

**3D AutoCAD 2011: One Step at a Time**  
**Lesson 7: Mesh & Surface Editing**

**11R7-3D**

**Review Questions**

Answer the following questions on a separate sheet of paper.

1. Collectively, \_\_\_\_\_ make up a mesh.
2. (T or F) When working with models, you will likely find it necessary to use mesh editing tools sometimes and solid editing tools other times.
3. (T or F) As a general rule, edit your mesh before you apply a smoothness level.

List the three selection filters you can use on a mesh.

- 4.
- 5.
- 6.

List the three ways you can change the selection filter.

- 7.
- 8.
- 9.
10. (T or F) You can change the modification gizmo without issuing a command.
11. (T or F) Using a modification gizmo to move or rotate objects involves grips.
12. (T or F) Finer editing is done on the face level than the vertex level.
13. Use the \_\_\_\_\_ command to provide two faces where you had one.
14. (T or F) Refining an entire mesh is almost always preferable to splitting a face.
15. (T or F) Extruding a face also adds new faces to a mesh.
16. Use the \_\_\_\_\_ command to move a face without distorting adjacent faces.
17. You can force an extruded face to follow a specific route by choosing the \_\_\_\_\_ option of the MeshExtrude command.
18. Use the \_\_\_\_\_ property to turn a faceted object into a smooth "free-form" (aka. organic) design.

Increase (19) or decrease (20) the smoothness level of an object with these commands.

- 19.
- 20.
21. To avoid smoothing an entire object, use the \_\_\_\_\_ command on selected edges.
22. (T or F) The smoothness level affects the number of faces produced by the MeshRefine command.

When converting a model to a mesh or solid, you'll need to set the SmoothMeshConvert system variable. What are the four settings and their outcomes.

23.

24.

25.

26.

27. (T or F) Use the ConvToMesh command to convert a solid to a mesh.

28. Use the \_\_\_\_\_ command to create a wireframe from a mesh or solid.

29. \_\_\_\_\_ consist of a simple two dimensional plane (though they can exist in three dimensional space).

30. (T or F) You can explode a surface into 3DFaces.

31. \_\_\_\_\_ allows you to trim any part of a surface where it meets an arc, circle or ellipse.

32. (T or F) Unlike the Trim command, SurfTrim has no Extend option.

33. \_\_\_\_\_ removes the trimming created with the SurfTrim command without removing the trimming edge.

34. (T or F) While you can trim a surface, AutoCAD has no command to extend a surface.

35. (T or F) AutoCAD provides a Fillet command for surfaces called SurfFillet.

36. Project points or curves onto a surface or 3D solid using the \_\_\_\_\_ command.

37. (T or F) 3D Gizmos work on mesh vertices as on 3dfaces.

38. \_\_\_\_\_ will cause the vertices of selected mesh faces or edges to converge on a central vertex.

39. (T or F) MeshSpin works only on triangular mesh faces.

40. What are NURBS?

Answers:

1. 3d faces, edges, & vertices
2. T
3. T
4. Face
5. Edge
6. Vertex
7. Subobject panel
8. Cursor menu
9. SubObjSelectionMode setting
10. T
11. T
12. F
13. MeshSplit
14. F
15. T
16. MeshExtrude
17. Path
18. Smoothness
19. MeshSmoothMore
20. MeshSmoothLess
21. MeshCrease
22. T
- 23 – 26 [see the chart, p.184]
27. F
28. XEdges
29. Surfaces
30. T
31. SurfTrim
32. F
33. SurfUnTrim
34. F
35. T
36. ProjectGeometry
37. T
38. MeshCollapse
39. T
40. Non-Uniform B-Splines (surfaces based upon Bezier curves or splines)