3D AutoCAD 2010: One Step at a Time
Lesson 5: Complex Mesh Models

10R5-3D	Review Questions

Answer these questions on a separate sheet of paper.

1. _____ defines the number of divisions AutoCAD will use to create a linear object.
2. _____ defines the number of divisions 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 Mesh Models.

4. 6.
5. 7.

What are the two things needed to create a 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 Mesh 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 Mesh Model commands, the original shape remains intact.
15. Tabsurf will work on any predefined shape provided the shape is a _____.

Which two complex modeling commands use the Surftab2 setting?

16.

17.

18. Use the _____ command to create circular Mesh Models.
19. (T or F) The Edgesurf command draws only flat planes.

Name two advanced complex Mesh Modeling commands?

20.

21.

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

When using the 3DMesh command, if you wanted 5 columns of faces, you would enter the size of mesh (23) as (24).

23.

24.

25. (T or F) Surftab1 deals with the number of divisions 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.

26. (T or F) Surftab1 and Surftab2 define the shape of the object by their density.

27. In building the train engine's tank with Tabsurf, the user had to:

    a. set a new value for Tabsurf,

    b. select the path curve or shape for the boiler,

    c. identify the path or direction the surfaces were to go,

    d. all of the above.

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

29. (T or F) In building the engine's tank, it was required that we change the value for the Surftab1 system variable.

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

31. (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.

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

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

34. (T or F) Any type of line may be used in Revsurf to achieve professional results.

35. (T or F) The user may ignore the UCS as it does not affect Revsurf.

36. Edgesurf creates:

    a. a round surface,

    b. a surface plane,

    c. a flat only surface along the x, y, or z planes.

37. (T or F) To create a surface using Edgesurf, the four boundary lines need to be selected before Surftab1 and Surftab2 are set.

38. (T or F) Splines make good edges when defining a more elaborate mesh with the Edgesurf command.

39. (T or F) Edgesurf creates a surface plane, which may or may not go in the x, y, and z planes.

40. (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.

41. (T or F) The sequential order must be maintained in specifying the Vortex Location Nodes of a 3DMesh.

42. (T or F) The UCS is an important consideration in defining the rows "M" and the columns "N".

43. (T or F) Because of its complexity, the 3DMesh command makes a better tool for programmers than for everyday CAD users.

44. The command you'd use to create a complex mesh by identifying just a guide and path is _____.

45. Convert an existing object to a planar surface using the _____ command.

46. (T or F) When using the Object option of the Planesurf command, the object must be on the XY plane of the current UCS.

47. _____ converts 2D solids, regions, polylines (with thickness but no width), lines (and ellipses and arcs) with thickness, and planar 3d faces to planar surfaces.

48. (T or F) The selection set used for ConvToSurface doesn't have to be in the XY plane of the current UCS.

Answers:

1. Surftab1
2. Surftab2
3. T
4. Tabsurf
5. Edgesurf
6. Rulesurf
7. Revsurf
8. Basic shape
9. Path
10. 60
11. F
12. Current layer
13. T
14. T
15. Single object
16. Revsurf
17. Edgesurf
18. Revsurf
19. F
20. 3DMesh, Planesurf, Loft, or 3DFace
21. 3DMesh, Planesurf, Loft, or 3DFace
22. T
23. M
24. 6
25. T
26. T
27. d
28. F
29. F
30. T
31. T
32. F
33. T
34. F
35. T
36. b
37. F
38. T
39. T
40. F
41. T
42. F
43. T
44. Loft
45. Planesurf
46. F
47. ConvToSurface
48. T