

# RULED SURFACE

## Objectives:

The objective of this tutorial is to demonstrate the procedure for generating a ruled surface. The tutorial begins with the basic inputs and the making of a simple ruled surface and concludes with an example of a ruled surface model at the project scale.

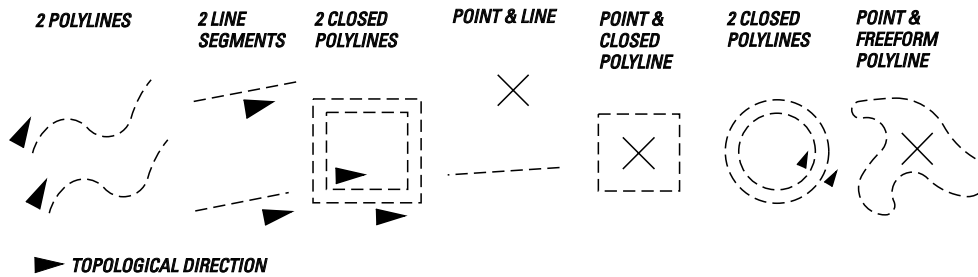
## Input Items:

The type of input entities for the ruled surface varies according to the software package, but can be generated from any combination of the following: **point, line, polyline (open, or closed)**. Input entities should be at the appropriate z elevation. **Note:** Input entities must have similar topological directions.

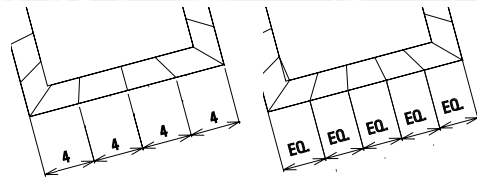
## Exception:

A ruled surface cannot be generated between an open and a closed polyline, or between two points.

## RULED SURFACE ENTITY INPUTS



1. Determine and set the resolution for the surface entity. The resolution can be set according to the dimension/length of the surface segment or by the number of divisions along the length of the input entity.



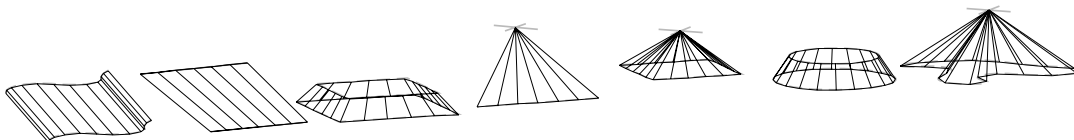
2. Activate the command and select the input entities in order.

Command: rulesurf  
 Select first defining curve:  
 Select second defining curve:

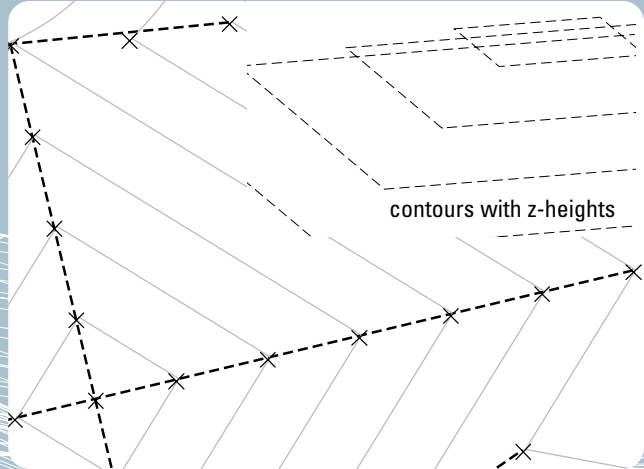
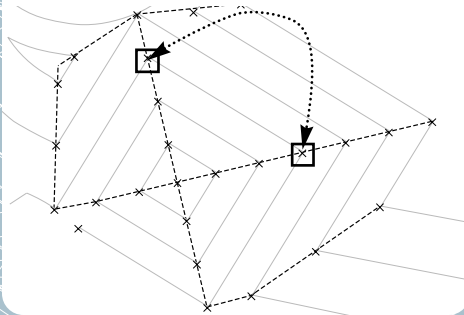
a) Select point

b) select line segment.

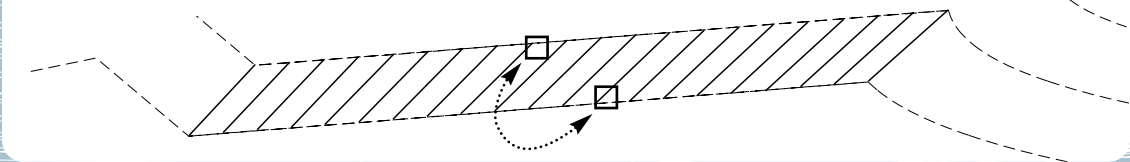
## Ruled Surface Variations



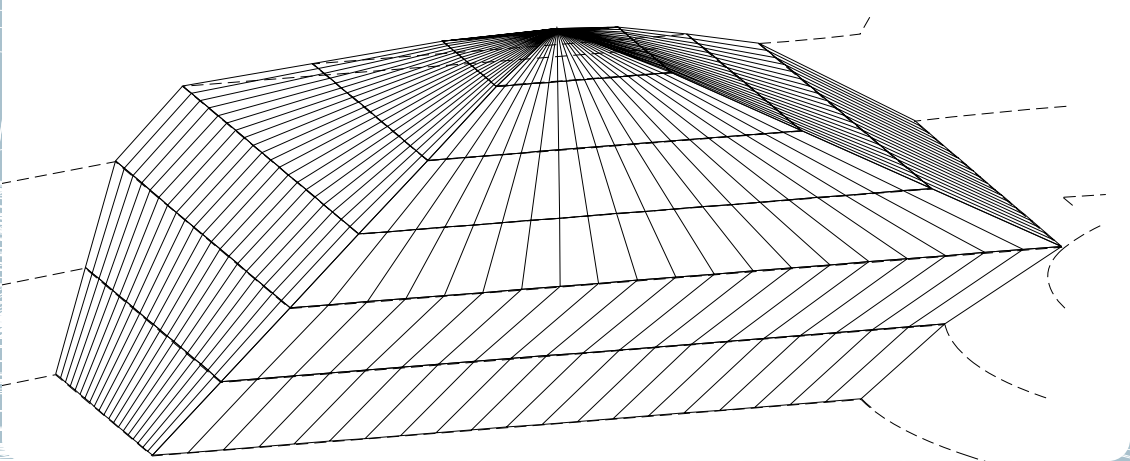
1. With the ridge and breaklines as a reference, the contours were generated as unique 2D polylines or line segments at the appropriate Z height or elevation.



2. Using the ruled surface command, the input contours for the first contour interval were selected, and a surface generated.



3. This was repeated for the remaining contour intervals, until the face of the pyramid was built. When that face was completed the other faces of the landform were built in a similar manner.



**Notes:**

1. An alternative to using contours is to use the section cuts as ruled surface inputs, therefore generating a horizontal rather than vertical ruled surface.
2. The ruled surface above divides each ruled surface into 20 equal intervals.
3. This surface data can now be exported for uses in a rendering application or to generated perspective views.