Learn Grasshopper with Kris

RHINOCEROS GLOSSARY

FUNDAMENTALS

Rhinoceros Glossary

Points

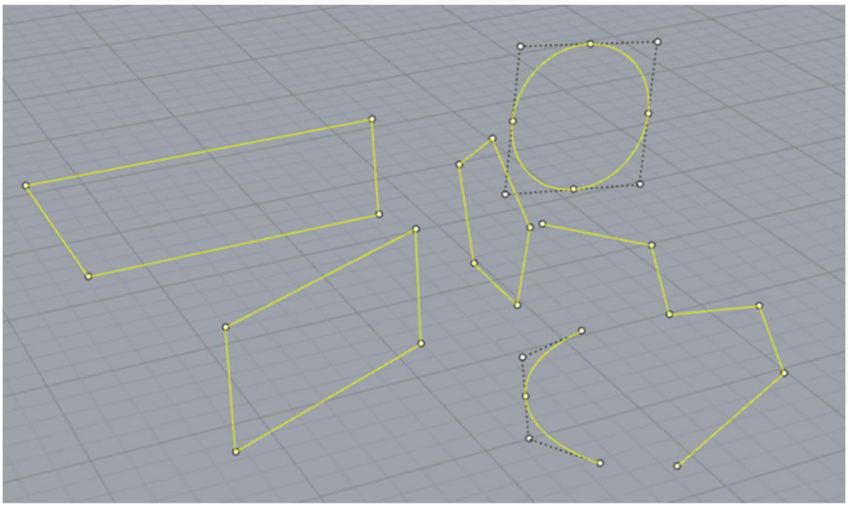
Point objects mark a single point in 3-D space. They are the simplest objects in Rhino. Points can be placed anywhere in space. Points are most often used as placeholders.

Curves

A Rhino curve is similar to a piece of wire. It can be straight or wiggled, and can be open or closed. A *polycurve* has several curve segments joined together end to end.

Rhino provides many tools for drawing curves. You can draw straight lines, polylines that consist of connected line segments, arcs, circles, polygons, ellipses, helices, and spirals.

You can also draw curves using curve *control points* and draw curves that pass through selected points.

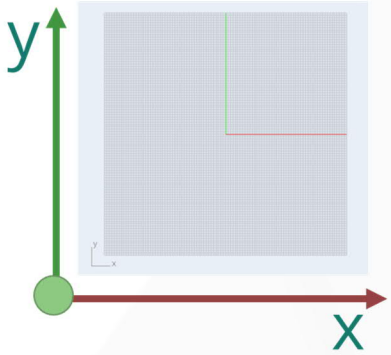


Curves in Rhino include lines, arcs, circles, free-form curves, and combinations of these. Curves can be open or closed, planar, or non-planar.

Construction plane

A construction plane is like a tabletop that the cursor normally moves on. The construction plane has an origin, x- and y-axes, and a grid. The construction plane can be set to any orientation, and each viewport's construction plane is independent of those in other viewports.

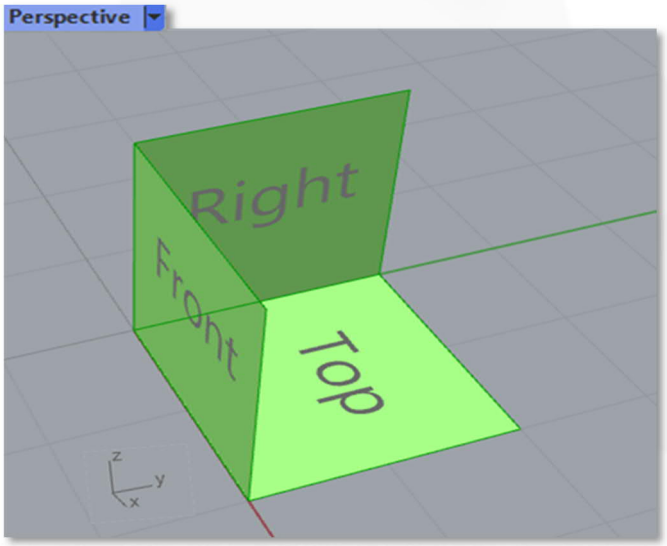
The construction plane represents the local coordinate system for the viewport and can be different from the world coordinate system



Coordinate systems

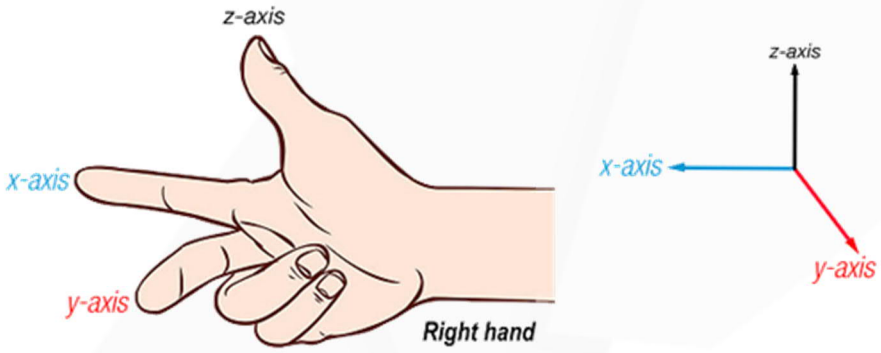
Rhino uses two coordinate systems: construction plane coordinates and world coordinates. Construction plane coordinates are defined for each viewport. World coordinates are fixed in 3-D space.

For more information about coordinate systems, see *www.mathopenref.com/coordinates*.



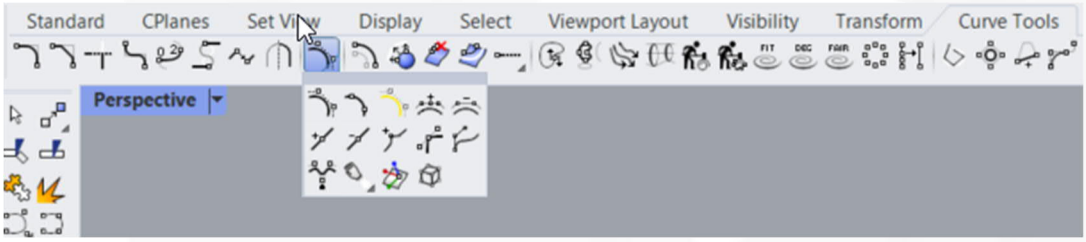
Right-hand rule

Coordinate systems follow what is called the *right-hand rule*. The right-hand rule can help you determine the direction of the z-axis in a coordinate system. Form a right angle with the thumb and forefinger of your right hand. When your thumb points in the positive x-direction, your forefinger points in the positive y-direction, and the palm of your hand faces in the positive z-direction.



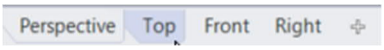
Picture source

Toolbar



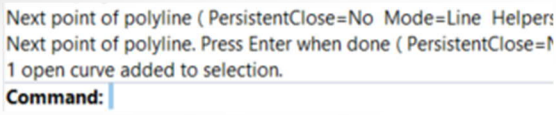
Toolbars contain graphical icons for initiating commands. Many toolbar icons have a second command that you can access by right-clicking the icon. The tooltip that appears when you hover over the icon tells you what the left and right mouse button do.

Viewport



Displays the working environment for Rhino. Double-clicking the viewport title will toggle between one maximized viewport and multiple smaller viewports. Right-clicking the viewport title will open a menu to set everything related to the view.

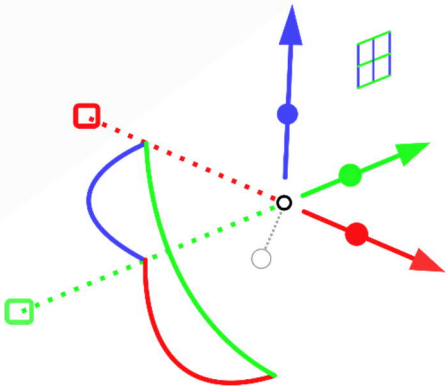
Command prompt



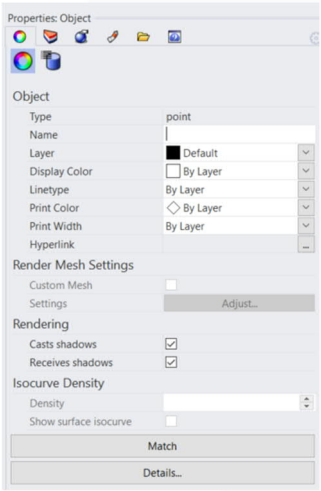
The command prompt displays prompts for the current command actions, options for the command that you can click, and allows typing command names and options.

Gumball

If the gumball feature is activated in the status bar, then, after selecting one or more objects in the viewport, the gumball widget is shown which provides shortcuts to move, scale, and rotate the selected objects.



Panel



Displays information about the document properties, global and selection-specific properties, and special dialogues, like layer management or rendering. Content is organized in panel tabs and sometimes there are subtabs, like those available through the icons in the properties tab.

Status bar

The status bar is located at the bottom of the Rhino window. It displays the current coordinate system, the cursor location, and system unit. It also provides quick access to layers and toggles of modeling aids.

Provides access to commonly used commands, organized in toolbar groups. Changing a group will also change the icons listed left of the viewport.