

## 3D AutoCAD 2007: One Step at a Time

### Review Questions – Lesson 6

#### 07R6-3D Review Questions

Answer the following questions on a separate sheet of paper.

1. \_\_\_\_\_ controls how the Trim and Extend commands behave in Z-Space.
2. You can set the above system variable by selecting the \_\_\_\_\_ option at either the Trim or Extend command's prompt.
3. What is the true 3D setting for the Projmode system variable?
4. Setting the Projmode system variable to \_\_\_\_\_ means that AutoCAD will look at cutting edges and objects to trim in a 2-dimensional projection of the current UCS.
5. (T or F) You cannot trim or extend part of a 3DMesh.
6. (T or F) You cannot use a 3DFace as a cutting edge.
7. (T or F) You cannot use a region as a boundary when extending.
8. (T or F) You cannot scale 3-dimensional objects as part of the Align command.
9. (T or F) Regions and 3DFaces have no editable properties.
10. Which would you use to edit a 3DFace? (Pedit, Properties Palette, neither)

Name the two methods for hiding an edge of a 3DFace.

- 11.
- 12.

List the three methods for modifying a 3D mesh.

- 13.
- 14.
- 15.
16. When using the Pedit command on a 3D mesh, the \_\_\_\_\_ option creates a curved shape from the 3D mesh.

List the three types of smooth surfaces.

- 17.
- 18.
- 19.

20. The \_\_\_\_\_ system variable controls the type of smooth surface that is created with the PEdit command.
21. (T or F) You can change the number of M or N vertices of a 3D mesh using the Properties palette.
22. The major difference between the new tools discussed in this lesson and their 2-dimensional counterparts involves using an \_\_\_\_\_ rather than base or rotation points.
23. When using the View option of the Rotate3d command, AutoCAD rotates the objects about \_\_\_\_\_.
24. The correct value/function of the Projmode system variable in the Trim command is:
  - a) 0 / cutting edge and object to trim must actually intersect,
  - b) 1 / AutoCAD projects the cutting edge and object to trim onto the XY plane of the current UCS,
  - c) 2 / AutoCAD projects the cutting edge and object to trim onto the XY plane in the current view,
  - d) any of the above.
25. When using the Trim command, changing the Projmode to the UCS setting at the Enter a projection option prompt means that: 1) cutting edge and object to trim will be projected against the current view, 2) cutting edge and object to trim will be projected against the current UCS, 3) cutting edge and object to must actually intersect.
26. (T or F) When extending a line in Z-Space, it is not necessary to be concerned with the Edgemode system variable.
27. (T or F) A Projmode setting of one will permit you to extend lines that do not normally meet the designated boundary lines in 2D space.
28. (T or F) In aligning a three-dimensional object, you may scale the object to the alignment points as can be done with two-dimensional objects.
29. (T or F) The Properties palette may be docked or floated anywhere on the drawing.
30. (T or F) The area and perimeter of a region may be changed using the Properties palette.
31. For AutoCAD to change the vertex "X" of a 3D face using the Properties palette, you must: 1) hit enter after assigning a new value, 2) hold down the control and alt keys while pressing the delete key, or 3) type a question mark and hit enter.
32. (T or F) Using the Properties palette, you may modify a region, solid, or a 3D face.

33. (T or F) You must close the Properties palette before entering another command.
34. (T or F) Using PEdit, the position of several vertices on a 3D mesh may be modified at one time.
35. At the Surftype command prompt, set: 1) a low, medium, or high wave, 2) a number representing the type of curve that will result from the Smooth surface option of the PEdit command when working on a 3D mesh, or 3) the waviness of your screen.
36. (T or F) SurfU and SurfV are controlled by the SNAFU command.
37. (T or F) It is faster to use the ro3 hotkey than typing out the Rotate3D command.
38. (T or F) When selecting two points to identify an axis of rotation for the Rotate3D command, AutoCAD assumes the direction from point 1 to point 2 is the direction of the positive Z-axis.
39. (T or F) You can identify the axis of rotation of an object by selecting an existing object, by identifying a point on the X-, Y-, or Z-axis, or by identifying 2 points on the axis.
40. (T or F) After entering Rotate3D and selecting the objects to rotate, the Rotation dialog box appears.
41. (T or F) Like the Mirror command, Mirror3D requires that you identify a point about which it will revolve the selected objects.
42. (T or F) There are no hotkeys or toolbar buttons for the Mirror3D command.
43. (T or F) You can identify a Mirror3D axis by selecting an existing object.
44. (T or F) Prompts for the number and spacing of levels are the only differences between creation procedures for 2D and 3D rectangular arrays.
45. (T or F) You can select the 3DArray command from a toolbar.
46. (T or F) When creating a 3D Polar array, you must select a center point about which to revolve.
47. (T or F) When creating a Rectangular array, you must enter the number as well as the distance between rows, levels and columns.
48. (T or F) The most obvious difference between the Move command and the 3DMove command is the use of an icon called the grip tool.
49. (T or F) The Rotate3D command also uses an icon called a grip tool.

Answers:

- |                        |  |       |
|------------------------|--|-------|
| 1. Projmode            | 17. Quadratic B-Spline   | 31. 1 |
| 2. Project             |  | 32. F |
| 3. 0                   | 18. Cubic B-Spline   | 33. F |
| 4. 2                   | 19. Bezier   | 34. F |
| 5. T                   | 20. Surftype   | 35. 2 |
| 6. T                   | 21. F  | 36. F |
| 7. F                   | 22. Axis   | 37. F |
| 8. T                   | 23. An imaginary axis drawn perpendicular to your monitor's screen | 38. T |
| 9. F                   |  | 39. T |
| 10. Properties Palette |  | 40. F |
| 11. Edge command       |  | 41. F |
| 12. Properties Palette | 24. D  | 42. T |
| 13. Pedit              | 25. 2  | 43. T |
| 14. Properties Palette | 26. F  | 44. T |
| 15. Grips              | 27. T  | 45. F |
| 16. Smooth Surface     | 28. F  | 46. F |
|                        | 29. T  | 47. T |
|                        | 30. F  | 48. T |
|                        |  | 49. F |