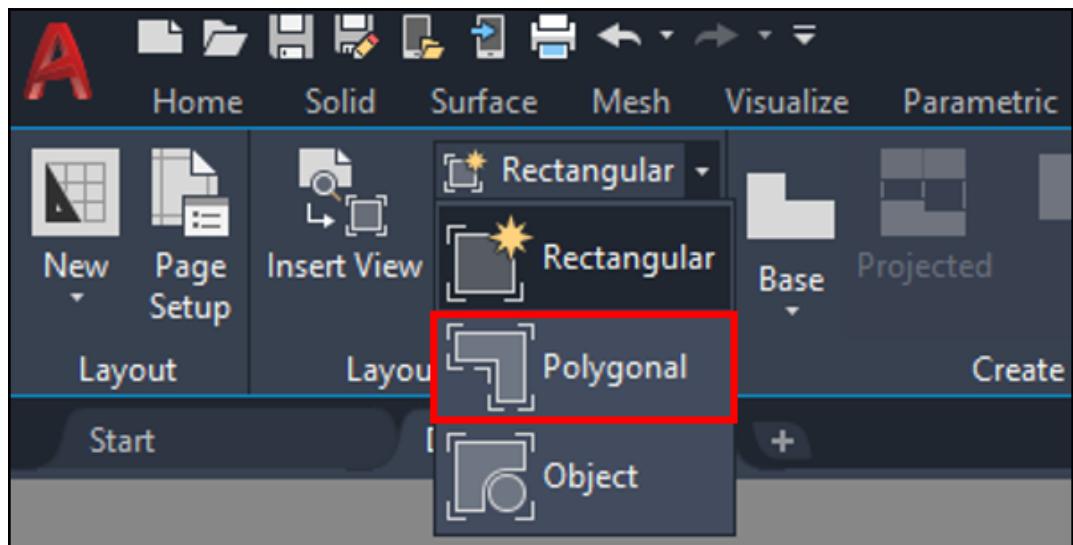


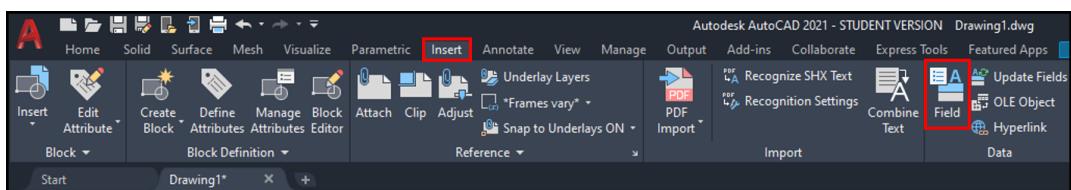
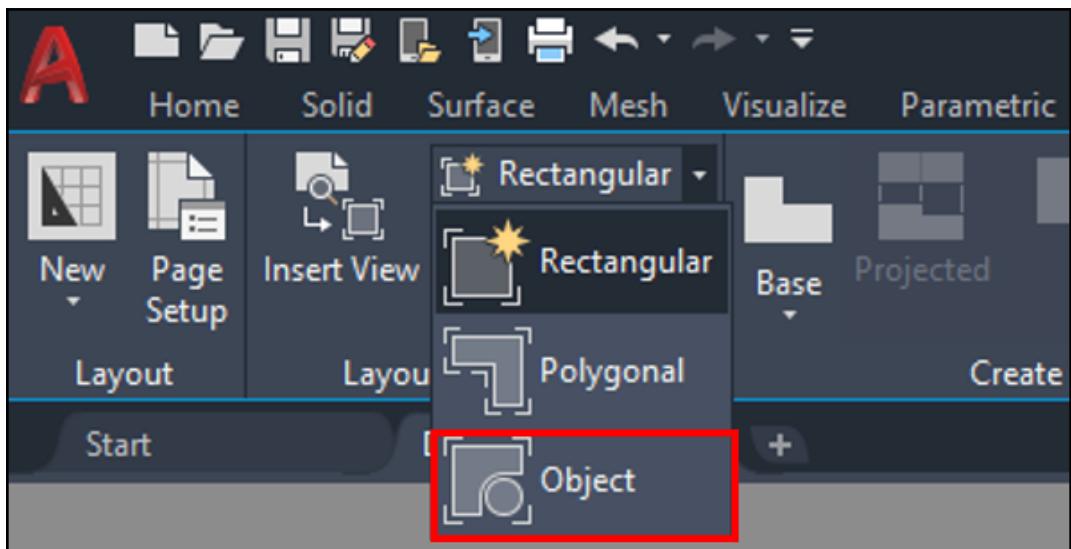


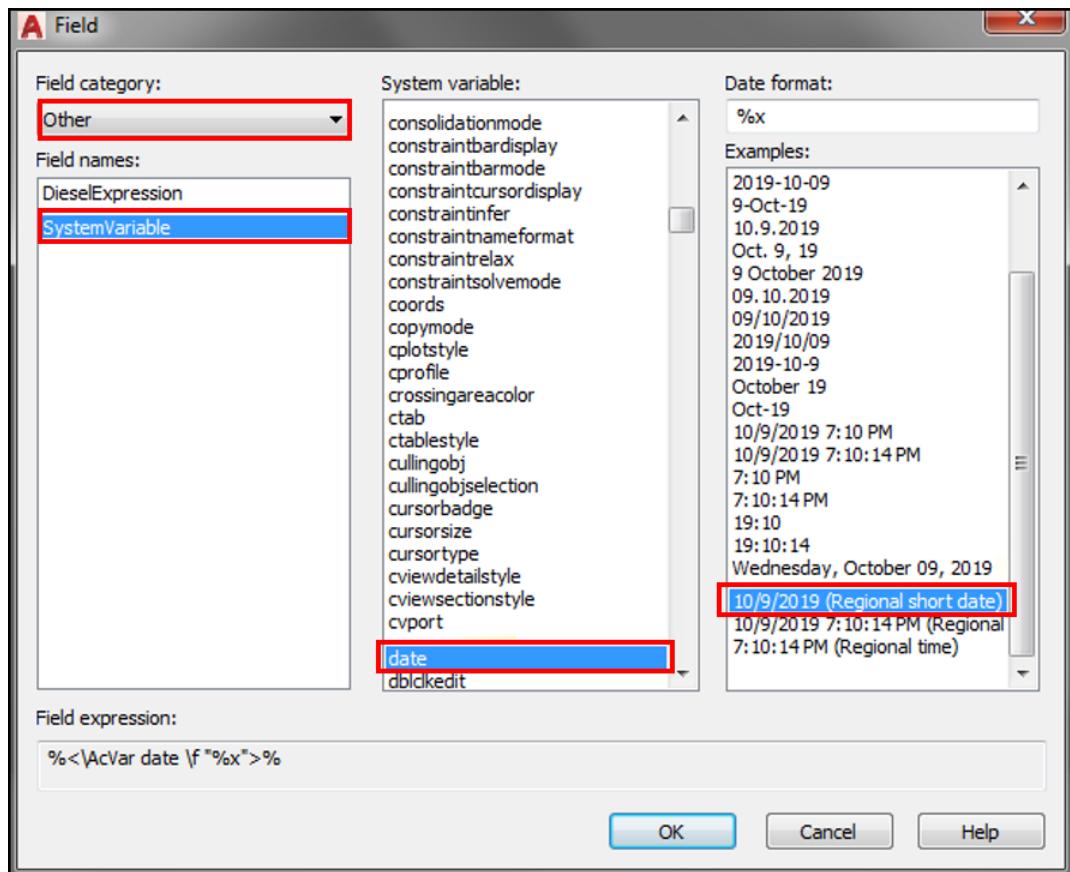


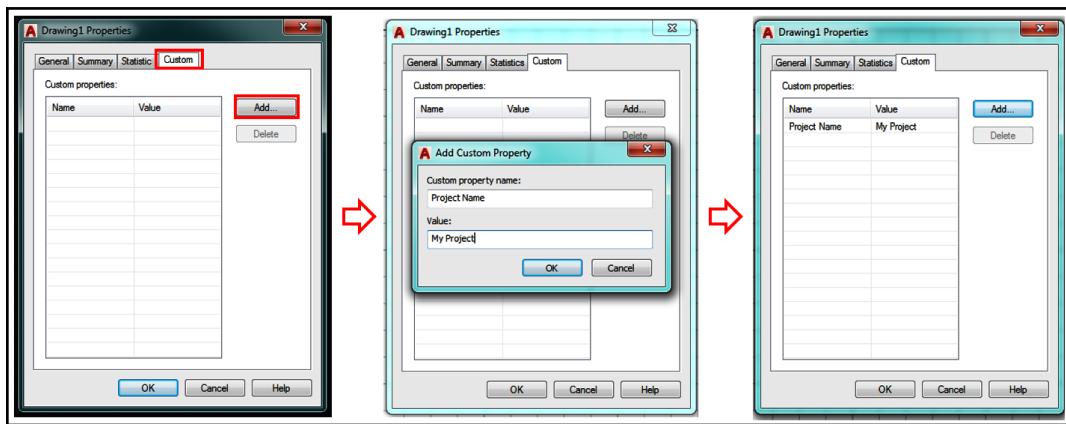
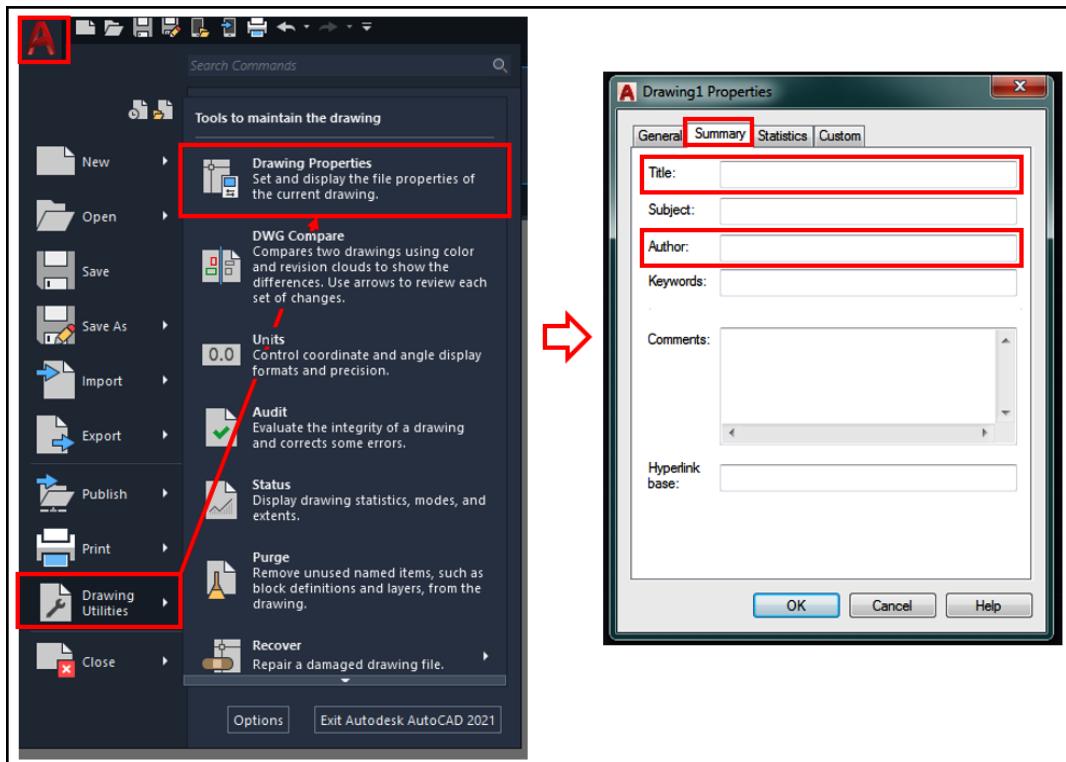
Small arrow near the base
point to access Viewport
Scale factor list

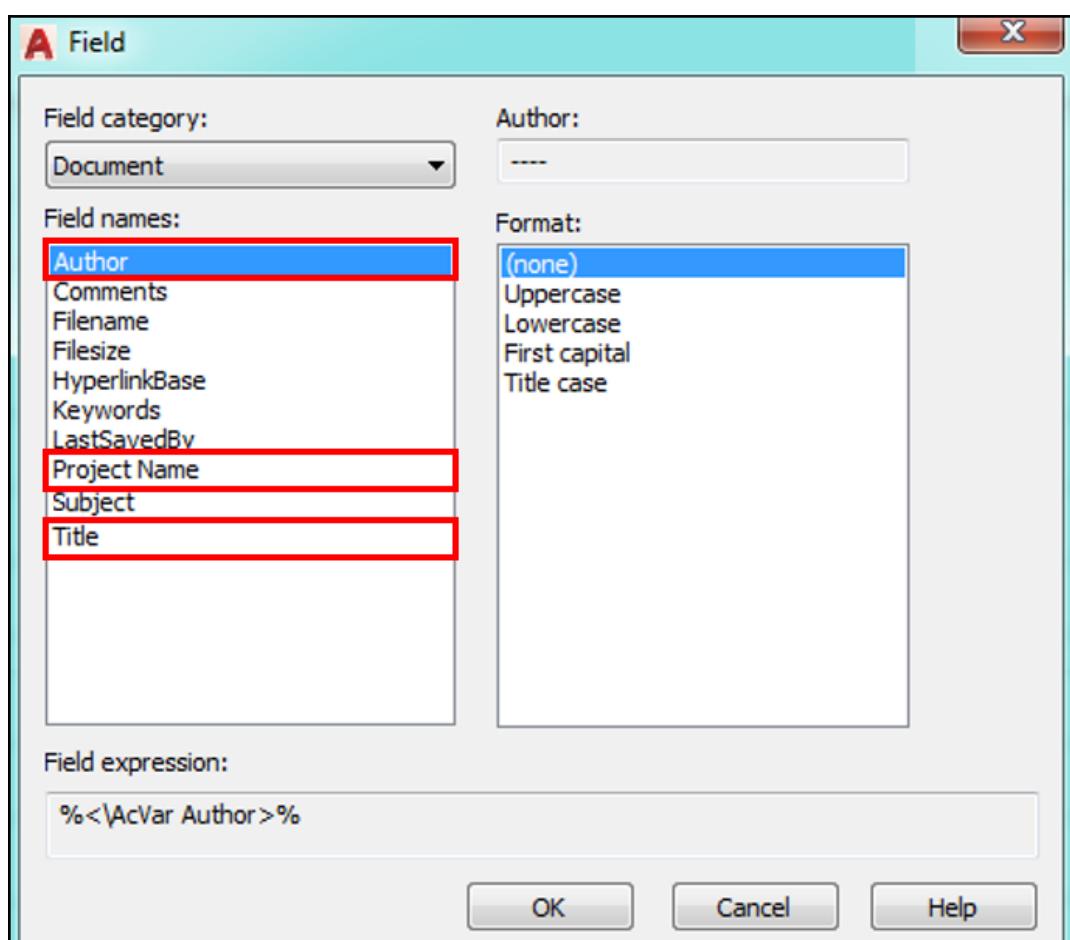


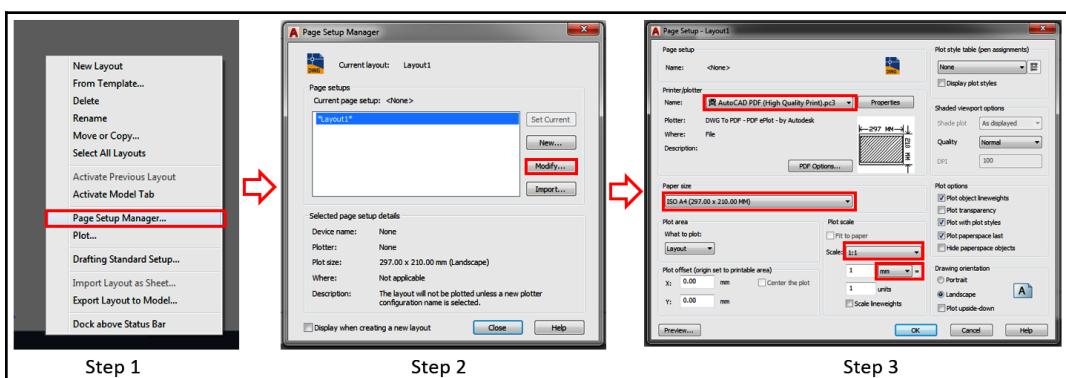
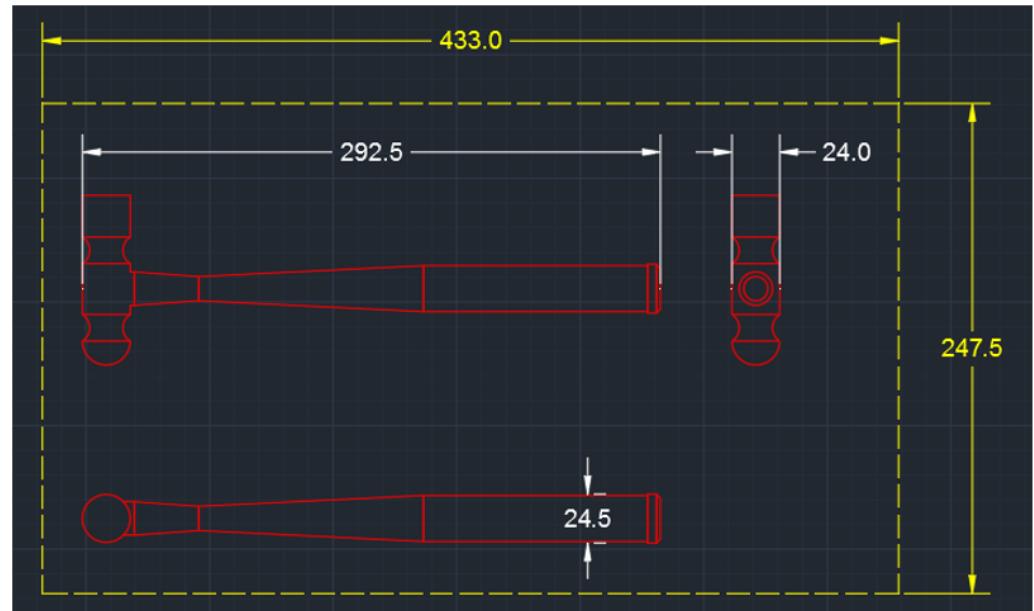


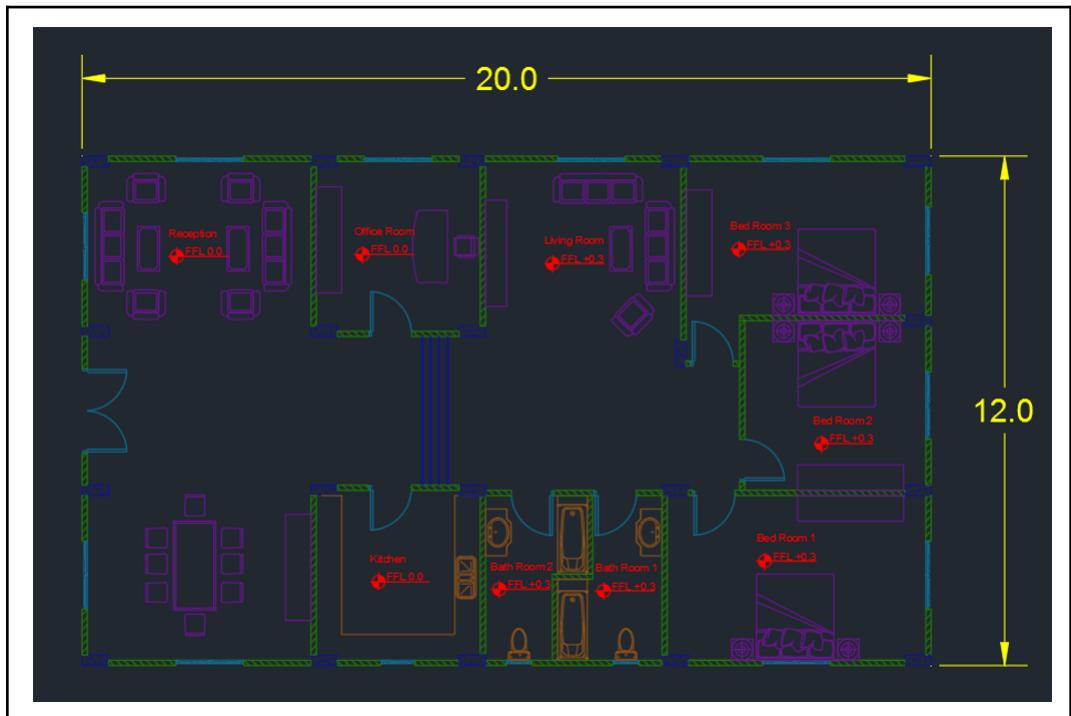
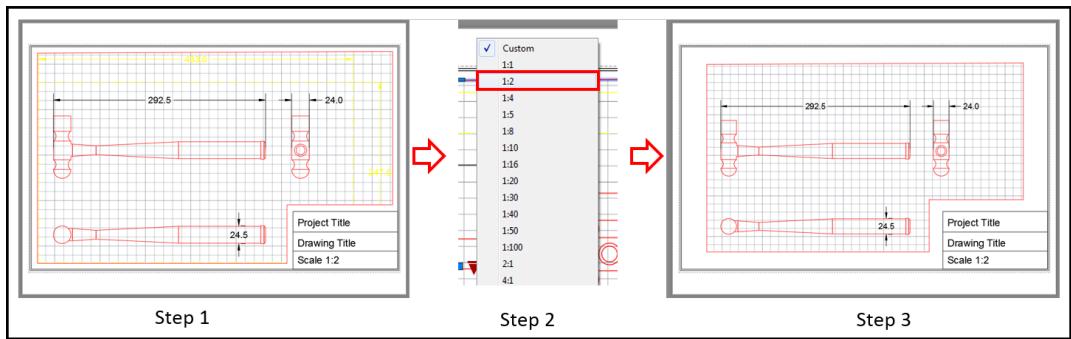


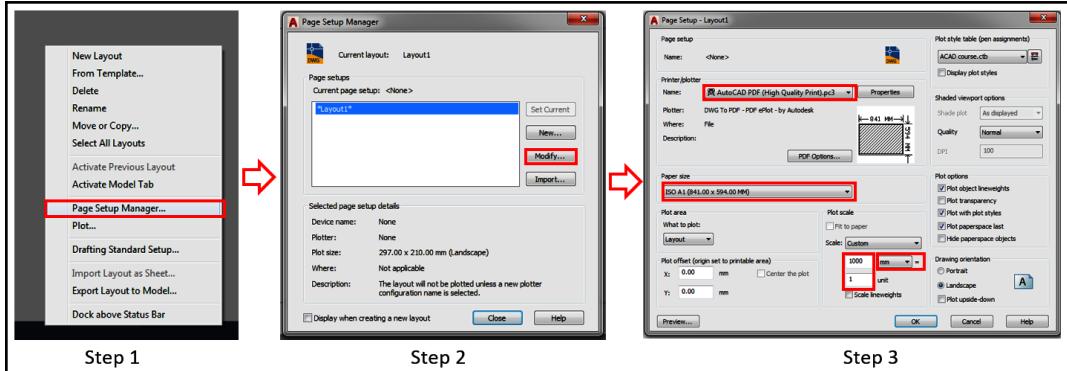


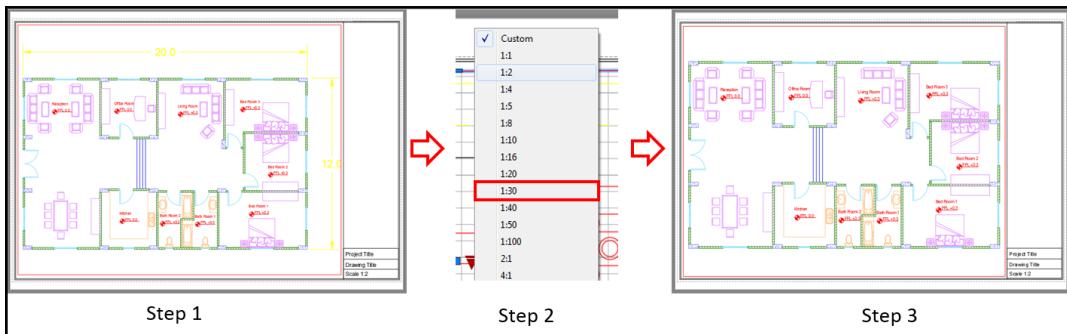


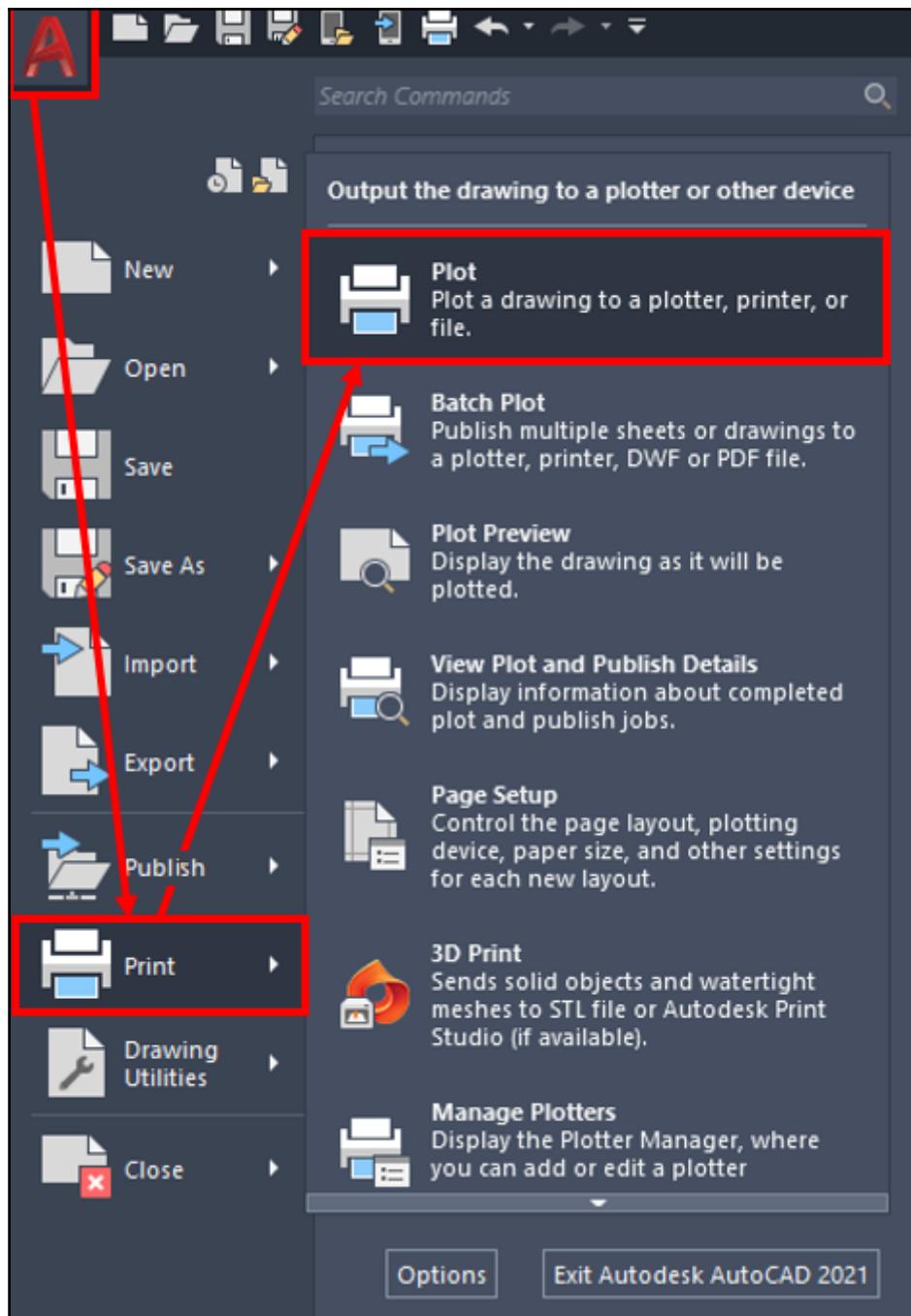


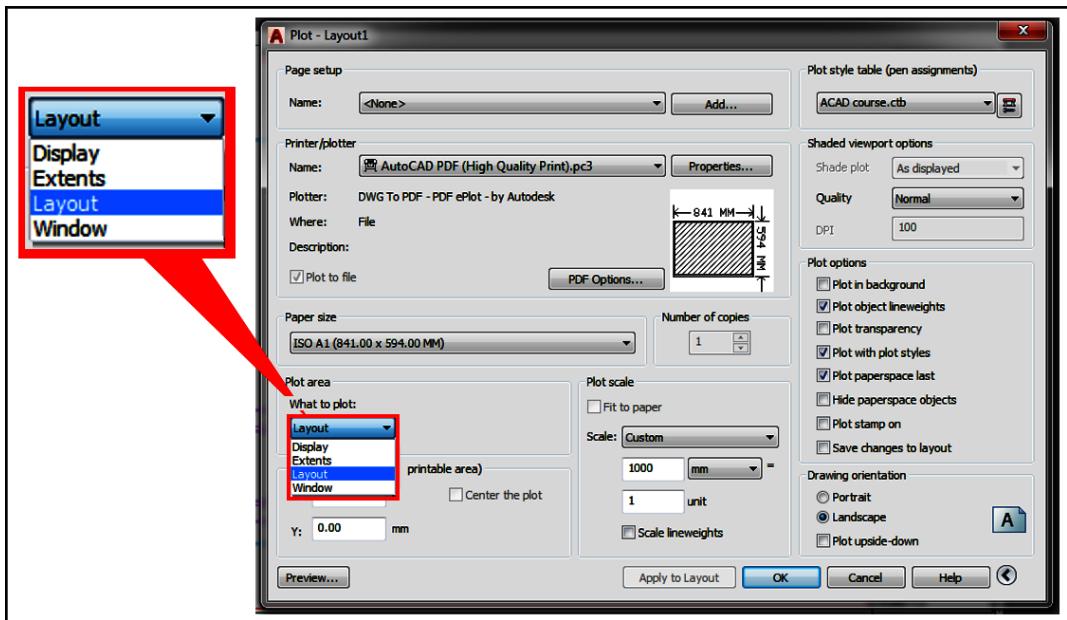


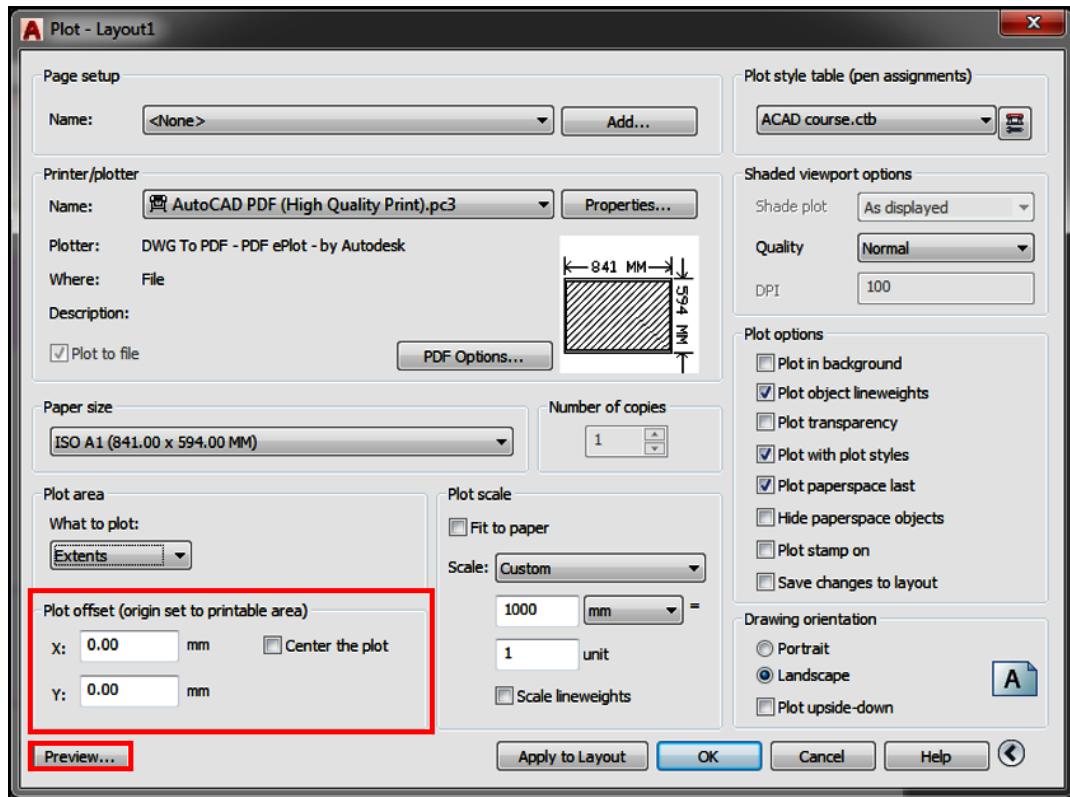


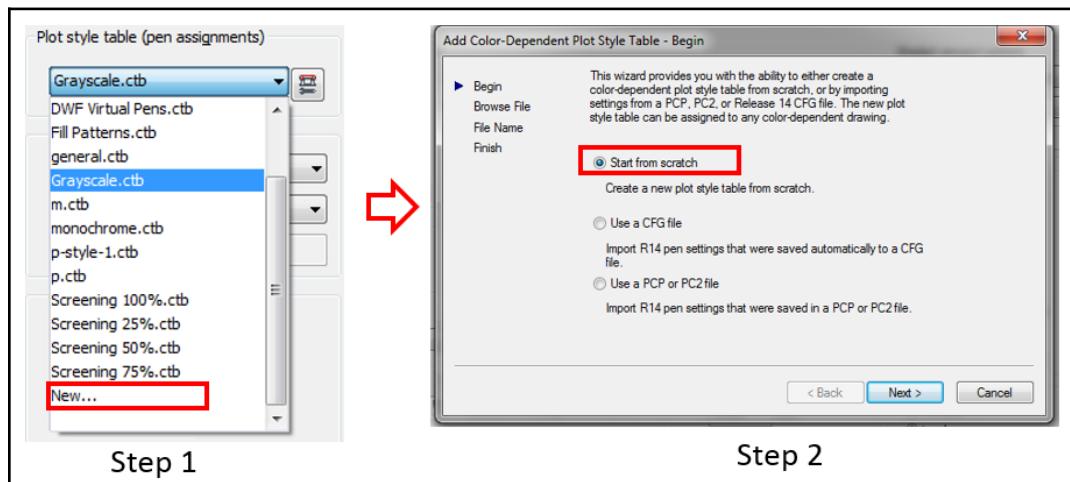
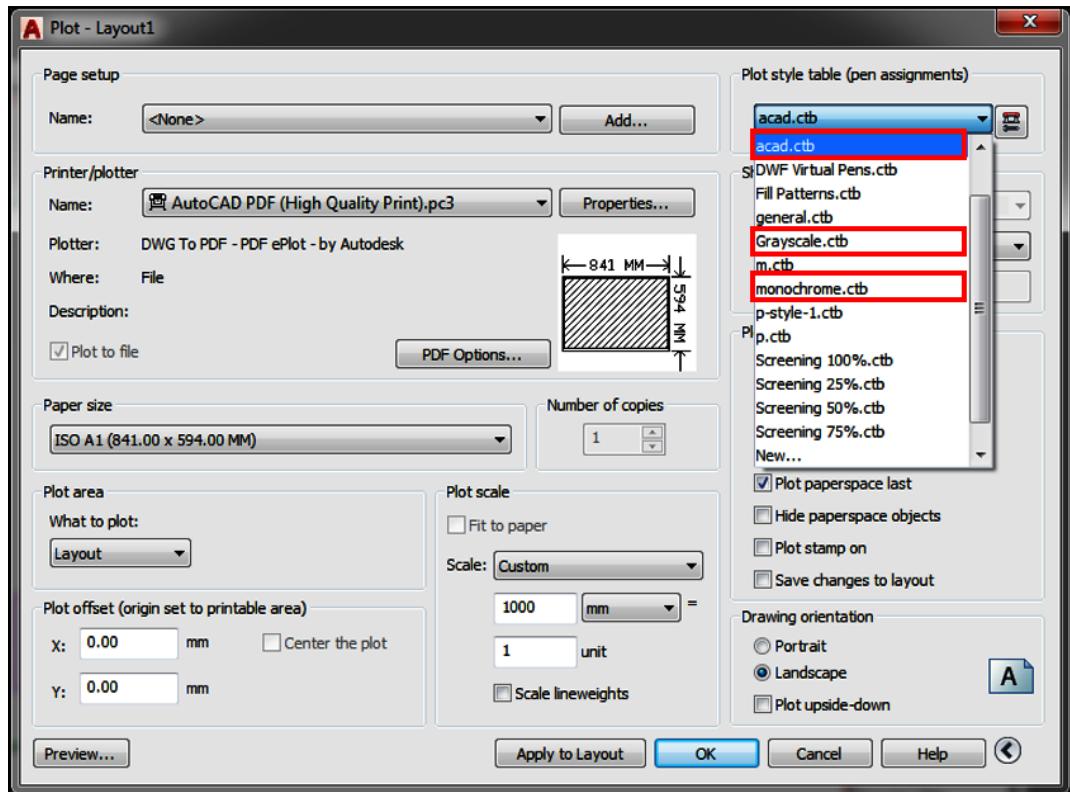


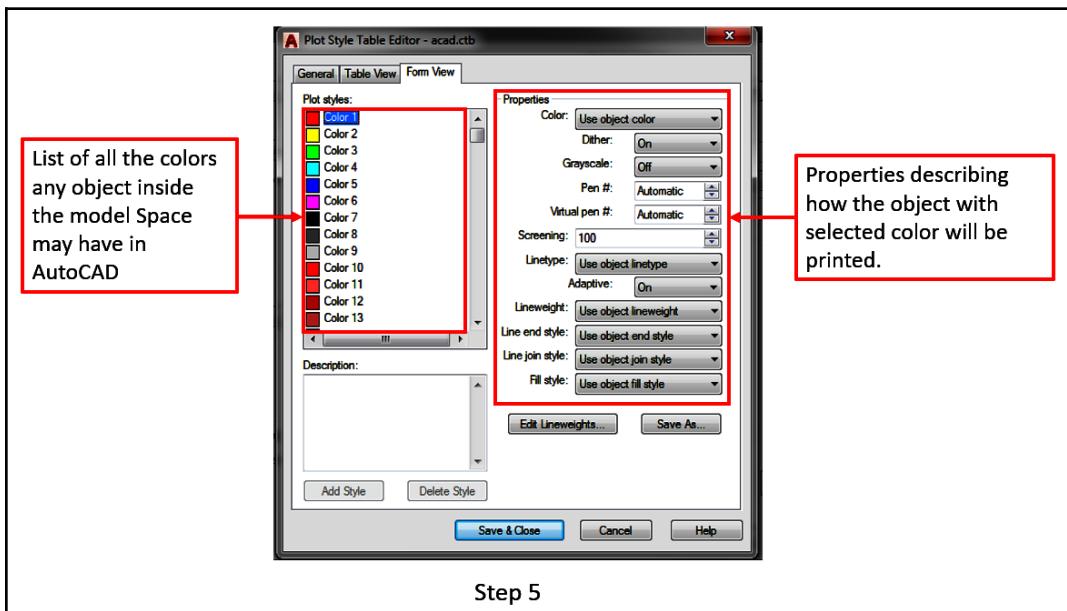
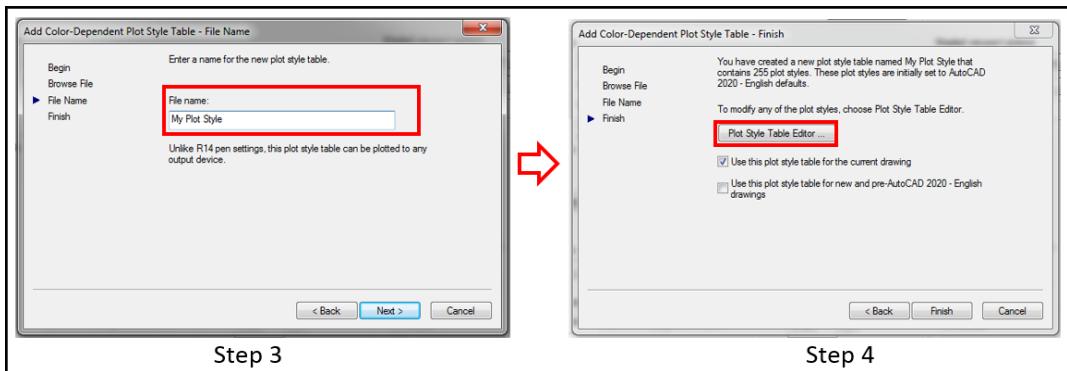


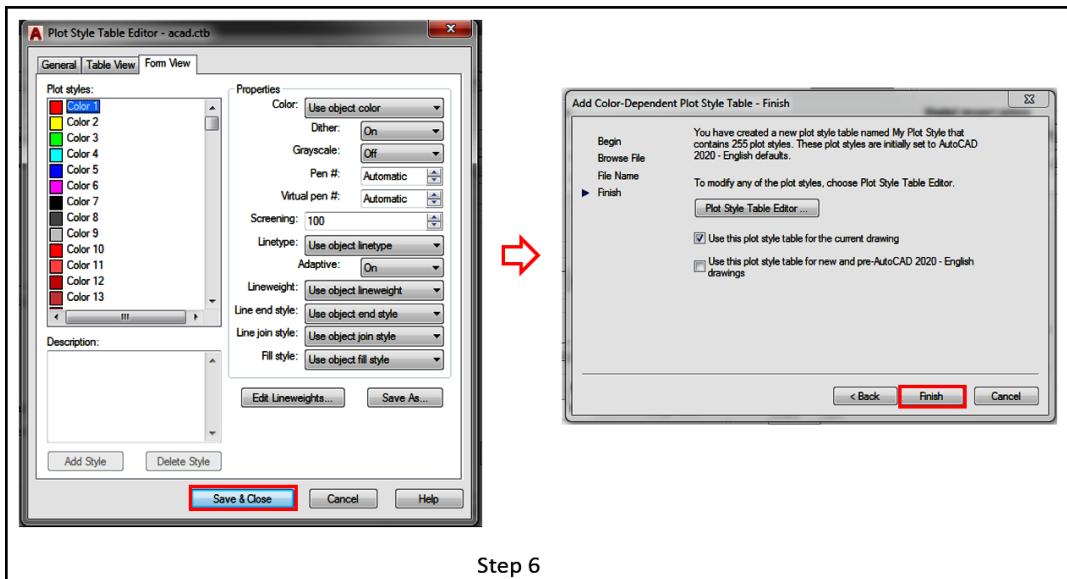




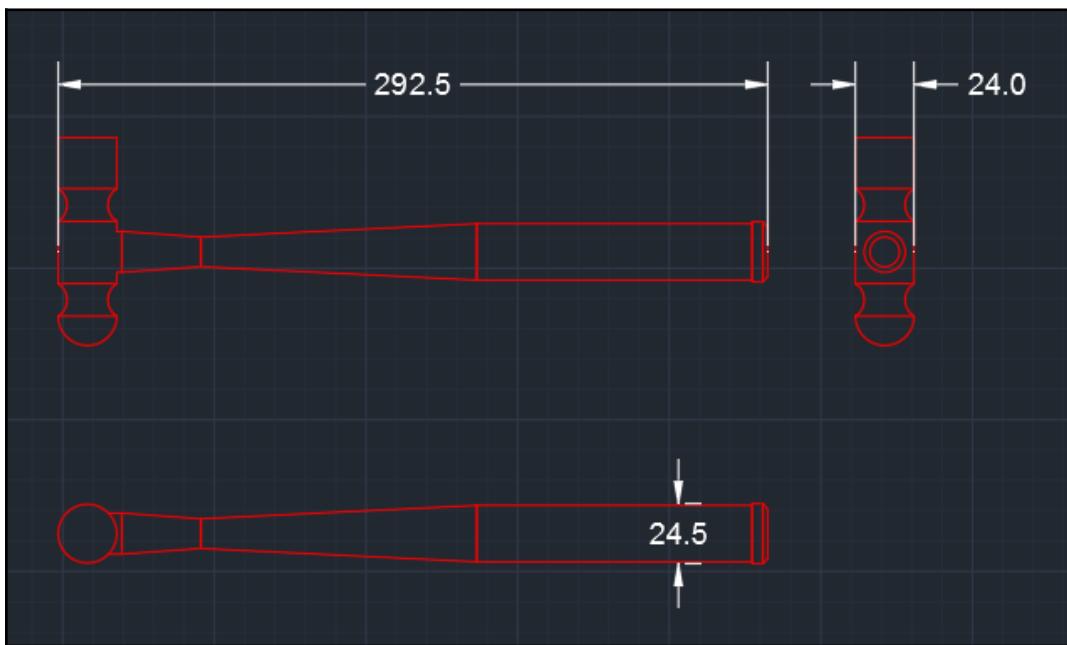


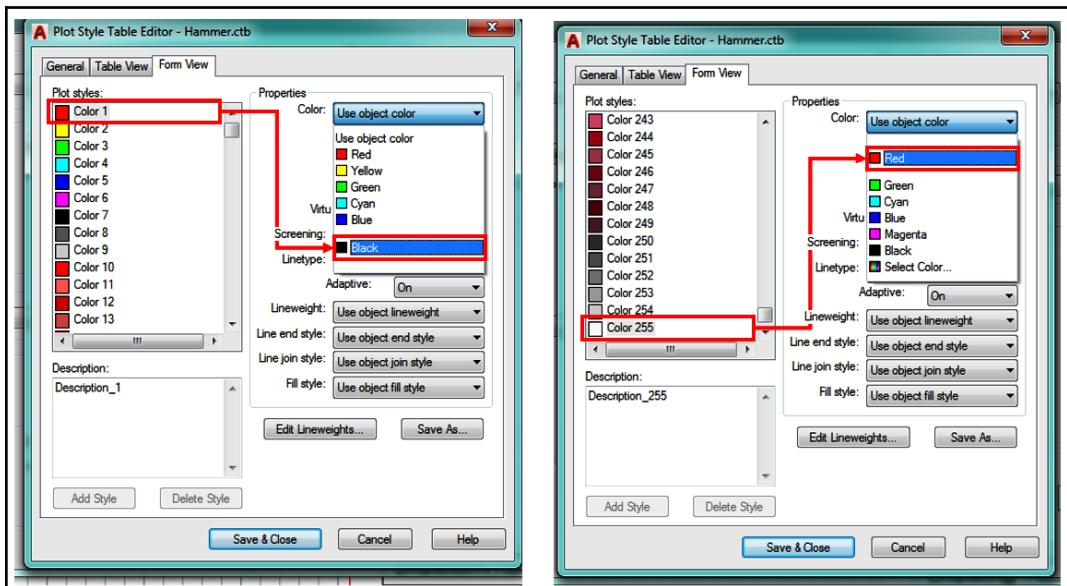
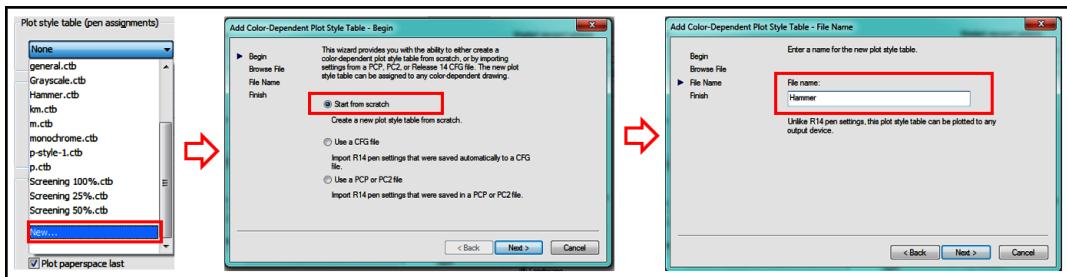


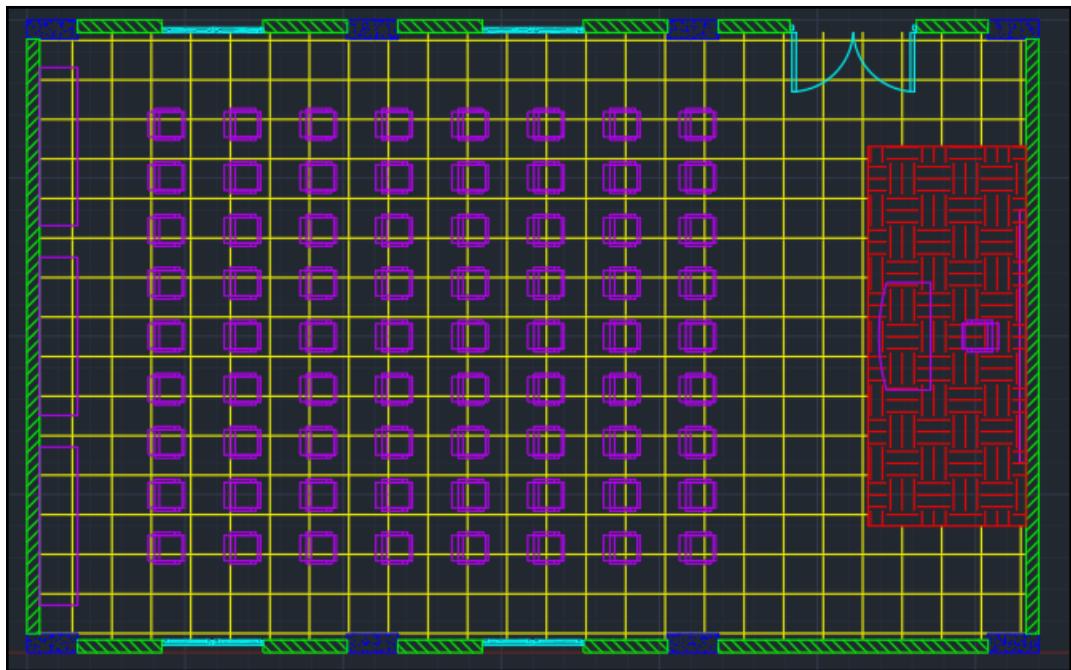
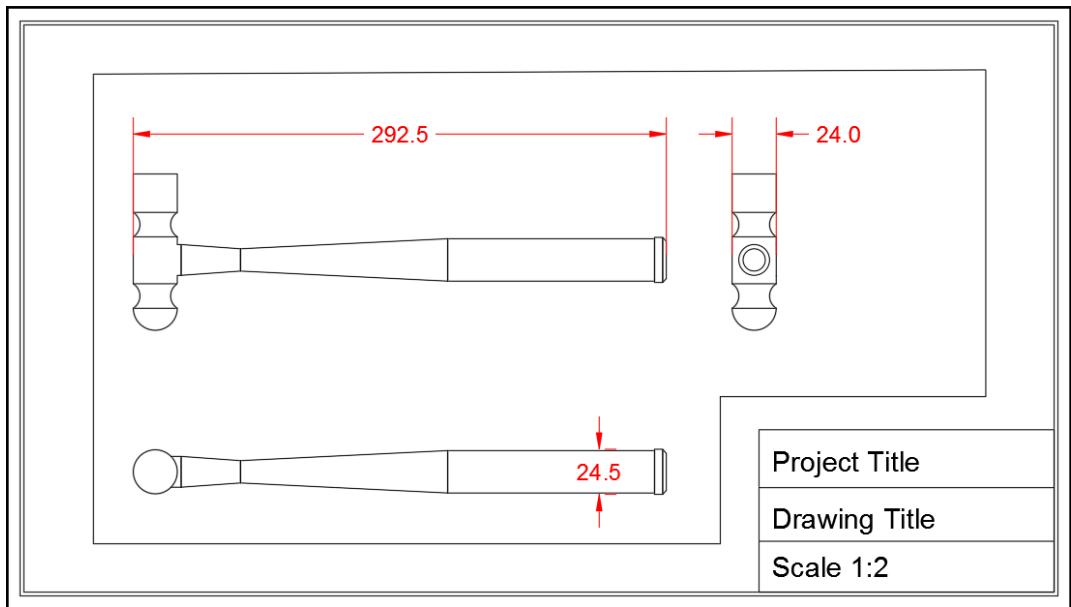


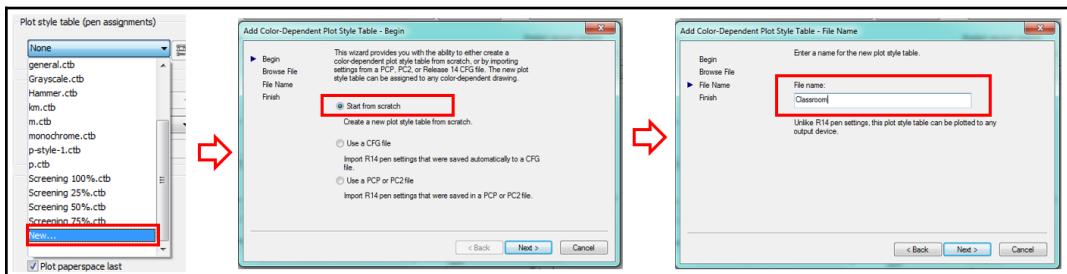
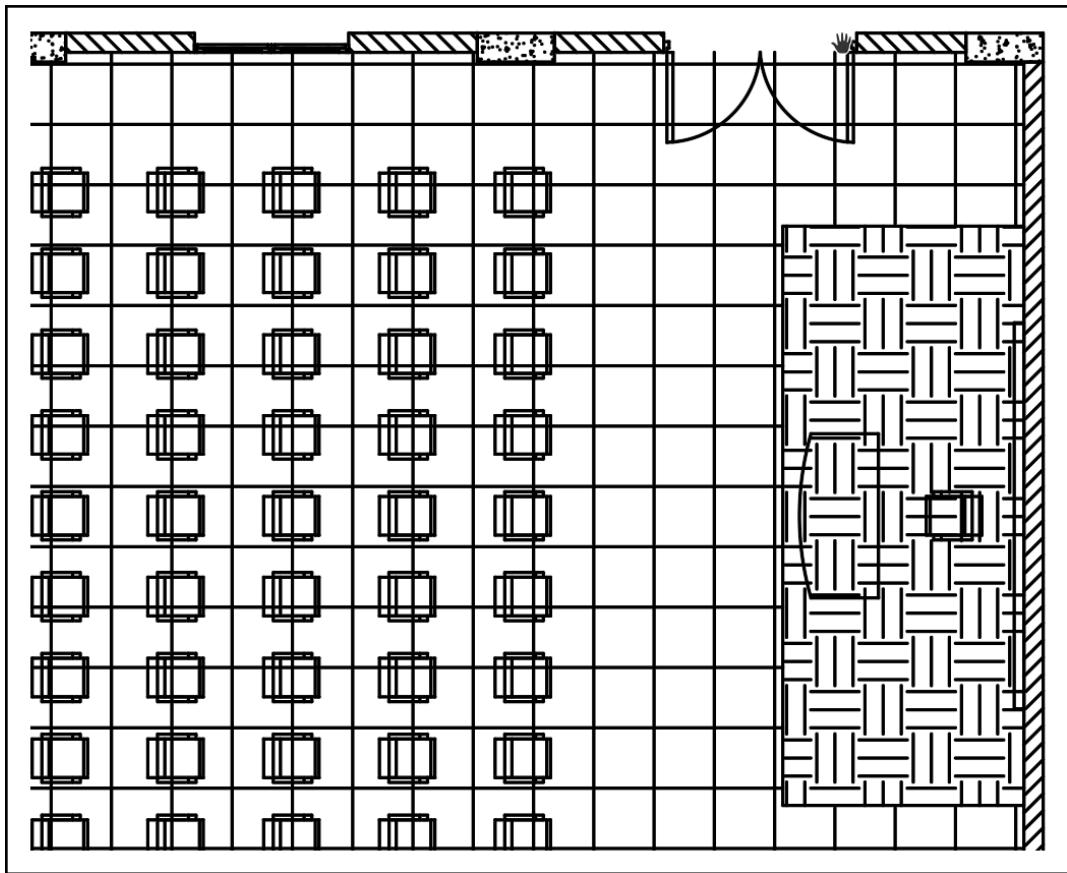


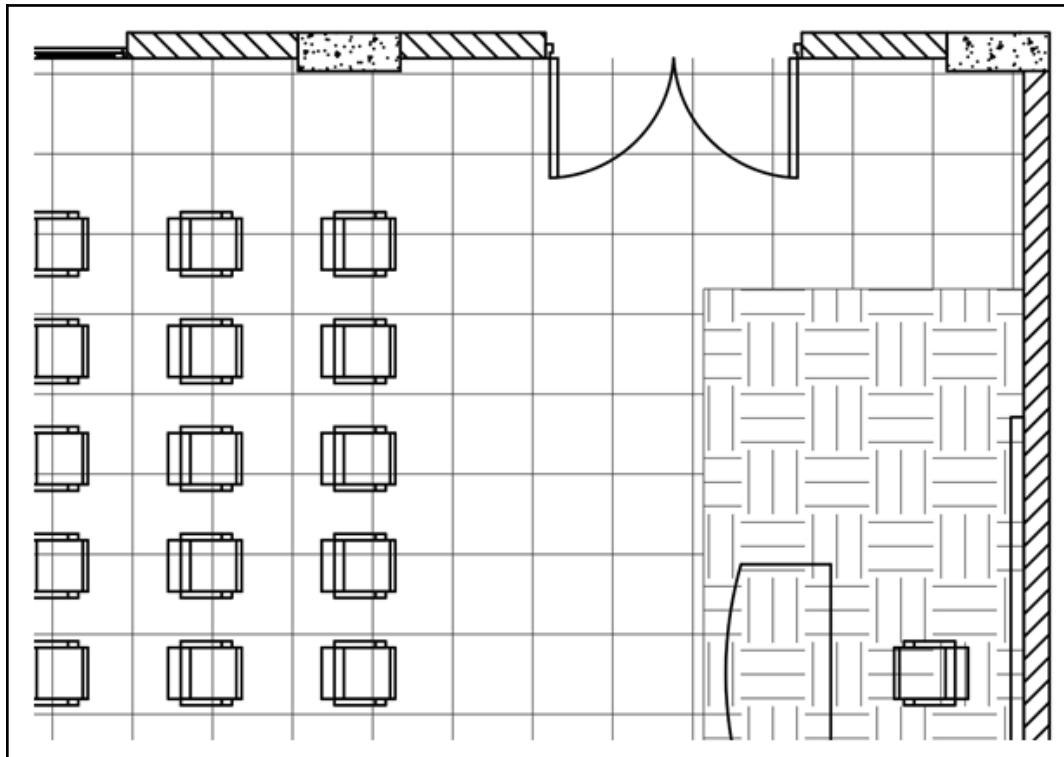
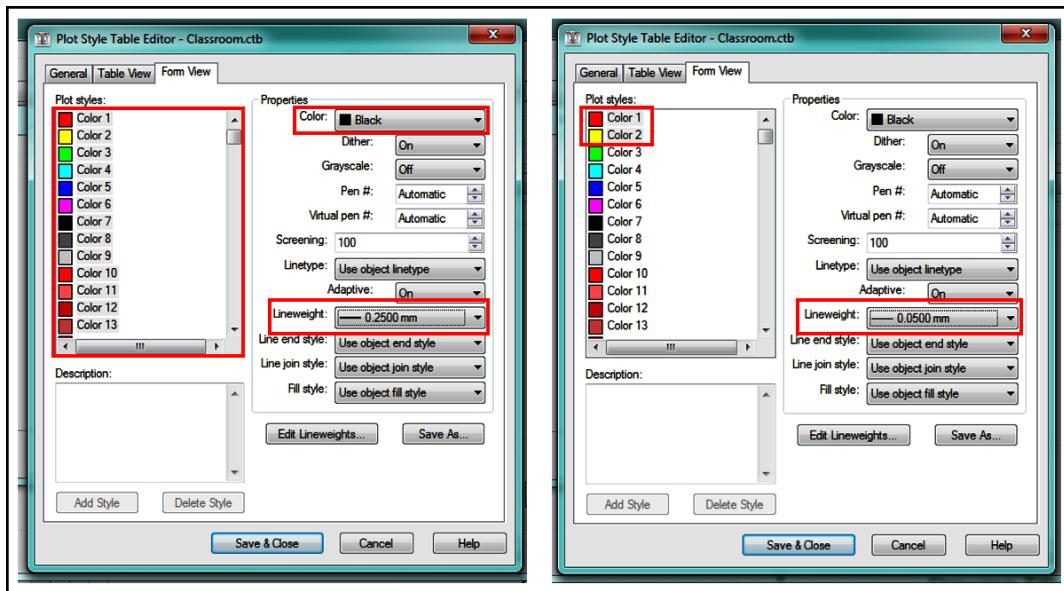
Step 6



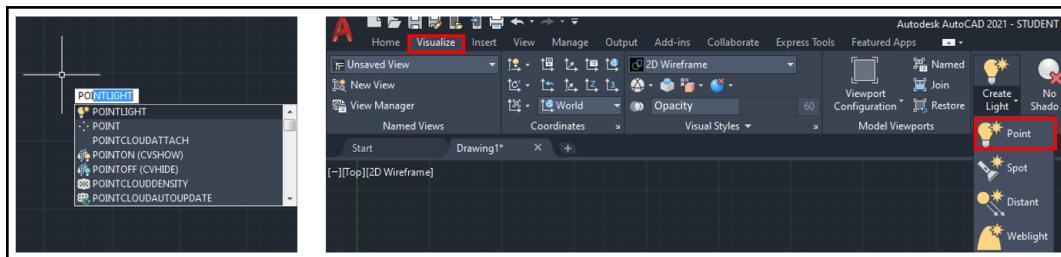
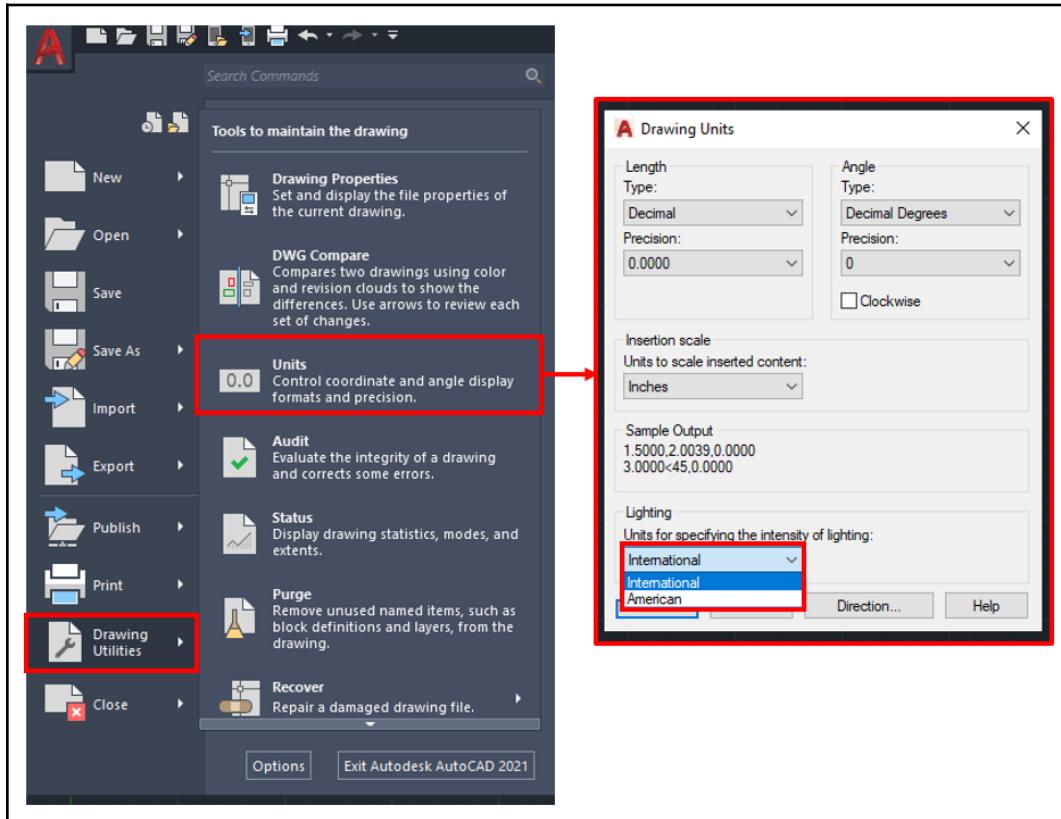


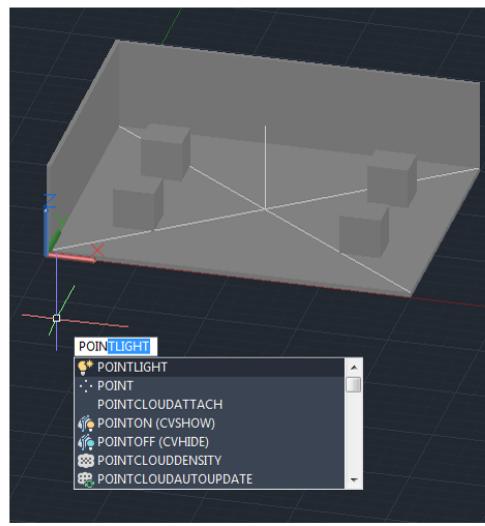




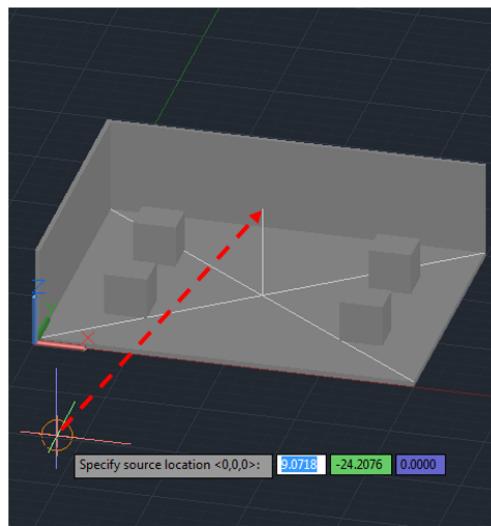


Chapter 16: Rendering and Presentation

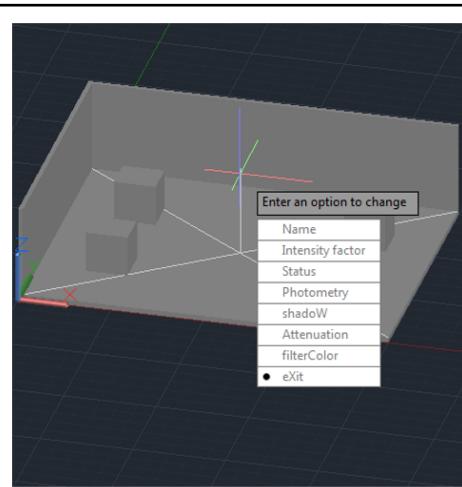




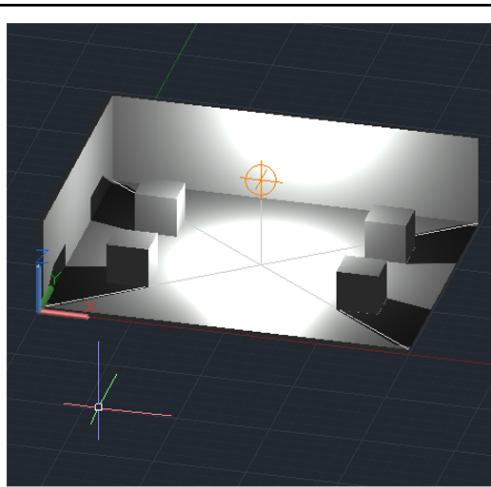
Step 1



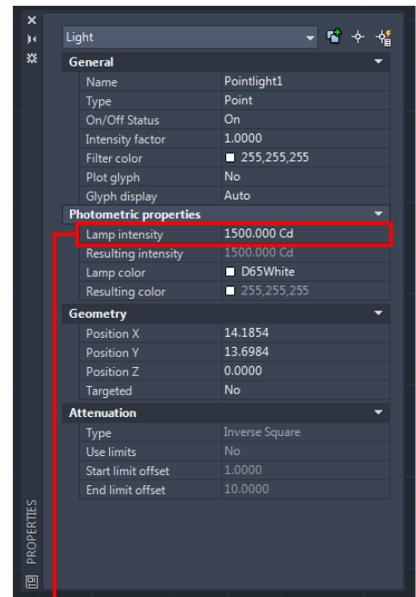
Step 2



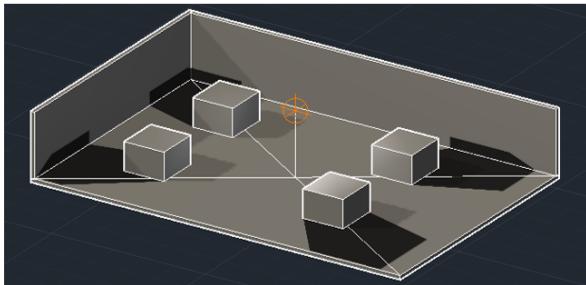
Step 3



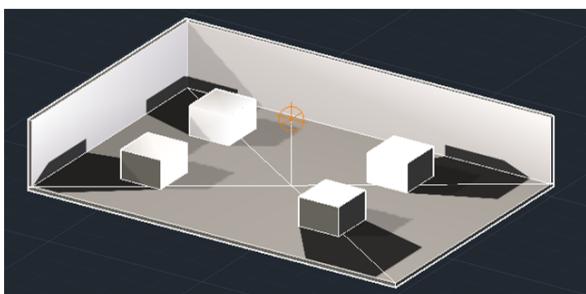
Step 4



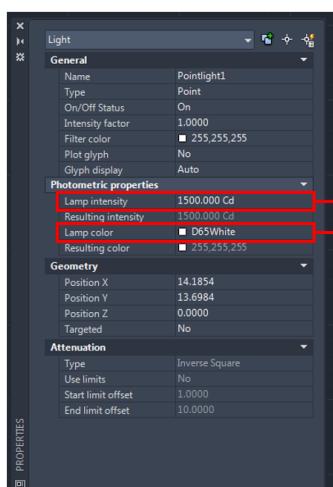
View/Modify the Light source intensity.



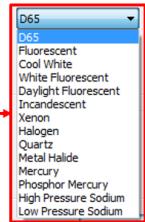
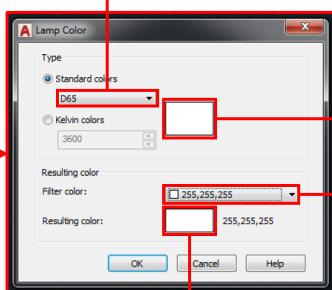
Using 1500 Cd for Lamp intensity



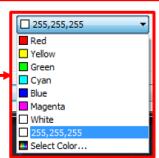
Using 6000 Cd for Lamp intensity



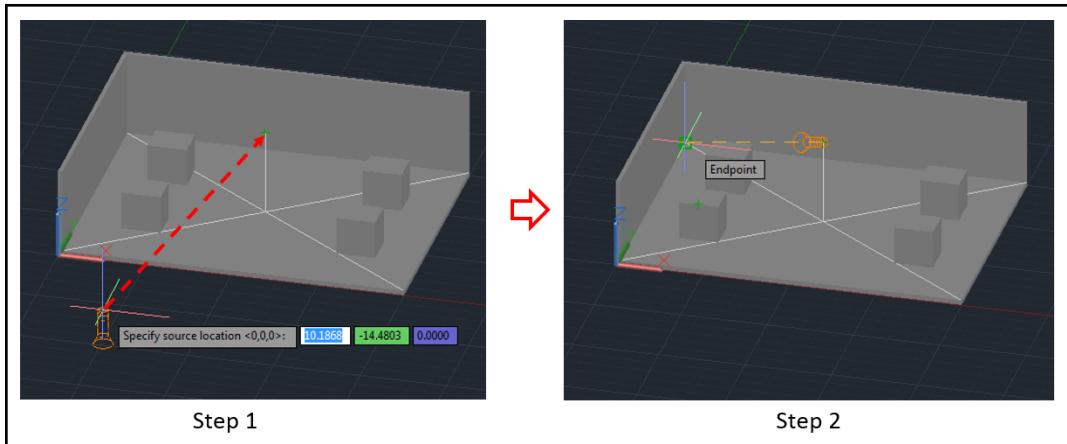
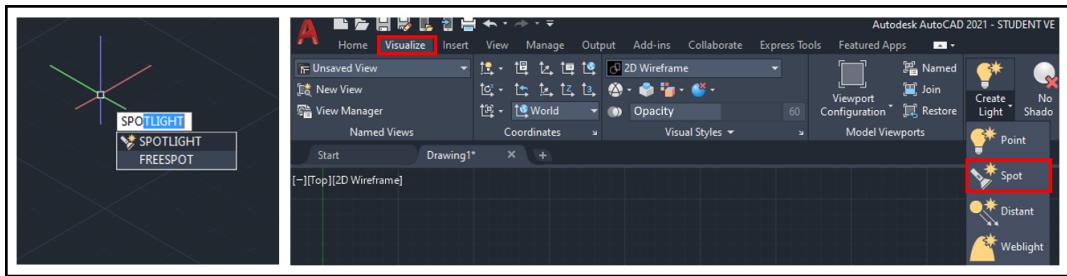
View/Modify the Light source intensity.



Preview of the selected color

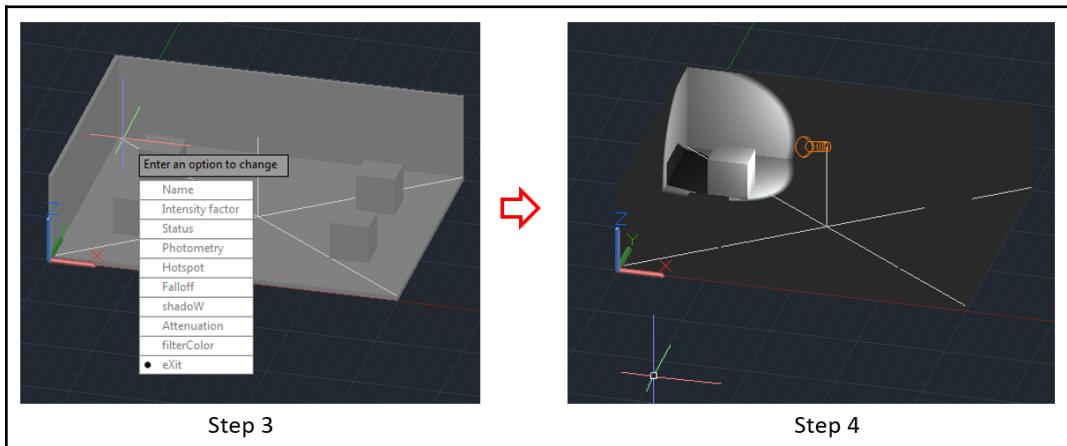


Preview of the resulting color after applying the filter



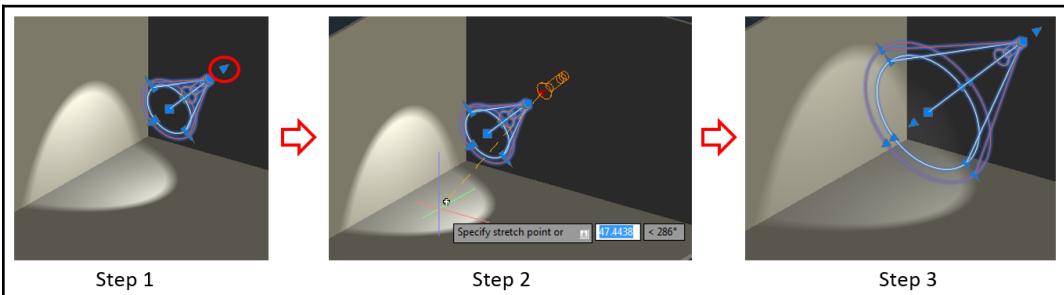
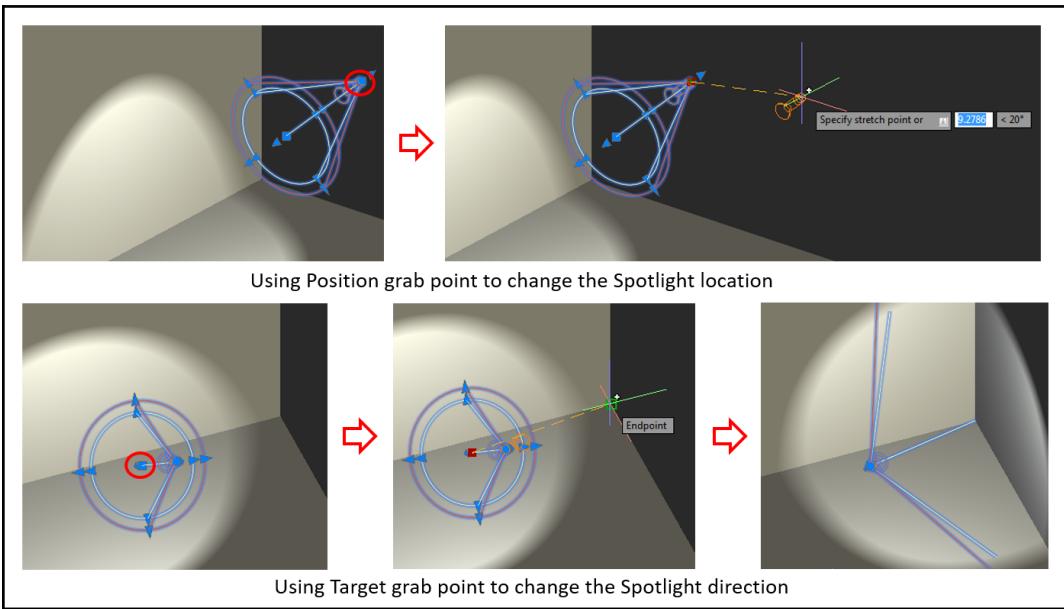
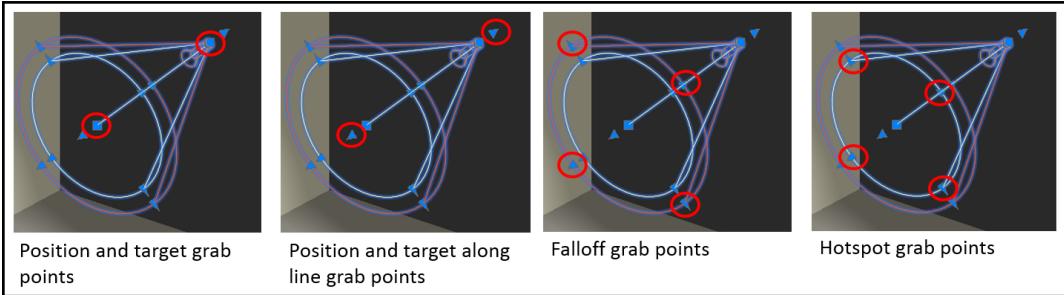
Step 1

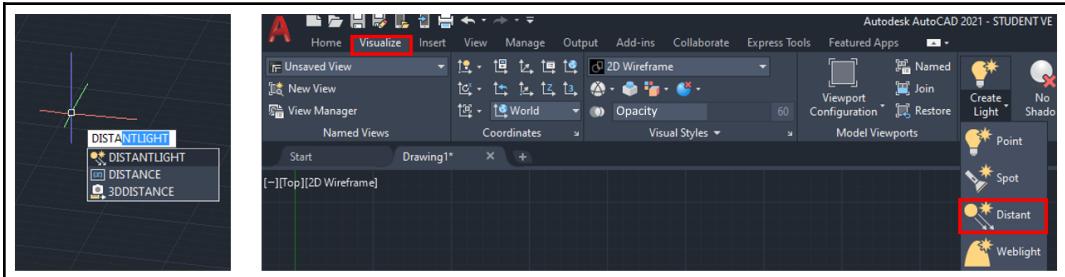
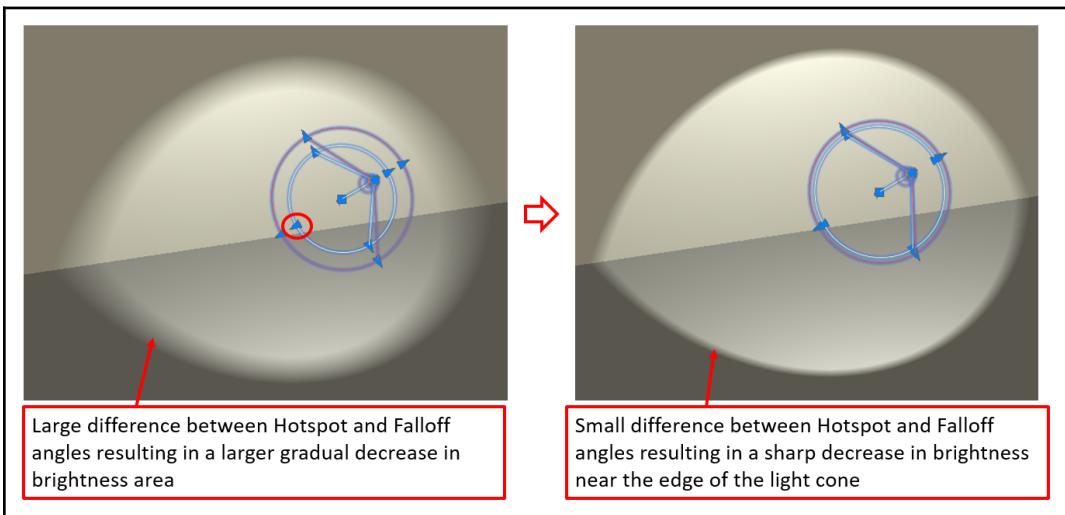
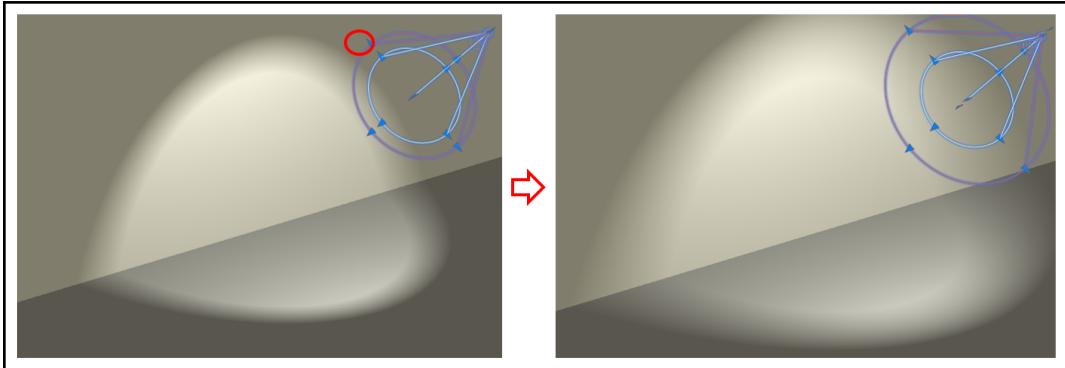
Step 2

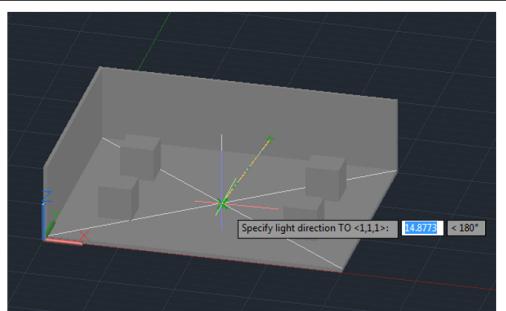
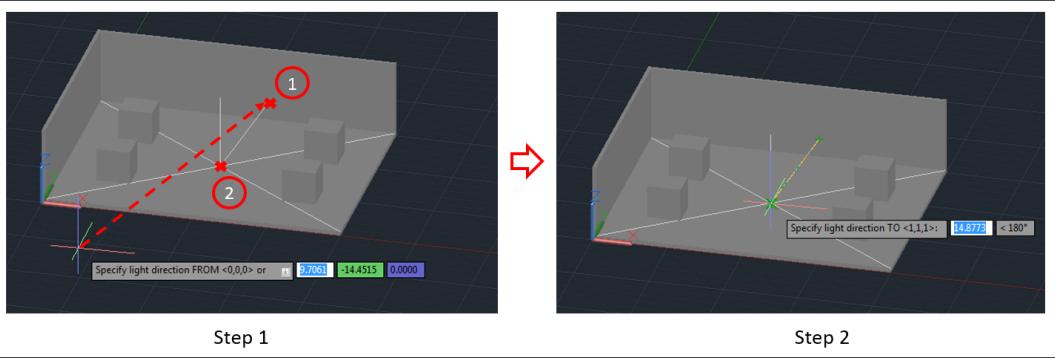


Step 3

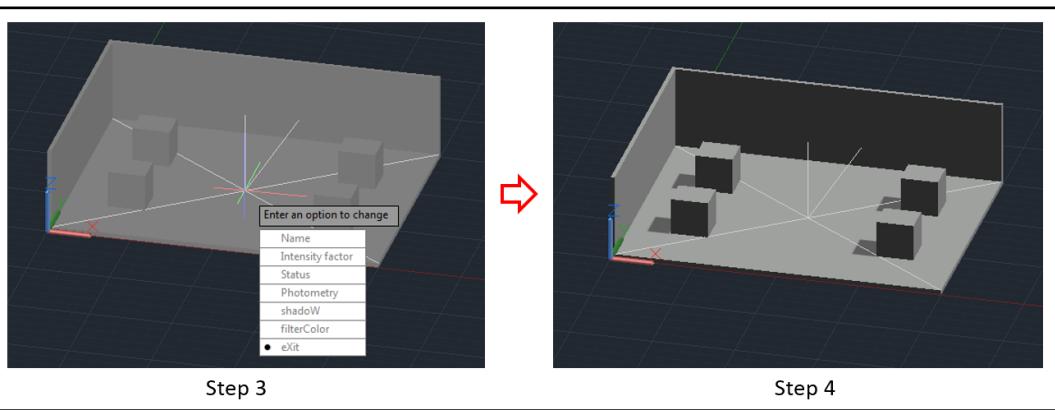
Step 4



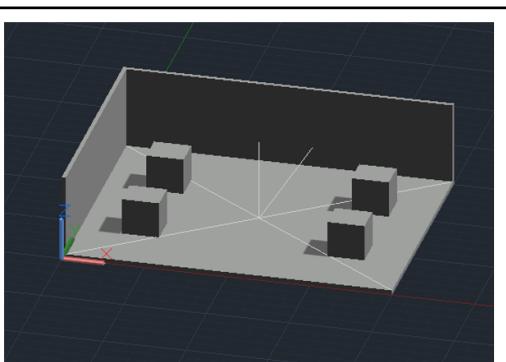




Step 2



Step 3



Step 4

