

# Basic Drawing Tools

The basic drawing tools in Illustrator are the line, grid, and shape tools. Lines, arcs, and spirals are created easily with the line tools, while the grid tools make rectangular and polar grids a snap. Using the shape tools, a variety of shapes can be drawn. The selection and transform tools, which can be used to edit paths and shapes, are also covered in this chapter.

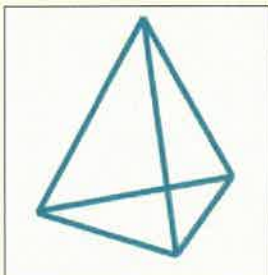
## Line and Grid Tools

There are three line tools and two grid tools in Illustrator. The line tools are the Line Segment tool, the Arc tool, and the Spiral tool. The grid tools are the Rectangular Grid tool and the Polar Grid tool.

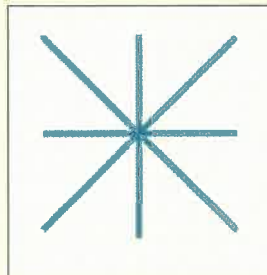
In this section, you will learn to use all of these tools, whether on their own or together with keystrokes such as the [Ctrl], [Shift], and [Alt] keys. The properties of these tools can be modified by pressing these keys or by changing their options in the appropriate tool options dialog box.

### Line Segment Tool (☒), [L]

This tool is used to draw straight lines with a click-and-drag motion. To demonstrate, select the Line Segment tool and try it out on the artboard. If you press the [Alt] key while dragging, you will create a straight line that extends out in both directions from the point of origin. In other words, the point of origin becomes the center point of the line. If you press the [Shift] key while dragging, you will create vertical, horizontal, or 45° diagonal lines.

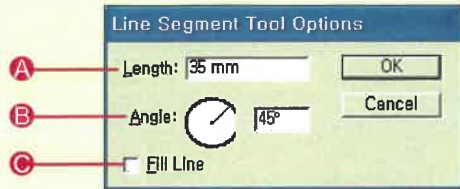


▲Drawing Lines in the Usual Way



▲Drawing Lines by Pressing the [Alt]-[Shift] Keys and Dragging

If the Line Segment tool is selected and you click on the work space, the following options dialog box will appear.



- A Length:** Specifies the total length of the line.
- B Angle:** Specifies the angle of the line. You can enter an angle in the text box or drag the angle preview dial. The dial shows the angle at which the line will be drawn.
- C Fill Line:** By default, lines are drawn without a fill surface. Checking this option will fill the line with the current fill color.

To change the color of the line in the Color palette, the Stroke Color button (□), and not the Fill Color button (■), must first be activated in the toolbox. The Stroke Color button is the frame-like one that sits behind the solid color block of the Fill Color button.



◀Selecting the Fill Color Button



◀Selecting the Stroke Color Button

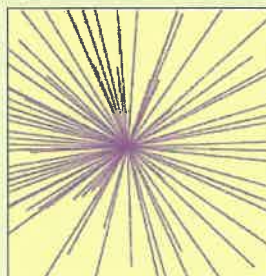


◀When Fill Line Is Not Selected in the Line Segment Tool Options Dialog Box

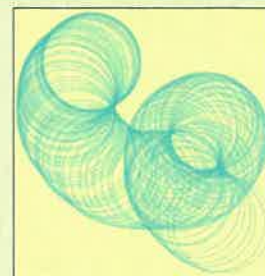
<< note

**Grave Accent Effect**

With the Line Segment tool selected, hold down the grave accent key [`] as you drag to create multiple lines emanating from the point of origin. Dragging slowly will create more lines than dragging quickly. To move the point of origin as you drag, hold down the spacebar. The grave accent effect can be applied using any of the line, grid, or shape tools by following the same steps.



▲The Grave Accent [`] Effect with the Line Segment Tool



▲Using the grave accent [`] effect with the Ellipse tool (□) produced the image shown here. This image was drawn using the [`] and [Spacebar] keys together.

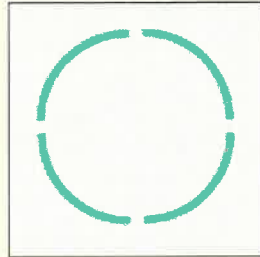
## Arc Tool ( )

The Arc tool allows you to create a segment of a circle.

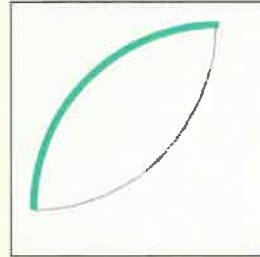
When using the Arc tool to draw convex or concave arcs, you can press the [ ↑ ] or [ ↓ ] keys to change the degree of the arc. While dragging, press the [Alt] key to extend the arc from both sides of the point of origin, the [Shift] key to create arcs at 45° angles, the [F] key to flip the arc, and the [C] key to alternate between open or closed arcs.



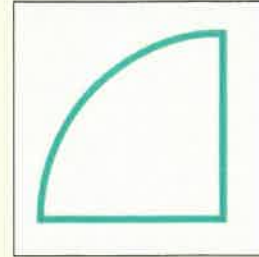
▲ Press [ ↓ ] to make the arc less curvy.



▲ Circle Drawn Using the [Alt]-[Shift] Keys

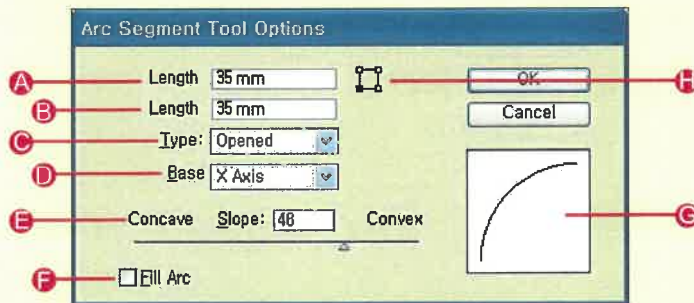






▲ Press the [F] key to flip the arc.



▲ Press the [C] key to turn an open arc into a closed arc and vice versa.

With the Arc tool selected, click anywhere on the artboard or double-click on the Arc tool to open the Arc Segment Tool Options dialog box.



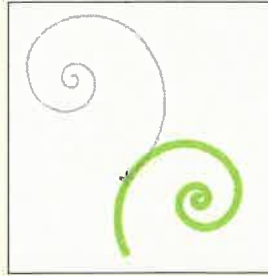
- A Length:** Determines the width of the arc with respect to the point of origin.
- B Length:** Determines the height of the arc with respect to the point of origin.
- C Type:** Choose to create an opened or closed path.
- D Base:** Choose whether to draw the base of the arc along the X axis or Y axis.
- E Concave/Convex:** Enter a Slope value or use the slider (  ) to adjust the angle and curvature of the arc. To draw a concave arc, enter a negative Slope value or drag the slider towards Concave (  ). To draw a convex arc, enter a positive Slope value or drag the slider towards Convex (  ).
- F Fill Arc:** When the Fill Arc option is checked, the arc is filled with the current fill color.
- G Preview:** Shows a preview of the arc. The preview window will only appear in the Arc Segment Tool Options dialog box if the dialog box was opened by double-clicking on the Arc tool in the toolbox.
- H Reference Point Locator <  >:** Click on one of the four points to set the point from which the arc is drawn.

## Spiral Tool

The Spiral tool is used to draw spiral shapes; the direction of the swirl can be adjusted in the tool's options dialog box. While dragging, press the [Ctrl] key to adjust the tightness of the swirl, the [↑] or [↓] keys to alter the number of spirals, the [R] key to flip the spiral, and the [Shift] key to constrain the spiral to a 45° angle. Also, holding down the [Alt] key while dragging outwards will increase the number of spirals. Conversely, dragging inwards while holding the [Alt] key will decrease the number of spirals.

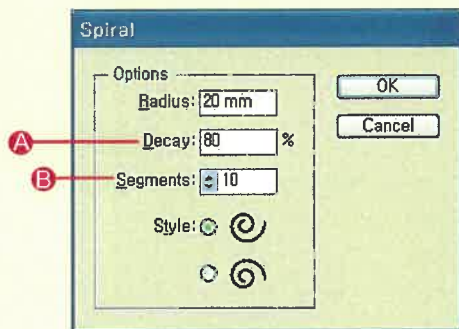


▲A spiral drawn in the usual way.



▲A spiral drawn by pressing the [Ctrl] key and dragging outwards to create a loose spiral which is flipped by pressing the [R] key.

As with the other tools, select the Spiral tool and click anywhere to open its options dialog box.

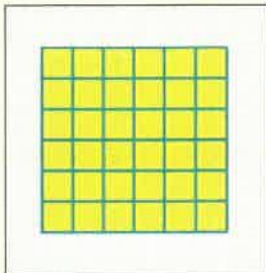


**A Decay:** Determines the tightness of the spiral. A low percentage creates loose spirals and a high percentage creates tight spirals.

**B Segments:** Sets the number of segments in a spiral. In other words, this determines the length of the spiral. One complete “wind” requires 4 segments.

## Rectangular Grid Tool

This tool makes it easy to create grids on the artboard. While dragging with this tool, press the [↑] or [↓] keys to add or remove horizontal lines, and the [→] or [←] keys to add or remove vertical lines.



◀A Normal Grid

Pressing the [Alt] key while dragging with the Rectangular Grid tool will extend the grid from the origin point, while pressing the [Shift] key will constrain the grid to a square.



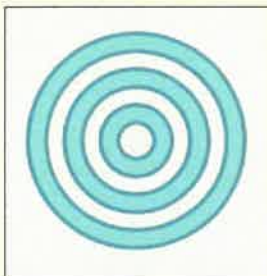
Pressing the [F] key pushes down the horizontal divisions, while pressing the [V] key pushes them up. Pressing the [C] key pushes the vertical divisions to the right, while pressing the [X] key pushes them to the left.



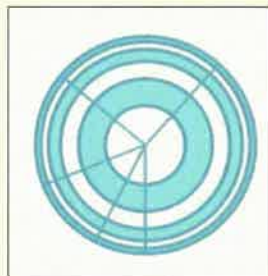
◀ This grid was drawn by pressing the [F] and [C] keys while dragging.

## Polar Grid Tool

The Polar Grid tool makes a set of concentric rings to which radial lines can be added. This is useful for creating pie charts and other circular tables. While dragging, press the [↑] or [↓] keys to increase or decrease the number of concentric circles, and the [→] or [←] keys to increase or decrease the number of radial divisions. As you might expect, the [Alt] and [Shift] keys work with the Polar Grid tool as they do with other tools. Similarly, pressing the [V] key pushes the radial dividers clockwise, and the [F] key pushes them counterclockwise. The [C] key pushes the concentric circles outwards and the [X] key pushes them inwards.

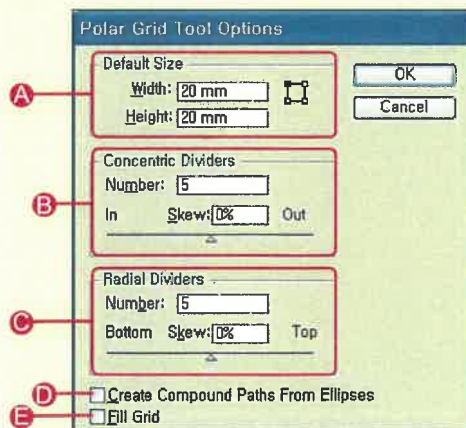


▲ A Normal Concentric Circle



▲ Drawn by Pressing the [F] and [C] Keys


With the Polar Grid tool selected, click anywhere to open its options dialog box.



**A Default Size**

*Width:* Determines the default width of the polar grid.

*Height:* Determines the default height of the polar grid.

: Click on one of the four points to set the point of origin.

**B Concentric Dividers**

*Number:* Sets the number of concentric circles.

*Skew:* A positive number pushes the concentric circles outwards, while a negative number pushes them inwards.

**C Radial Dividers**

*Number:* Sets the number of radial dividers.

*Skew:* A positive number pushes the radial dividers clockwise, while a negative number pushes them counterclockwise.

**D Create Compound Paths From Ellipses:** When this option is checked, alternating rings in the polar grid are colored with the fill color.

**E Fill Grid:** When this option is checked, the grid is colored with the current fill color. Otherwise, it will not be filled with color.

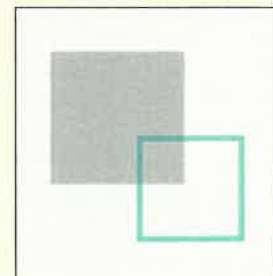
## Shape Tools

The shape tools include the Rectangle tool, the Rounded Rectangle tool, the Ellipse tool, the Polygon tool, the Star tool, and the Flare tool. To draw shapes with one of these tools, select the desired shape tool and click-and-drag on the artboard. Except for the Flare tool, the click-and-drag motion lets you drag out a shape by one of its corner points. (With the Flare tool, the flare is dragged out from its center point.) Just like the Line and Grid tools, pressing keystrokes such as the [Shift] and [Alt] keys while dragging with a shape tool changes the properties of the tool. For all of the shape tools, pressing the [Alt] key sets the original point at the center of the shape.

Another way to adjust the properties of a shape tool is to change the options in the tool's options dialog box. To open a shape tool's options dialog box, click anywhere while the tool is selected.

### Rectangle Tool () , [M]

This tool is used to draw squares and rectangles. Pressing the [Shift] key while using the Rectangle tool creates a perfect square.



Drawing Rectangles ▶