AutoCAD 2009: One Step at a Time
Lesson 3: Wireframes and Surface Modeling

09R3-3D	Review Questions

Please write your answers on a separate sheet of paper.

1. A _____ model is a skeleton drawing (a stick figure).
2. A _____ model stretches some skin over the skeleton.
3. Use the (pline, 3dpoly) command to draw a polyline with different z-coordinates.
4. (T or F) A 3DPoly has no width property.
5. Use the _____ command to create a curved line in Z-Space.
6. Use the _____ technique to identify points by intersecting lines in Z-Space.
7. When you cannot see points on a drawing, reset the _____ system variable.

Name the three types of surfaces used in Surface Modeling.

8. 10.
9.

11. Which of the above allows for removal of part of the surface?
12. Which converts an existing object into a region?
13. Which can be drawn without concern for the current UCS?

You can use the (14) option of the 3DFace command to hide some edges, or you can wait and use the (15) command to remove them after the 3DFace has been drawn.

14.
15.

16. (T or F) A wireframe Model is required when drawing a Surface Model (over which you will stretch the “skin”).
17. To keep invisible edges of a 3DFace visible, set the _____ system variable to 1.
18. A _____ is a filled, 2-dimensional polygon.

In surfaces, a (19) can be created from scratch, but a (20) requires an existing, closed object.

19.
20.

21. The term _____ refers to a family of solid objects including spheres, cones, and boxes.
22. Use a (Region, 3DFace) anywhere an arc, circle, or hole is required.
23. A (Region, 3DFace) can be drawn in 3-dimensions.
24. There are no edge concerns when drawing a (region, 3DFace).
25. The _____ command uses boundaries to create a region.

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26. For the Boundary command to work properly, the objects forming the boundary must be on the _____ of the Z-Axis in the current UCS.

27. To create a Region using the Boundary command, the Object type (in the Boundary Creation dialog box) must be set to _____.

List the three modifying tools we discussed which are shared between Regions and 3DSolids.

28. 30.

29.

31. Restrictions to the 3D polyline are:

    a) doesn't have width,

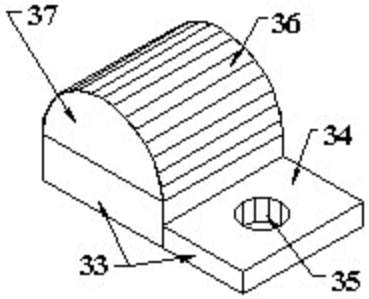
    b) you can use only a continuous linetype,

    c) 3DPoly can be Splined using Pedit,

    d) all of the above.

32. (T or F) Nodes placed by the Divide command are always visible.

Refer to the figure at right. For numbers 33 through 37, identify what type of surface you would use and explain why.



38. (T or F) A Spline cannot be used to connect the intersection of the two roofs in Exercise 3.2A because a spline's smooth curves are not compatible with the 3DFace command.

39. (T or F) In order to place holes in a surface, the surface must be a 3DFace.

40. (T or F) The user is required to adjust the UCS in order to add a 3DFace to a model.

41. (T or F) Point filters are not required to add a 3DFace to a model.

42. (T or F) It is not necessary to have a 3D Wireframe Model prior to creating a 3D Surface Model.

43. (T or F) It is easier to make 3DFace edges invisible as the user draws the object.

44. The difference between a solid and a region is:

    a. a solid is a filled 2-dimensional polygon, while a Region is an actual surface,

    b. the user can create a solid from scratch but a region is created from an existing object,

    c. both of the above.

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Answers:

1. Wireframe
2. Surface
3. 3dpoly
4. T
5. Spline
6. Point Projection
7. PDMode
8. Regions
9. Solids
10. 3DFaces
11. Region
12. Region
13. 3DFace
14. Invisible
15. Edge
16. F
17. SPLFrame
18. Solid
19. Solid
20. Region
21. 3DSolid
22. Region
23. 3DFace
24. Region
25. Boundary
26. Zero coordinate
27. Region
28. Subtract
29. Union
30. Intersect
31. a & b
32. F
33. to 37. [Refer to Sect. 3.3.4 – p.80]
38. T
39. F
40. F
41. T
42. T
43. F
44. c

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