CHAPTER 36 EXERCISES

For the following exercises, you will need access to the sample drawing files that are shipped with AutoCAD. (The default installation path is C:\Program Files\Acad2000\Sample.)

1. ***UCS X, Y,* and *Z Rotate***

   Open the **WATCH** drawing from the Acad2000\Sample directory. Activate the ***Model*** tab. Generate a ***SE Isometric*** view, then ***Zoom*** out slightly. Note the orientation of the coordinate system icon. Experiment with the ***UCS X, Y,*** and ***Z*** options to rotate the UCS icon positive 90 degrees around each of these axes, but return to the default setting for the UCS after each rotation by using the ***World*** option. Do not save changes to the drawing.

2. **Preset UCS**

   Continue working with the **WATCH** drawing. Generate a ***SE Isometric*** view. Use the ***Ucsman*** or ***Dducsp*** command or select ***Orthographic UCS*** from the ***Tools*** pull-down menu to access the ***Orthographic UCSs*** tab of the ***UCS*** dialog box. Double-click on ***Front*** to change the UCS to align the XY plane of the coordinate system with a typical ***Front*** view. Use the ***Plan*** command with the ***Current UCS*** option to generate a front view of the drawing (with the line of sight perpendicular to the XY plane).

   Next, generate a ***SE Isometric*** view again. Access the ***Orthographic UCSs*** tab of the ***UCS*** dialog box again to change to a ***Right*** view. Use the ***Plan*** command with the ***Current UCS*** option once more to change the viewing direction to a plan view of the current UCS.

   Finally, generate a ***SE Isometric*** view again. Access the ***Orthographic UCSs*** tab of the ***UCS*** dialog box again to change to a ***Top*** view. Use the ***Plan*** command with the ***Current UCS*** option once more to change the plan view. Do not save changes to the drawing.

3. ***UCSORTHO***

   Continue working with the **WATCH** drawing. Generate a ***SE Isometric*** view, then set the ***UCS*** back to the ***World*** coordinate system. Type in the ***UCSORTHO*** variable at the command prompt and change the setting to **0** (this action keeps the UCS in the current position when an orthographic view is set). Next, use the ***View*** command or the ***View*** pull-down menu to generate a ***Right***, ***Front***, and ***Top*** view. Notice that the World coordinate system does not change when a new view is generated.

   Next, generate a ***SE Isometric*** view. Change the ***UCSORTHO*** variable setting to **1** (this action forces the UCS to change when an orthographic view is set). Now use the same method to generate a ***Right***, ***Front***, and ***Top*** view. Notice that the coordinate system does not change from the World coordinate system when a new view is generated. Do not save changes to the drawing.

4. ***Save* and *Restore* a UCS**

Continue working with the **WATCH** drawing from the previous exercise. Use ***3Dorbit*** to generate an interesting 3D viewpoint of the drawing. Use the ***UCS*** command to set the UCS to ***View***. Next use ***UCS*** to ***Save*** the current UCS as **VIEW1**. Use the ***UCS*** command again to change the UCS back to ***World.***

Next, generate a different view of the watch using ***3Dorbit***. Then use ***UCS*** or ***Ucsman*** to ***Restore*** the UCS you created previously named **VIEW1**. Notice the position of the UCS icon. Use ***Plan*** with the ***Current UCS*** option to restore the original viewpoint you created. Exit, but do not save changes to the drawing.