Chapter 4 Review

Understanding Three-Dimensional Coordinates and User Coordinate Systems

**Name:** **Click here and type your name**

Click in the shaded area and type your answer for each question. Use the [Tab] key to move from one answer field to the next.

1. Explain spherical coordinate entry.

Click here and type your answer

2. Explain cylindrical coordinate entry.

3. A new point is to be drawn 4.5″ from the last point. It is to be located at a 63° angle in the XY plane, and at a 35° angle from the XY plane. Write the proper spherical coordinate notation.

4. Write the proper cylindrical coordinate notation for locating a point 4.5″ in the horizontal direction from the origin, 3.6″ along the Z axis, and at a 63° angle in the XY plane.

5. Name the command that is used to draw 3D polylines.

6. Why is the command in question 5 needed?

7. Which command option is used to change a 3D polyline into a B-spline curve?

8. What is the world coordinate system (WCS)?

9. What is a user coordinate system (UCS)?

10. What effect does the Show UCS Icon at Origin option have on the UCS icon display?

11. Describe how to rotate the UCS so that the Z axis is tilted 30° toward the WCS X axis.

12. How do you return to the WCS from any UCS?

13. Which command controls the display of the user coordinate system icon?

14. What system variable controls the display of grips on the UCS icon? In which dialog box can it be set?

15. Briefly describe how to access the Move and Align option using the UCS icon grips.

16. How can you return to a previous UCS configuration using the UCS icon?

17. What is a dynamic UCS and how is one activated?

18. What is the function of the 3 Point option of the UCS command?

19. How do you automatically create a display that is plan to a new UCS?

20. What is the function of the Object option of the UCS command?

21. What is the function of the Apply option of the UCS command?

22. In which dialog box is the Orthographic UCSs tab located?

23. Which command displays the UCS dialog box?

24. What appears in the Named UCSs tab of the UCS dialog box if the current UCS has not been saved?