

## 3D AutoCAD 2006: One Step at a Time

### Review Questions – Lesson 5

5.7

#### Review Questions

Answer these questions on a separate sheet of paper.

1. \_\_\_\_\_ defines the number of surfaces AutoCAD will use to create a linear object.
2. \_\_\_\_\_ defines the number of surfaces AutoCAD will use to create latitudinal sections.
3. (T or F) SurfTab settings affect the shape of a Surface Model being drawn.  
List AutoCAD's four basic commands for drawing complex Surface Models.

- 4.
- 5.
- 6.
- 7.

What are the two things needed to create a Surface Model using the Tabsurf command?

- 8.
- 9.
10. Which surfTab setting will create a more defined shape – 6 or 60?
11. (T or F) When using the Tabsurf command, the path indicated must exist on the X-Y plane of the current with the UCS.
12. When using any of the complex Surface Model commands, the layer of the created object depends on the (current layer, layer of the basic shape).
13. (T or F) When using the Tabsurf command, a curved path will *not* create a curved object.
14. (T or F) When using any of the complex Surface Model commands, the original shape remains intact.
15. Tabsurf will work on any predefined shape provided the shape is a \_\_\_\_\_.

Which two complex Surface Modeling commands use the SurfTab2 setting?

- 16.
- 17.
18. Use the \_\_\_\_\_ command to create circular Surface Models.

19. (T or F) The Edgesurf command draws only flat planes.

What are the two advanced complex Surface Modeling commands?

20.

21.

22. (T or F) AutoCAD's advanced complex Surface Modeling commands are better suited for programmers than CAD operators.

23. (T or F) When using either the 3DMesh or the PFace command, the user must manually identify every vertex on the object he is creating.

24. and 25. When using the 3DMesh command, if you wanted 5 columns of faces, you would enter the size of mesh \_\_\_\_\_ as \_\_\_\_\_.

26. Use the \_\_\_\_\_ command to create the Surface Model if you need to change the layer of a specific face.

Identify these buttons.



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32. Surftab1 deals with the number of surfaces AutoCAD will use to create the circumference of a round or arced object while Surftab2 deals with the latitudinal sections defining a sphere or dish.

33. Surftab1 and Surftab2 define the shape of the object by their density.

34. In building the train engine's tank (Exercise 5.2.1.1) with Tabsurf the user had to: 1) set a new value for Tabsurf, 2) select the path curve or shape for the boiler, 3) identify the path or direction the surfaces were to go, 4) all of the above.

35. (T or F) The UCS should always be aligned with the path the user wants Tabsurf to follow.

36. (T or F) In building the tank in Exercise 5.2.1.1, it was required that we change the value for the Surftab1 system variable.

37. (T or F) When using the Tabsurf command, where the user selects (on the path-defining object) in response to the Select object for direction vector prompt has no bearing on the direction of the Surface Model being drawn.

38. (T or F) Rulesurf is useful for placing a surface between two uneven objects.

39. (T or F) If the user has trouble selecting the edges in Rulesurf, or the results are undesirable, then zoom in closer to the object and try again.

40. (T or F) The Surftab1 and Surftab2 system variables do not affect the results of the Revsurf command.

41. (T or F) Revsurf, like Tabsurf, does not require the manipulation of the UCS.

42. (T or F) Any type of line may be used in Revsurf to achieve professional results.
43. (T or F) The user may ignore the UCS as it does not affect Revsurf.
44. Edgesurf creates: 1) a round surface, 2) a surface plane, 3) a flat only surface along the x, y, or z planes.
45. (T or F) To create a surface using Edgesurf, the four boundary lines need to be selected before Surftab1 and Surftab2 are set.
46. (T or F) Splines make good edges when defining a more elaborate surface with the Edgesurf command.
47. (T or F) Edgesurf creates a surface plane, which may or may not go in the x, y, and z planes.
48. (T or F) In creating a 3DMesh with five rows and five columns of faces, you should set the mesh size M and N to five.
49. (T or F) The sequential order must be maintained in specifying the Vortex Location Nodes of a 3DMesh.
50. (T or F) The UCS is necessary in defining the rows "M" and the columns "N".
51. (T or F) Because of its complexity, the 3DMesh command makes a better tool for programmers than for everyday CAD users.
52. (T or F) PFace does not require sequential vortex numbers, as did 3D Mesh.
53. (T or F) When using the PFace command, the user must identify and remember which vortex goes with each specific face so that it will be possible to change the color and layer of the faces without confusion.
54. (T or F) The PFace button can be found on the Draw toolbar.
55. (T or F) Like the 3DMesh command, the PFace command works independently of the UCS.

**Answers:**

- |                   |                   |       |
|-------------------|-------------------|-------|
| 1. Surftab1       | 20. 3DMesh        | 37. F |
| 2. Surftab2       | 21. PFace         | 38. T |
| 3. T              | 22. T             | 39. T |
| 4. Tabsurf        | 23. T             | 40. F |
| 5. Edgesurf       | 24. M             | 41. T |
| 6. Rulesurf       | 25. 6             | 42. F |
| 7. Revsurf        | 26. Ruled Surface | 43. T |
| 8. Basic shape    | 27. Edge          | 44. 2 |
| 9. Path           | 28. 3DMesh        | 45. F |
| 10. 60            | 29. Revolved      | 46. T |
| 11. F             | Surface           | 47. T |
| 12. Current layer | 30. Tabulated     | 48. F |
| 13. T             | Surface           | 49. T |
| 14. T             | 31. Edge Surface  | 50. F |
| 15. Single object | 32. T             | 51. T |
| 16. Revsurf       | 33. T             | 52. T |
| 17. Edgesurf      | 34. 4             | 53. T |
| 18. Revsurf       | 35. F             | 54. F |
| 19. F             | 36. F             | 55. T |