5   Creating Basic Shapes, Applying Transformations

Y ou have to begin *somewhere* with the DRAW part of CorelDRAW—and this is the chapter. The creative process within this program usually requires that you build objects that you then customize and refine through fancy fills and elegant outlines, which are covered in later chapters. Therefore, it's important to know the steps to create simple geometric shapes, and to know basic editing moves to create exactly the shape you want to fill and stroke.

Note   Download and extract all the files from the Chapter05.zip archive to follow the tutorials in this chapter.

Using the Rectangle Tool and Property Bar

The Rectangle tool is simple enough to use, but it doesn't just create a four-sided, right-angled polygon—it creates a rectangle that has *special properties* in CorelDRAW. You'll find the Rectangle tool in the Toolbox; you can quickly select it by pressing the F6 shortcut key.

Note   Rectangles drawn with the Smart Drawing tool—covered in Chapter 8—have special editing properties, too.

   Rectangle shapes offer you the option to apply corner "roundness," based on a percentage value. Roundness can be set either manually by dragging a corner with the Shape tool—the most common technique experienced Corellians use—or by using the Property Bar Corner Roundness option available while a rectangle is selected. By default,

you round all four corners equally and together. However, if you unlock the Edit Corners Together toggle button, you can manually enter different values for each of the four corners, as discussed in the following section. There are several more features for changing the shape of a rectangle object that are reversible (no destructive changes are made) on the Property Bar. Figure 5-1 shows the features and some of the results you can achieve with this seemingly basic shape-creation tool.
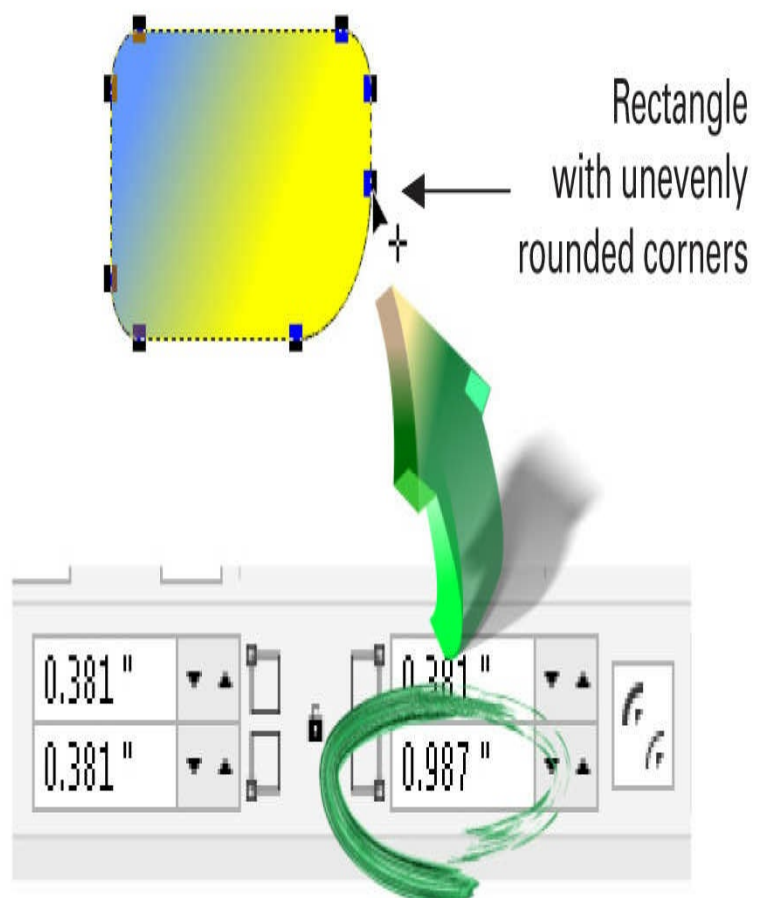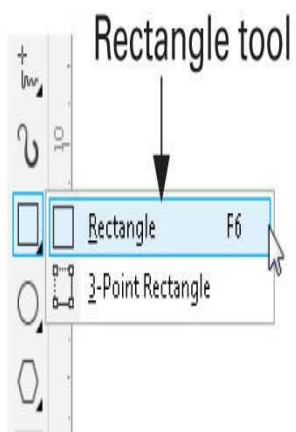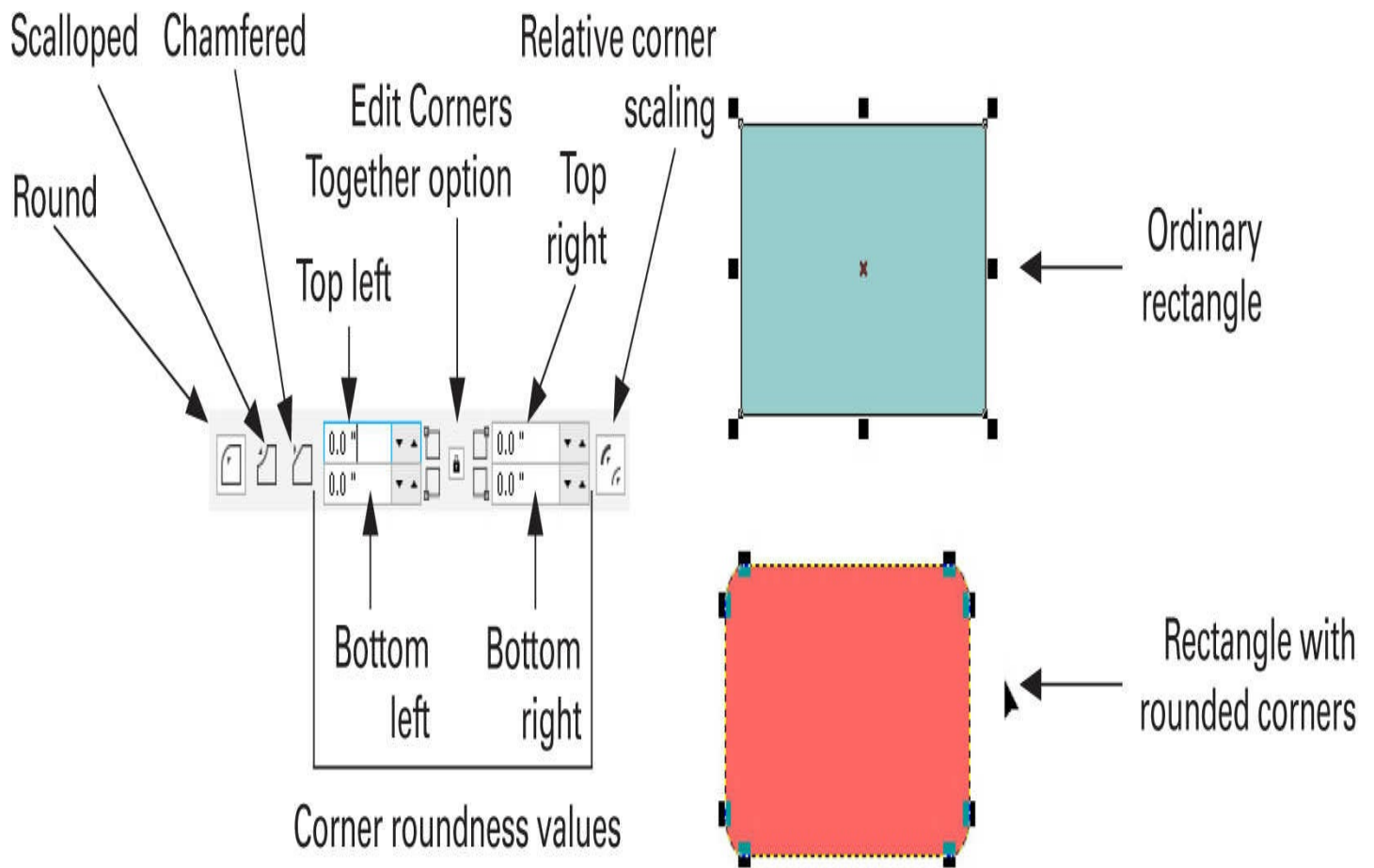
Scalloped Chamfered

Round

Edit Corners
Together option

Top left

Relative corner
scaling

Top
right

Ordinary
rectangle

0.0 "   0.0 "

0.0 "   0.0 "

Bottom
left

Bottom
right

Corner roundness values

Rectangle with
rounded corners

Rectangle tool

Rectangle   F6

3-Point Rectangle

Rectangle
with unevenly
rounded corners

0.381 "   0.381 "

0.381 "   0.987 "

FIGURE 5-1 The Rectangle tool creates shapes that can be modified—and then returned to their original state at any time.

Tip You can also choose the Rectangle tool while any shape-creation tool is selected (the Ellipse tool, for example) by right-clicking a blank space on the document page and choosing Create Object | Rectangle from the pop-up menu.

Drawing a Rectangle

To create a rectangle, choose the Rectangle tool from the Toolbox and then click-diagonal-drag in any direction to define its corner positions, as shown next. The act of click-dragging begins by defining the first two corners; as you drag, the corner positions can be redefined, depending on where your cursor is on the page. Then, before you release the mouse button, you've defined the position for the remaining two rectangle corners.

Begin here

Drag

Release
mouse
button
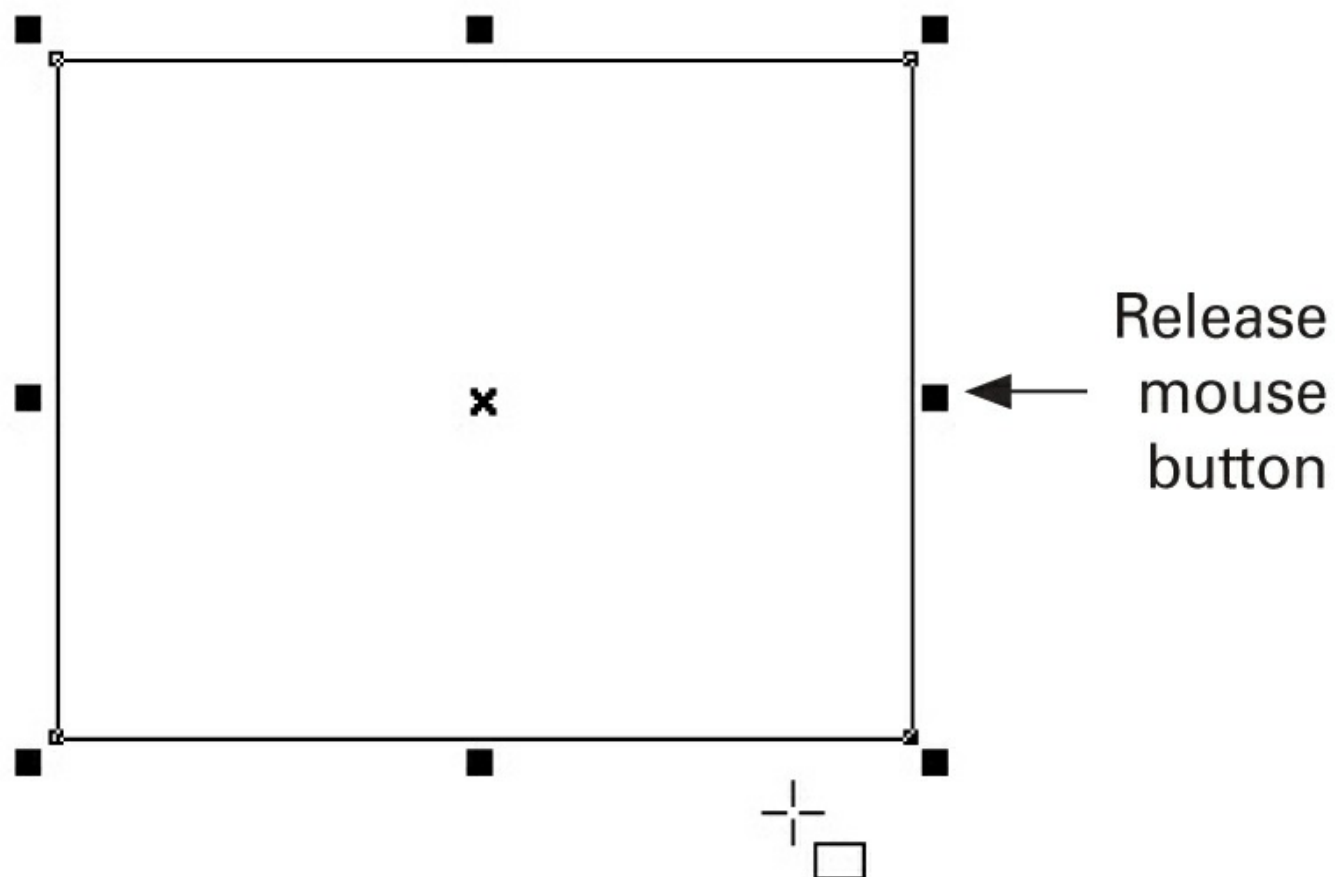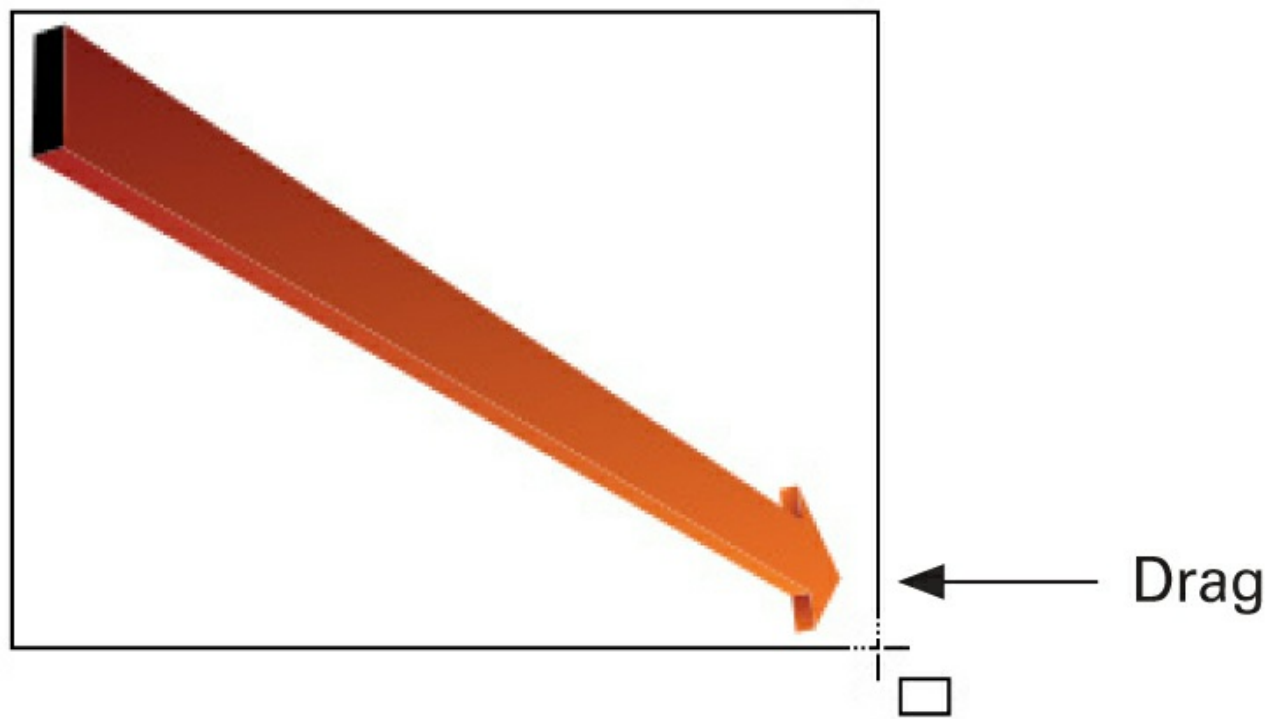
While the Rectangle tool is selected, notice that the cursor is a crosshair with a small rectangle shape at its lower right. As you click-drag using the cursor, you'll also notice that the Status Bar and Property Bar show the coordinate, width, and height properties of your new object shape.

Setting Rectangle Corner Properties

Corner roundness is one of three different effects you can apply and dynamically edit when you're into rectangles. Corner Roundness, as well as the Scalloped and Chamfered corner styles, can be applied to a rectangle using a value of 0 to about one half the overall length of one of the rectangle's sides. If you think about this, a 2" rectangle *can't* have more than a 1" rounded corner on each side! The Corner Roundness amount can be changed at any time, while the shape remains a native rectangle; that is, it has not been converted to curves. By typing 0 into any of the size boxes while the rectangle is selected, you remove the corner style. Corner Roundness, Scalloped, and Chamfered can be set uniformly for all corners (the default) or independently when the Edit Corners Together lock option is in the unlocked state.
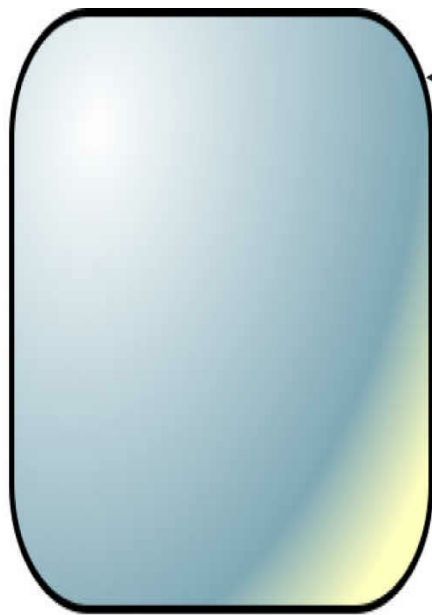

Tip   Double-clicking the Rectangle tool button in the Toolbox instantly creates a rectangle border around your current document page.
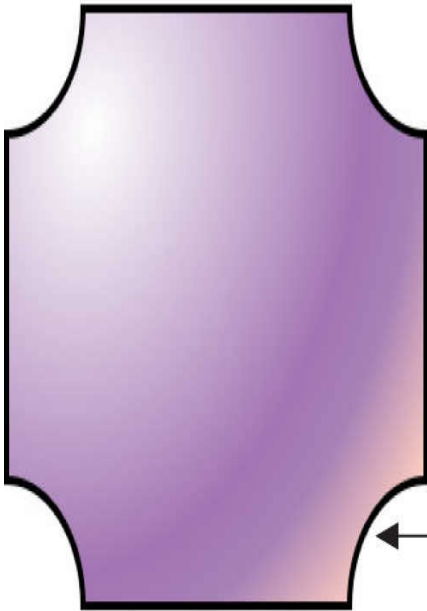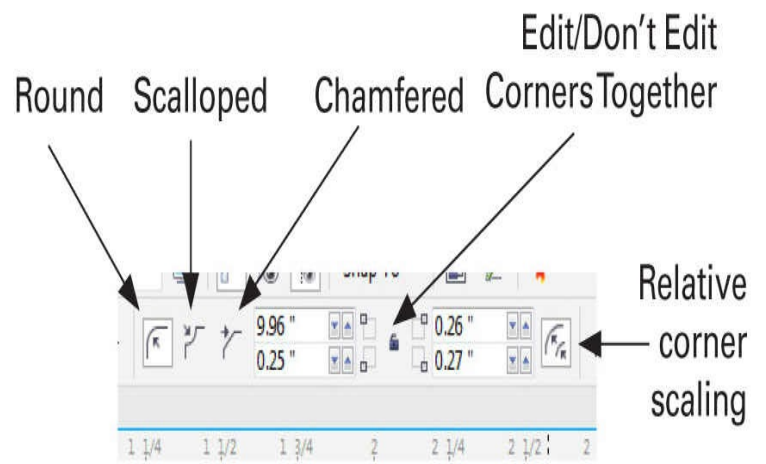
While a rectangle is selected, use any of the following operations to change corner properties according to your needs:

- Click the type of corner style you want on the Property Bar and then either type in the size for the corner values or drag the elevator buttons up or down to adjust the size of the corners.
- Set your rectangle's corners manually, using the Shape tool, by first unlocking the Edit Corners Together toggle button and then CTRL-dragging any corner control point away from its corner (toward a side that makes up the rectangle). Enabling the Edit Corners Together option causes all corners to be rounded or scalloped in an equal amount by dragging any of the control points.
- Use the Object Properties docker; press ALT-ENTER, click the Rectangle icon to go to the Rectangle Properties tab on the docker, and then edit any property you so choose.

Figure 5-2 shows rectangles with different types of corners; this is an ideal feature for building interesting signs, borders, and frames for documents.
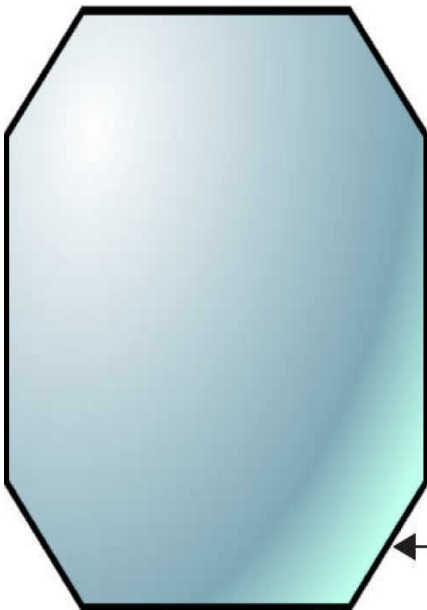
Round

Round Scalloped Chamfered Edit/Don't Edit
Corners Together

Relative
corner
scaling

9.96 "   0.26 "
0.25 "   0.27 "

1 1/4   1 1/2   1 3/4   2   2 1/4   2 1/2   2

Hold CTRL and drag
a node to edit only
one corner.

Scalloped

Chamfered

FIGURE 5-2 **Rectangles can have almost any type of corner you can imagine.**

Creating 3-Point Rectangles

If you want to create a rectangle and have it rotated all in one fell swoop, you can use the *3-Point Rectangle tool*. You'll find it grouped with the Rectangle tool in the Toolbox.

Using this tool, you can draw new rectangles at precise angles, as shown in Figure 5-3. The rectangle you create is a native rectangle shape, so you can round its corners and manipulate it as any other shape.
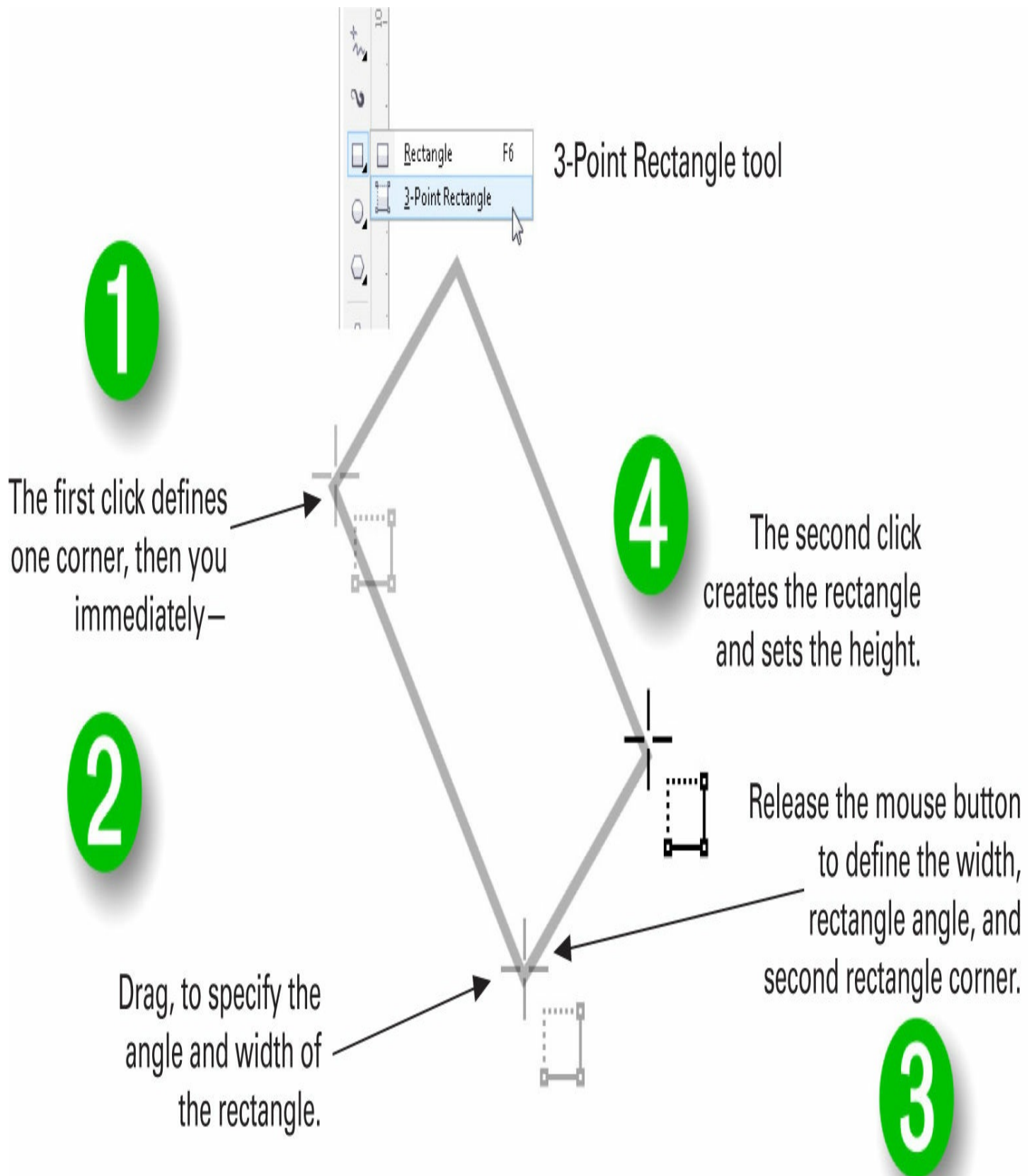
Rectangle   F6

3-Point Rectangle

3-Point Rectangle tool

1

The first click defines one corner, then you immediately—

2

Drag, to specify the angle and width of the rectangle.

4

The second click creates the rectangle and sets the height.

Release the mouse button to define the width, rectangle angle, and second rectangle corner.

3

FIGURE 5-3   **Draw new rectangles at precise angles with the 3-Point Rectangle tool.**

To create a rectangle using the 3-Point Rectangle tool, you click-drag. Clicking sets the first point of the rectangle, and the subsequent distance you drag determines both the angle and length of the rectangle. As soon as you release the mouse button, you move your cursor (*without* clicking; this is called *hovering*) to determine the height of the rectangle. A final click seals the deal—you now have a rectangle. You can now round its corners and perform other operations on your work.

Using the Ellipse Tool and Property Bar

Ellipses are a staple of commercial design work, and essentially an ellipse is a circular shape that is not perfect. The Ellipse tool can be used to draw both circles and ellipses, but in CorelDRAW an ellipse shape has additional, special properties, just like a rectangle can be a round-cornered rectangle. Ellipse shapes can be edited to create dramatically new shapes while retaining their elliptical properties. In contrast, a shape you might draw that *looks* like an oval, using the Bézier tool for example, will have no special properties and always remains an oval.

Ellipses are easy enough to draw with the Ellipse tool and can be set in several different states: as oval or circular closed paths, pie wedges, and arcs. Pie wedges are the portions of an ellipse—like a single slice of a pie, or conversely a whole pie with a slice removed. Arc shapes are open paths, exactly like pie wedges, except the two straight line segments are missing.

To create an ellipse, choose the Ellipse tool from the Toolbox (as shown in Figure 5-4) or press F7, followed by a click-drag in any direction. While the Ellipse tool is selected, the Property Bar shows ellipse-specific options that enable you to control the state of your new ellipse shape before or after it has been created. Choose Ellipse, Pie, or Arc. A complement is reserved for pie and arc shapes: for example, if you specify a 15° pie wedge, clicking the Change Direction icon changes the shape to a 345° wedge. Additionally, if you want a pie or arc to travel in a different path direction, double-click the Ellipse tool icon on the Toolbox, which takes you to Options, where you can choose a clockwise or counterclockwise path direction. Figure 5-4 shows your options and the features on the Property Bar when the tool is chosen.
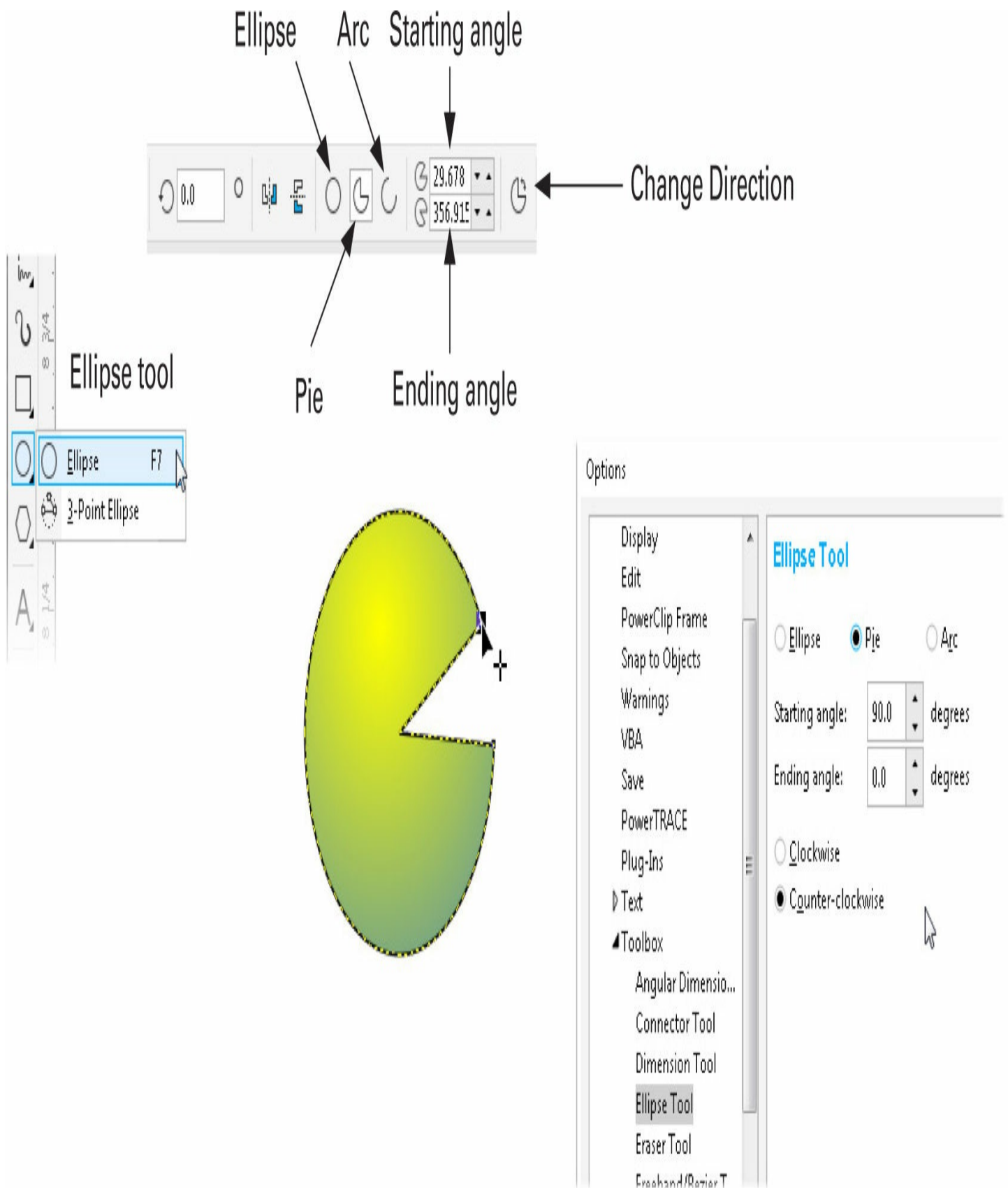
FIGURE 5-4 The **Ellipse tool** produces an object you can edit to make different shapes.

Tip You can also choose the Ellipse tool while any tool is selected by right-clicking in an empty space on your document page and choosing Create Object | Ellipse from the pop-up menu.

Drawing an Ellipse

Let's walk before running; before creating pie and arc shapes, begin with creating circles and ovals. Start with these brief steps:

Round 1 with the Ellipse Tool

Tutorial

1. Choose the Ellipse tool (F7) and use a click-diagonal-drag action in any direction. As you drag, an outline preview of the shape appears. An ellipse shape has two overlapping control nodes (so onscreen it looks like only one node); if you drag down and left or right, the nodes will be located at 12 o'clock. Conversely, if you drag up and left or right, the control nodes will be located at 6 o'clock.
2. Release the mouse button to complete your ellipse shape creation.

Controlling Ellipse States

All ellipses have two control points (*nodes*—a start and an end) that overlap each other and are visible when the ellipse is selected. When these control points are separated, they create either a pie or an arc state, and each control point determines either the *starting* or *ending angle* of the pie or arc.
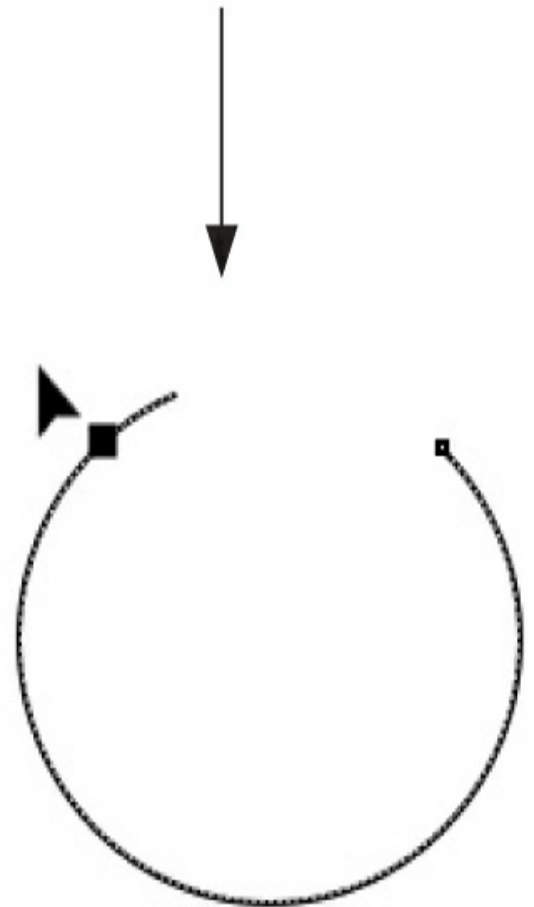
You can separate these control points either by using Property Bar options or by dragging the points using the Shape tool. Dragging *inside* the ellipse's shape creates the Ellipse Pie state. Dragging *outside* the shape creates the Ellipse Arc state, as shown here.

Ellipse tool cursor

Dragging outside creates the arc shape.
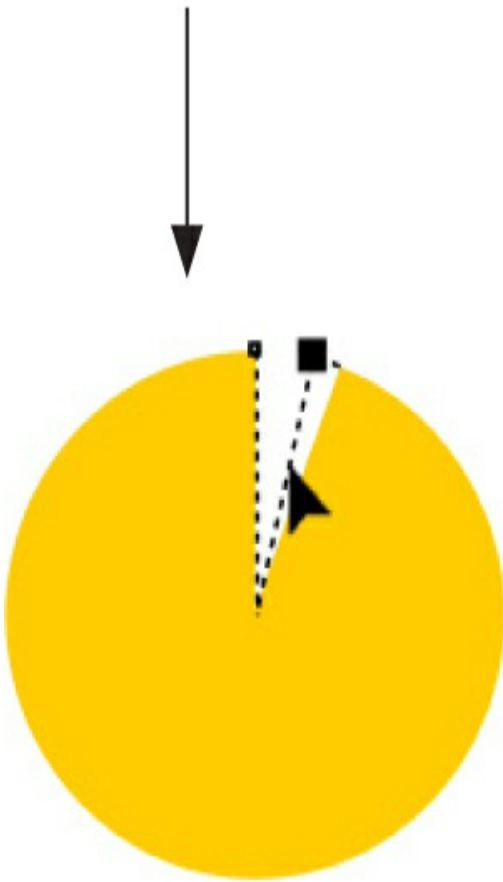
Dragging inside creates the pie shape.

Tip Even though pies and arcs appear as if sections or path parts are missing, the portions are still there. They're just hidden from view.

To draw a new pie or arc without drawing an oval-shaped ellipse first, click either the Pie or Arc button in the Property Bar before you start drawing. You can also switch any selected ellipse between these states using these buttons. By default, all pies and arcs are applied with a default Starting Angle setting of 0° and a default Ending Angle setting of 270°. Starting and ending angles are based on degrees of rotation from –360° to 360°, which is counterclockwise in orientation.
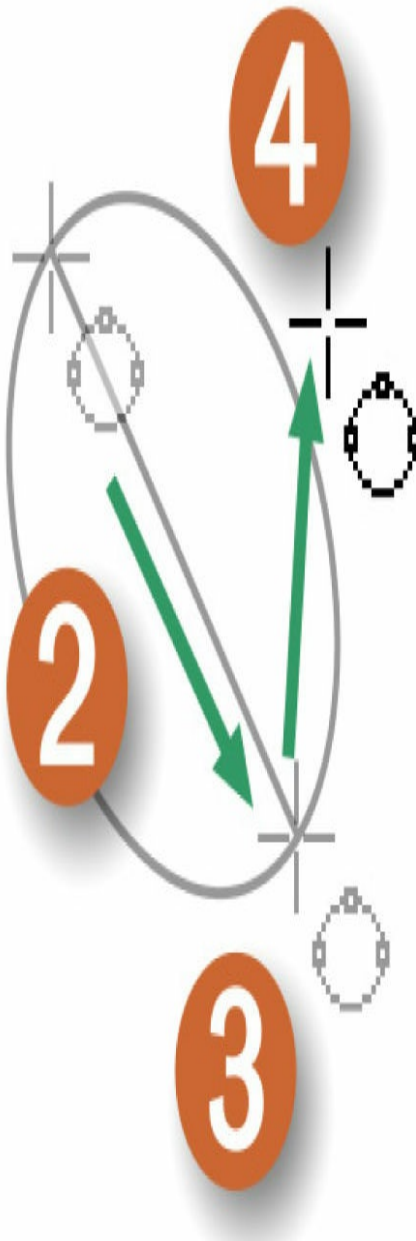
Creating 3-Point Ellipses

The *3-Point Ellipse tool* is the key for creating ellipses while setting a rotation angle (perfect circles show no possible rotation angle; we're talking *ovals* here). You'll find it grouped with the Ellipse tool in the Toolbox (see Figure 5-5). This tool's operation is very much like the 3-Point Rectangle Tool.

3-Point ellipse tool
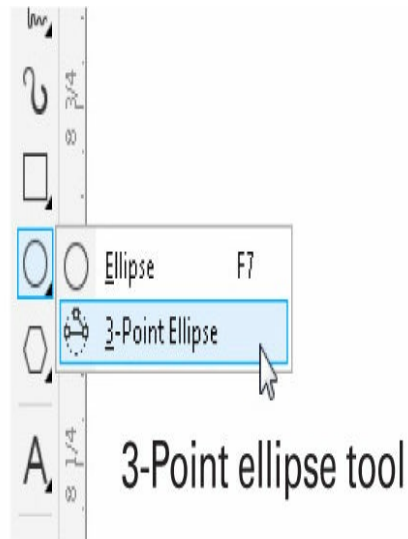
1 The first click defines the start of the ellipse.

4 The final click sets the height and creates the ellipse.

2 Drag to specify the angle and width of the ellipse.

3 Releasing the mouse button defines width and rotational angle.

Ellipse   F7

3-Point Ellipse

You can create ellipses at precise angles without the need to create and then rotate an existing one, as shown in Figure 5-5. The shape you create is still an ellipse with all associated properties, such as optional pie and arc states.

To create an ellipse using the 3-Point Ellipse tool, choose the 3-Point Ellipse tool, click to set the begin point of the ellipse, and then drag to specify its width and rotational angle. Release the cursor and then position your cursor where you want the maximum height of the oval defined. Click, and your ellipse is complete.

Using Polygons and the Property Bar

The *Polygon tool* (the shortcut is Y) is unique to the category of vector drawing software. Although competing applications offer a polygon tool, CorelDRAW's Polygon tool produces shapes *that can be edited* for making dynamic changes, just like CorelDRAW rectangles and ellipses. The shapes you create with the Polygon tool can have as few as three or as many as 500 points and sides; by default, all polygon sides are straight paths. You'll find the Polygon tool, together with the Star, Complex Star, and other group tools. While the Polygon tool is selected, the Property Bar offers the number of sides for the polygon you'll draw.
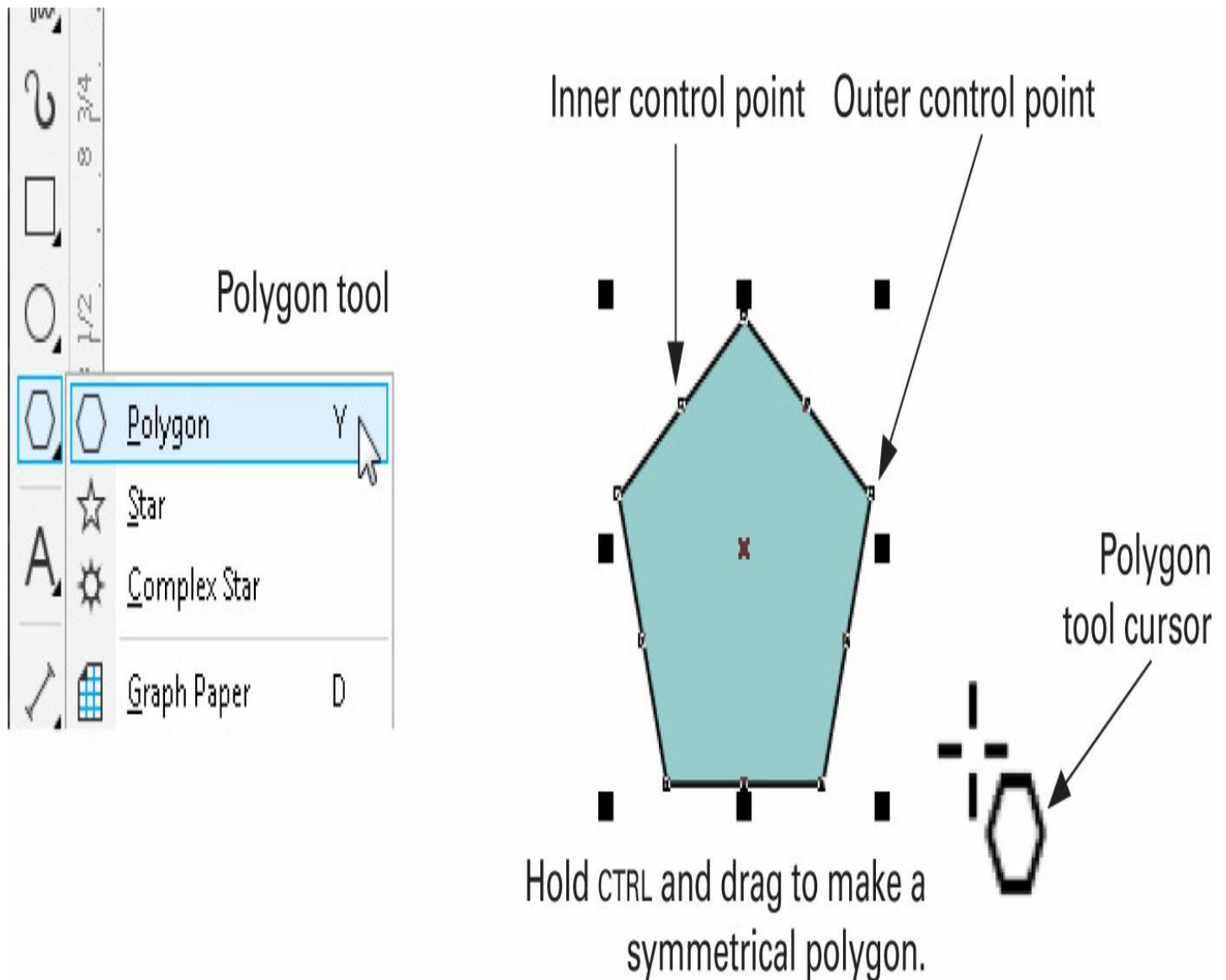
Drawing and Editing Polygons

Most of the trick to creating symmetrical, complex shapes with the Polygon tool lies in the *editing* of them. Read the Shape tool section in Chapter 9 before getting too involved with the Polygon tool, because you really need to know how to use the Shape tool in combination with the Property Bar to make the most of a polygon shape.

To create a default polygon, you use the same click-diagonal-drag technique as you use with the Rectangular and Ellipse tools. This produces a symmetrical shape made up of straight paths. Because you'll often want a shape more elegant than something that looks like a snack food, it helps to begin a polygon shape by holding SHIFT and CTRL while dragging: doing this produces a perfectly symmetrical (not distorted) polygon, beginning at your initial click point and traveling outward. Therefore, you have the shape positioned exactly where you want it and can begin redefining the shape.

Here you can see the Polygon tool cursor and a symmetrical default polygon. Because the Polygon tool can be used to make star-shaped polygons, there are control points that govern the polygon points and nodes in-between these point controls that are used to alter the coves between points. When you edit a polygon, the position of these points can be reversed. These control points have no control handles because they connect straight path

segments. However, in the following tutorial you'll get a jumpstart on advanced shape creation, and really get down in very few steps to creating a dynamite polygon shape through editing.

Inner control point   Outer control point

Polygon tool

Polygon   Y

Star

Complex Star

Graph Paper   D

Polygon tool cursor

Hold CTRL and drag to make a symmetrical polygon.

Tip   To create a polygon object started at the center of your cursor and make the polygon equilateral (that is, not "smooshed"), hold both CTRL and SHIFT as you drag.

Here is a brief tour of how to create and then edit a polygon to design any symmetric object you can imagine, and possibly one or two unimaginable ones:

Reshaping a Polygon

Tutorial

1. Choose the Polygon tool from the Toolbox, and before you do anything else, set the number of sides to 12 on the Property Bar.
2. Hold CTRL to constrain the shape to a symmetrical one, and then click-diagonal-drag on the page. Release the mouse button after you have a polygon that's about 3" wide.
3. To better see what you're doing, left-click over the color palette with the polygon selected to fill it. By default, polygons are created with a small stroke width and no fill.
4. Choose the Shape tool from the Toolbox. Click any of the control points on the polygon to select it, but don't drag yet. Hold CTRL and then drag outward, to constrain the movement of the cursor so that the polygon doesn't take on a lopsided appearance (although you can create interesting polygons by dragging in any way without holding CTRL). You should have a star shape now, as shown here.
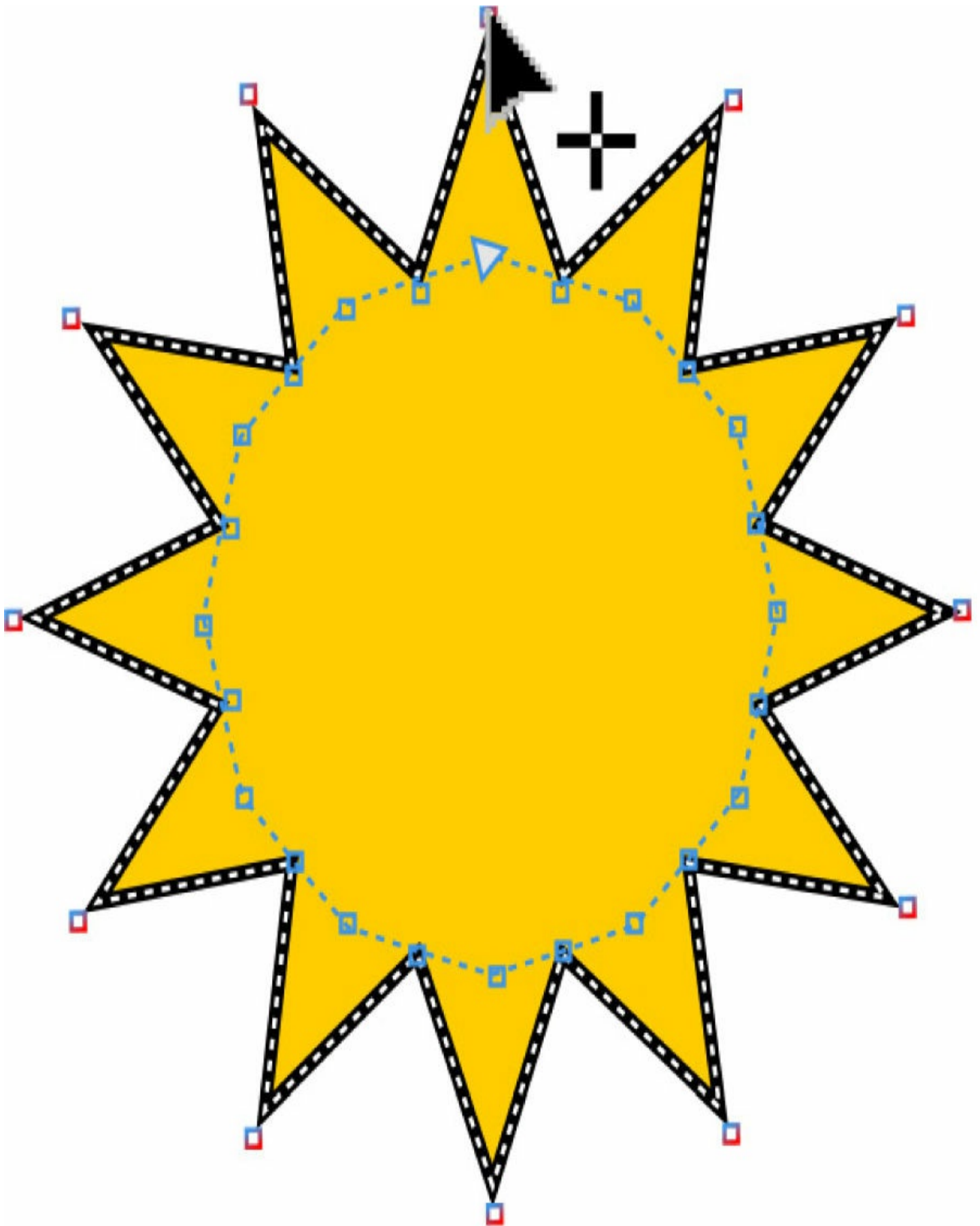
5. Notice that on the Property Bar you now have a lot of icons that control how line

segments pass through nodes and whether the segments are straight or curved. Click on any line segment that makes up the polygon; your cursor should have a wiggly line at the lower right, as shown next, meaning that you've clicked on a line. Then click the Convert to Curve button on the Property Bar, converting not only the line, but all the lines in the polygon that are symmetrical to the chosen line, to a curve. Or perhaps more simply, use the same command by right-clicking a point and using the pop-up contextual menu.
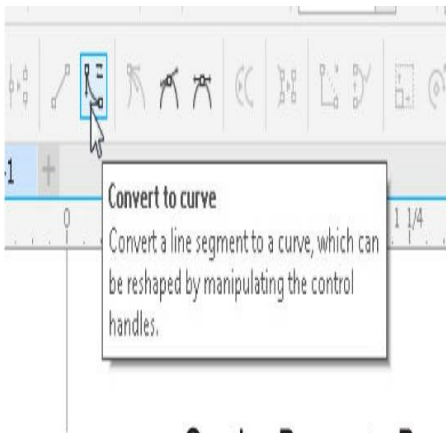
On the Property Bar
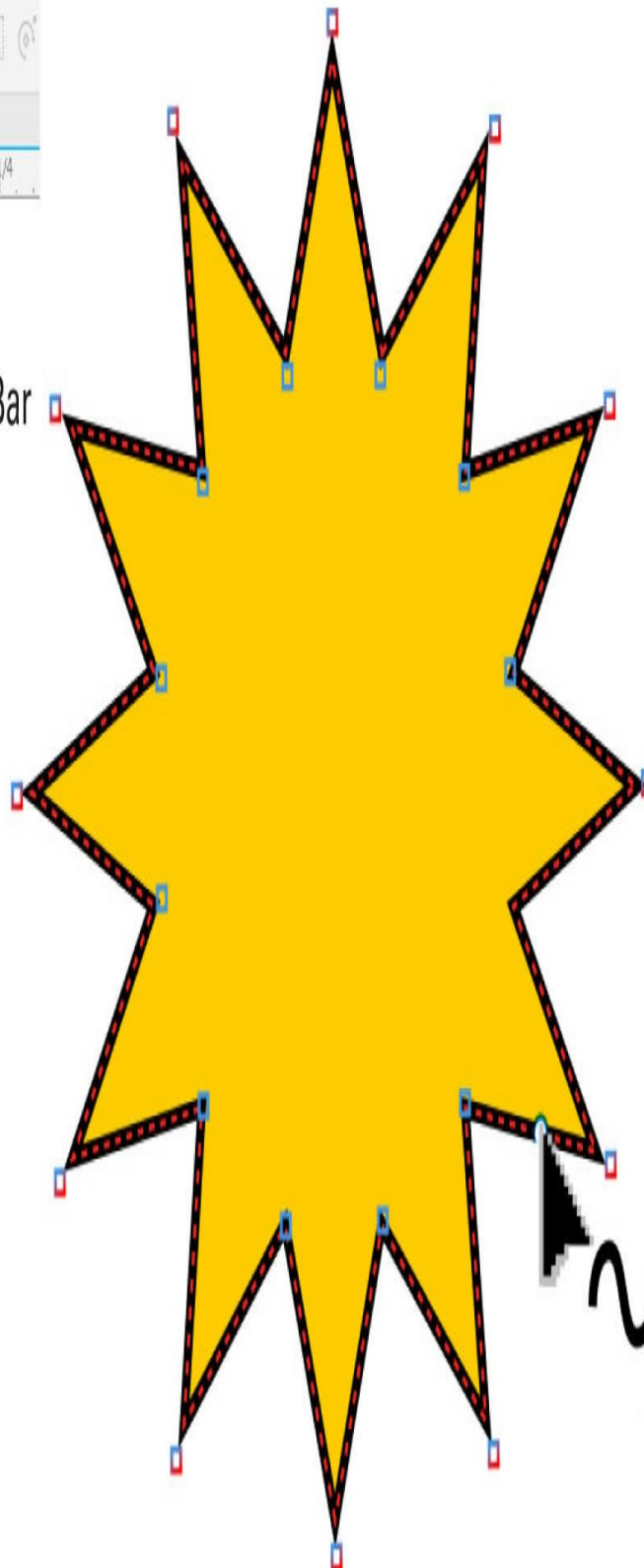
On the (right-click) contextual pop-up

Add

Delete

To Line

To Curve

Cusp

Smooth

Symmetrical

6. There are now two control handles, but they lay exactly on the segment that appears to be a line but now has curve possibilities. First, click an inner or outer original node along the polygon path, as shown next. This reveals the handles, and it is now possible

to create a curve by dragging on the segment *between* the control handles. Doing this, as you can see here, creates a very interesting and complex symmetrical shape, and you can now see the control lines and handles for the curves segment much more easily and can manipulate the control handles to further embellish your creation.
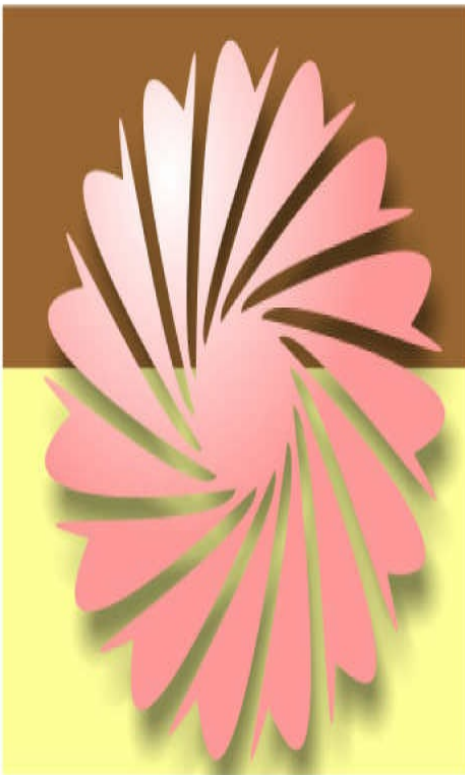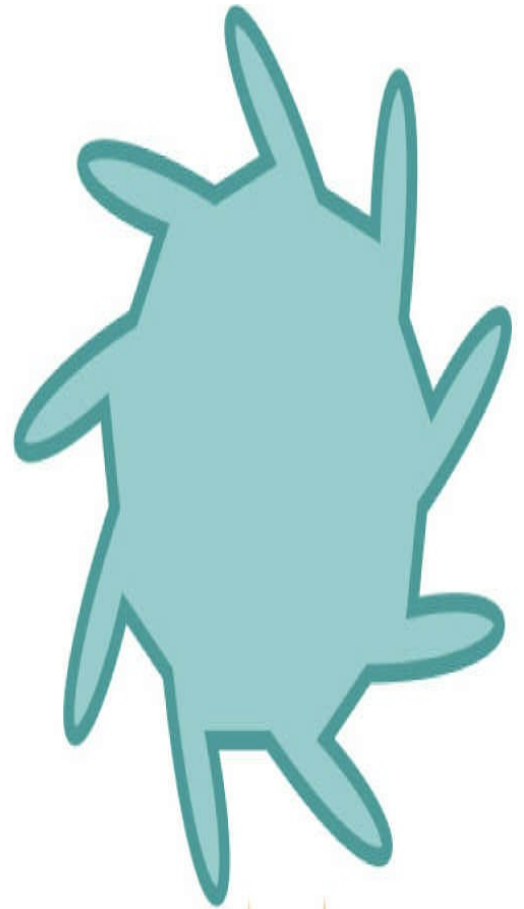

Control handles

Click a control point to select it and reveal the control handles.

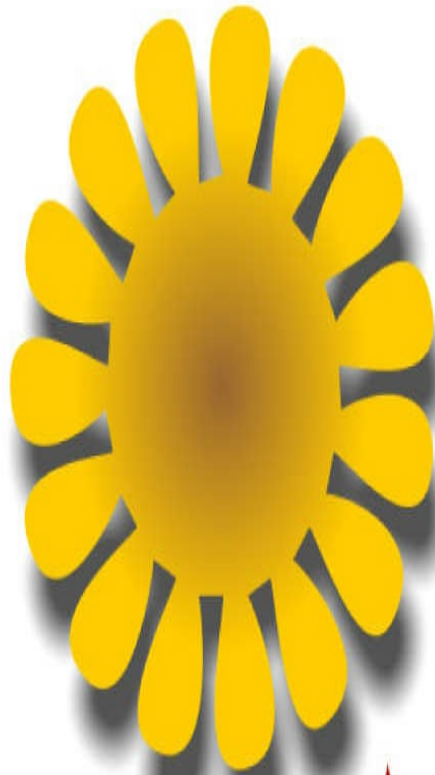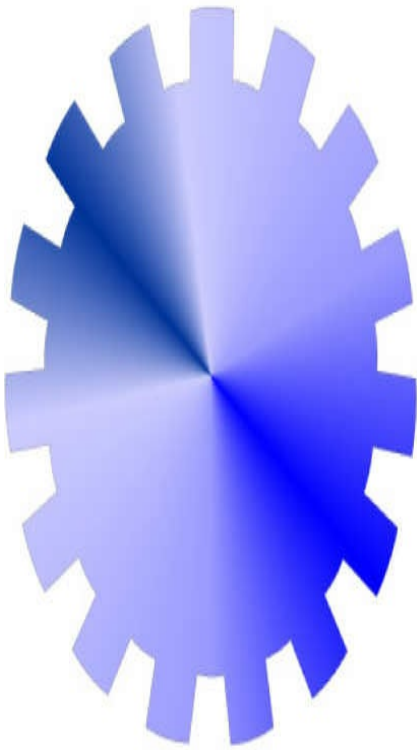Drag downward between the control handles to curve the segment.
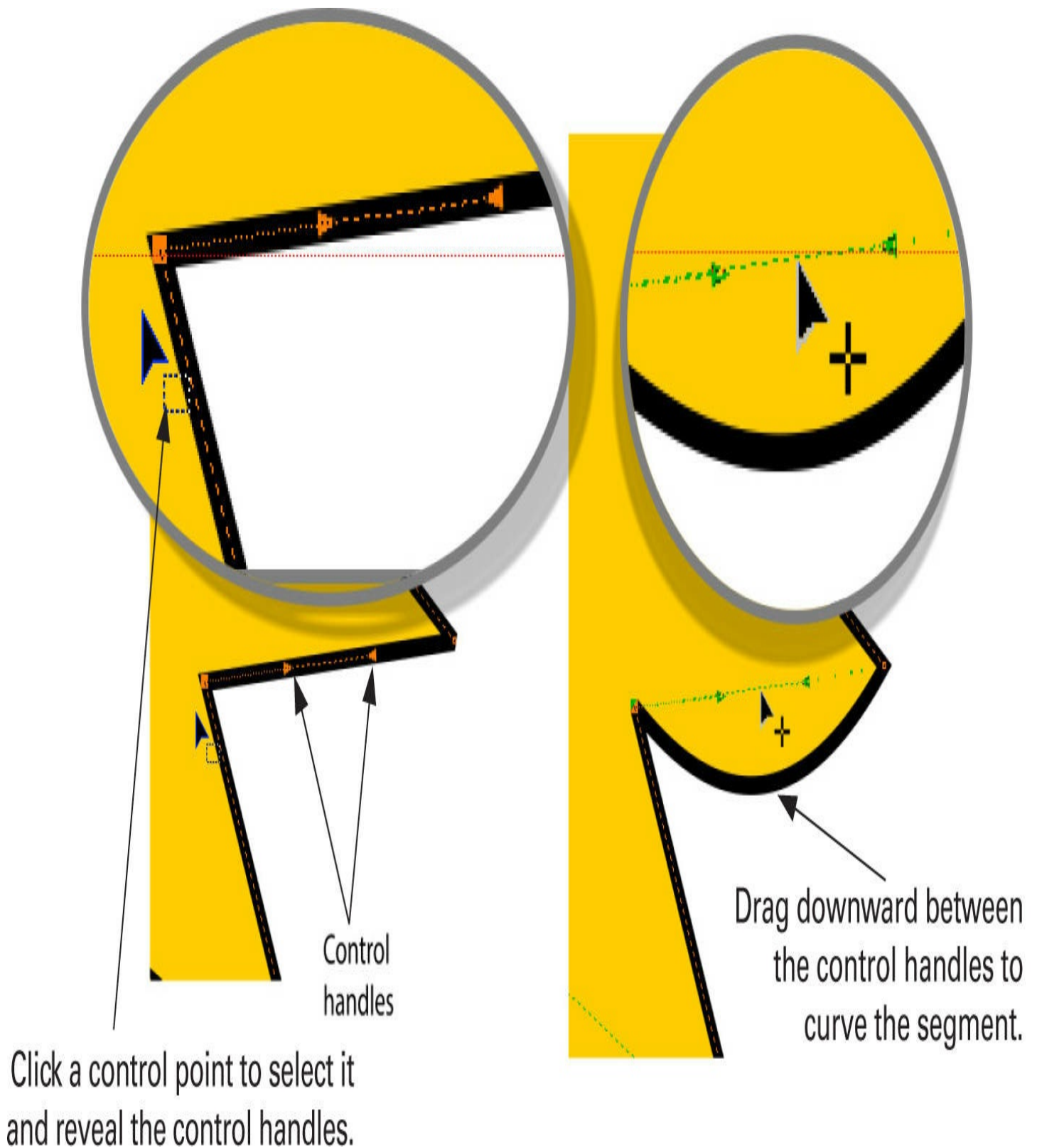
Figure 5-6 shows just a few creative examples of polygon editing: from gears to those

vinyl flowers you put over shower stall cracks. You have immense design power at your disposal with the Polygon tool.

Artistic Media
Brush outline

Two different polygons
with a drop shadow

Tip After editing a polygon, you can change the number of sides. For example, suppose you've created a 12-petal flower polygon and then decide you want only eight petals. You can select the edited shape with the Pick tool and then decrease the number of sides using the elevator buttons to the right of the num box on the Property Bar.

Stars and Complex Stars

You have variations on polygons at the ready in CorelDRAW, in the same group as the Polygon tool. The Star tool can be used to create pointy polygons with anywhere from 3 to 500 points. The Complex Star tool creates a number of combined polygons to make a star shape; you can create interesting symmetrical shapes by filling a complex star object—the result contains both filled and vacant polygon areas as the component paths intersect one another.
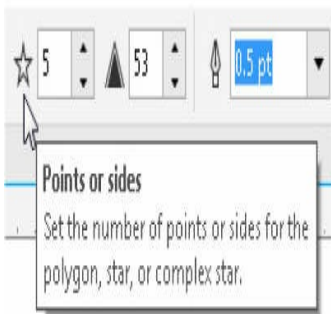
Working with the Star Tool

The Star tool produces objects by using the click-diagonal-drag mouse technique; CTRL-SHIFT dragging creates symmetrical stars beginning at the initial click point traveling outward.

On the Property Bar, when the Star tool is chosen, you have options for the number of points for the star and the "pointiness" (sharpness) of the resulting object—how severe the indents are between points. At a setting of 1, the star object isn't pointy at all—you'll see that it looks quite like a Polygon tool object. So, if you can make a star using the Polygon tool, why would you ever choose the Star tool? The answer is because the geometric structure of a star shape is always perfectly symmetrical. Although you can use the Shape tool to manually tune the sharpness of a Star tool object's points, the angle between points is always consistent. In the illustration here, you can see a Star tool object compared with a Polygon tool object that has been clumsily edited. You can't perform this goof with the Star tool; its interior angles are always mirrored and symmetrical.

Sharpness
Adjust the corner sharpness of the star or complex star.
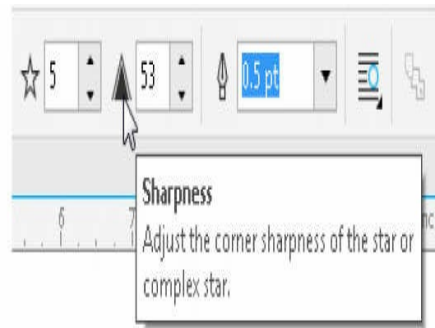
Sharpness of points

Points or sides
Set the number of points or sides for the polygon, star, or complex star.

25

65

Points

Failed attempt
at a polygon
as a star

Using the Complex Star Tool

Think of the kaleidoscope images you enjoyed as a child (or still do) when you choose the Complex Star tool, because with only an edit or two using the Shape tool, you can create mesmerizing symmetrical shapes, unlike with any other tool in CorelDRAW.

To use the tool, you know the drill if you've read this far! You click-diagonal-drag to create a shape; by default, the Complex Star object has nine points, with a value of 2 on a 1- to 3-point sharpness scale (which can be defined on the Property Bar, as shown in the following illustration).
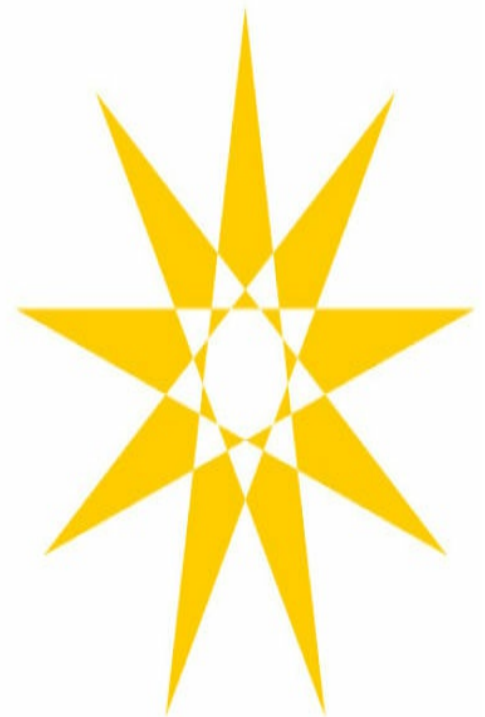
Points or sides   **Sharpness**
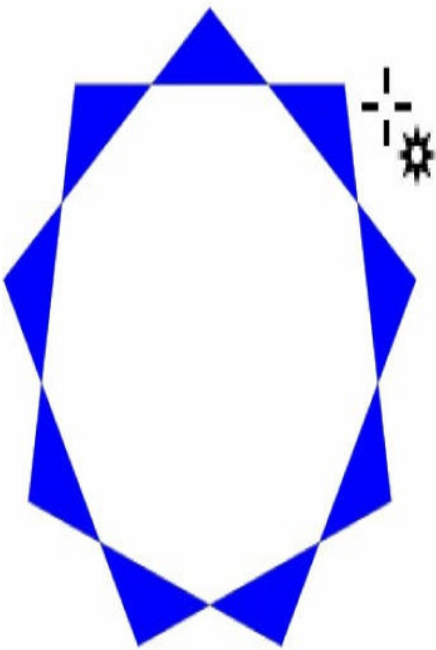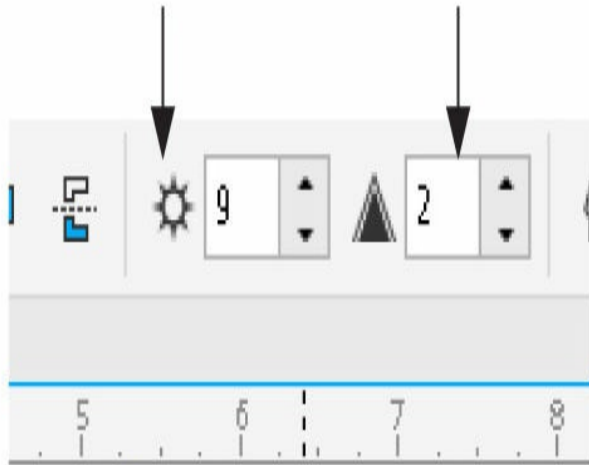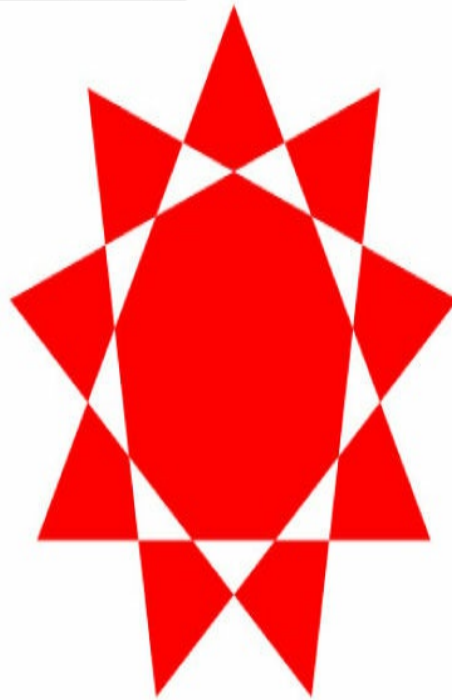

1   2   3

CTRL, SHIFT, and CTRL-SHIFT offer the same modifiers as they do with other shapes. One unique characteristic of Complex Stars is that they have two control points: one for the inner, negative space, and one for the points. When you edit using the Shape tool, holding CTRL causes your edits to be symmetrical, but if you want a spiral treatment of a Complex Star, don't hold CTRL and drag any way you like on both the inner and outer control points. You'll probably want to assign a fill to a Complex Star as your first edit because unfilled Complex Stars aren't as visually interesting. The following illustration shows what you can create by moving the inner control point to outside the outer control point. Imagine the snowflake patterns you can build; and like snowflakes, no two Complex Stars are alike.

Inner control point

Outer control point
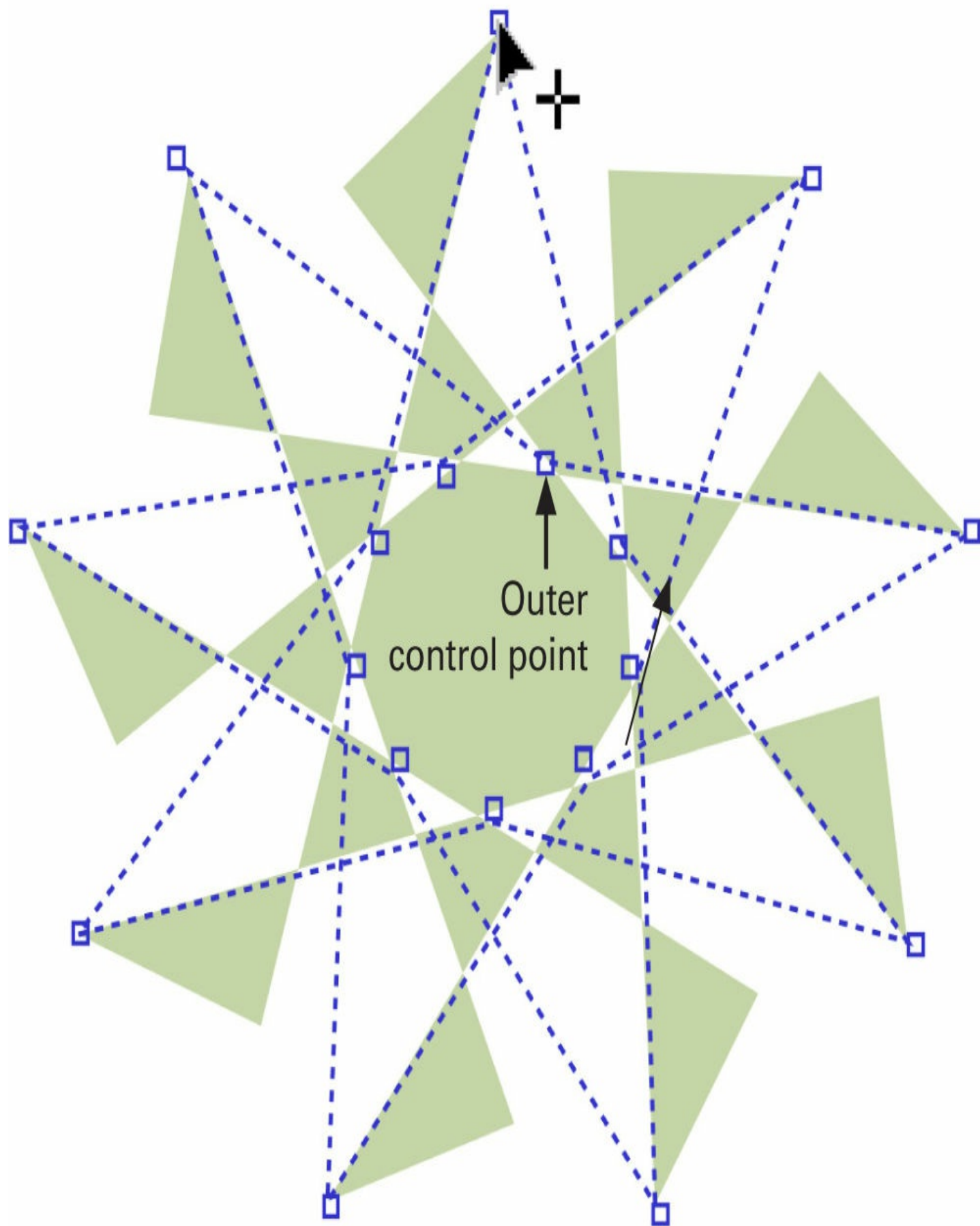
Here you can see other examples of simply playing with the Shape tool on a Complex Star object. Also try assigning a wide white outline to a Complex Star as a property to create still more variations.
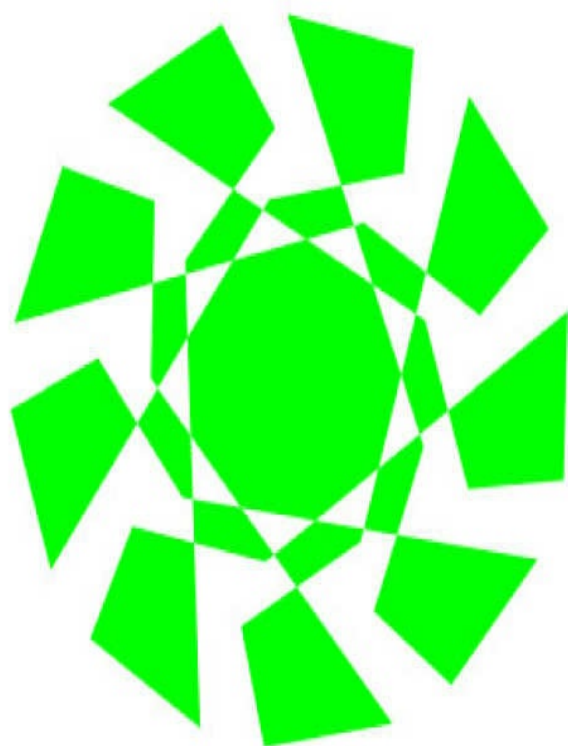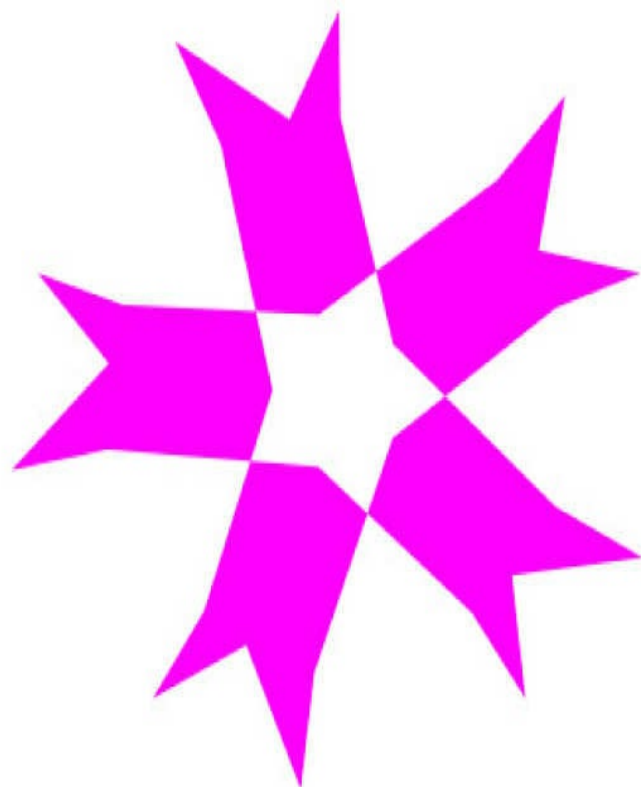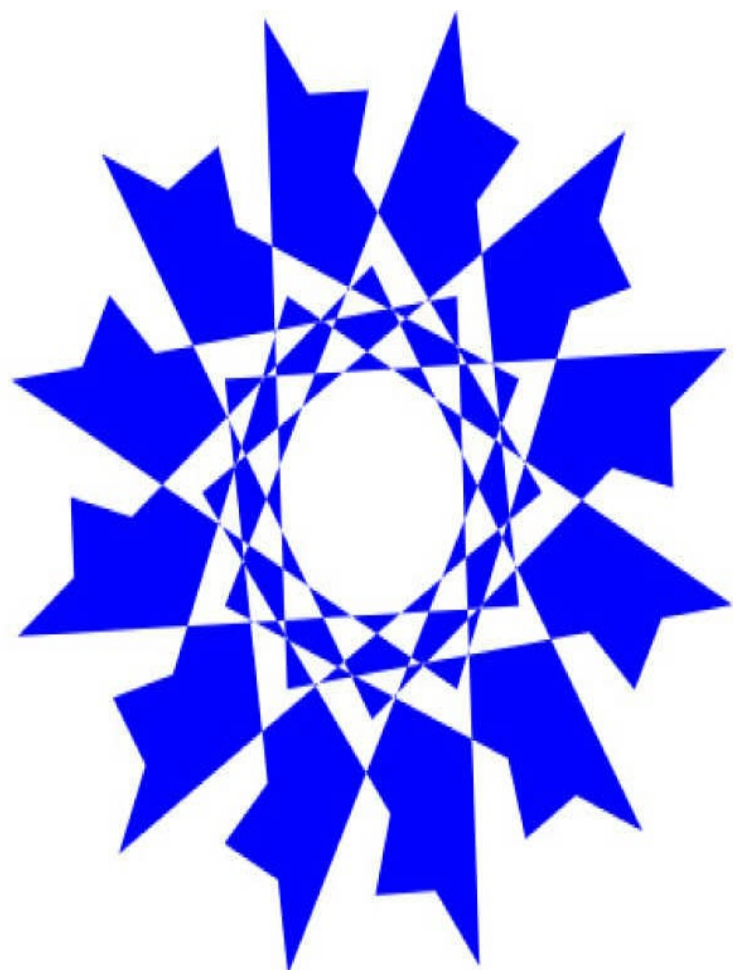
Using the Spiral Tool

With the Spiral tool (press A as the keyboard shortcut), you can create circular-shaped paths that would be tedious if not impossible to create manually. Spiral objects are composed of a single open path that curves in a clockwise or counterclockwise direction. They can also be designed to expand in even-segment distances or in *increasing* distances as the spiral path segments travel away from the center (called a *logarithmic* function). You find the tool in the Toolbox, grouped with the Polygon and Graph Paper tools.

Spiral tool options share space in the Property Bar (shown next) with the options for the Graph Paper tool and include the Spiral Revolutions, Symmetrical and Logarithmic Spiral modes and a Spiral Expansion slider.
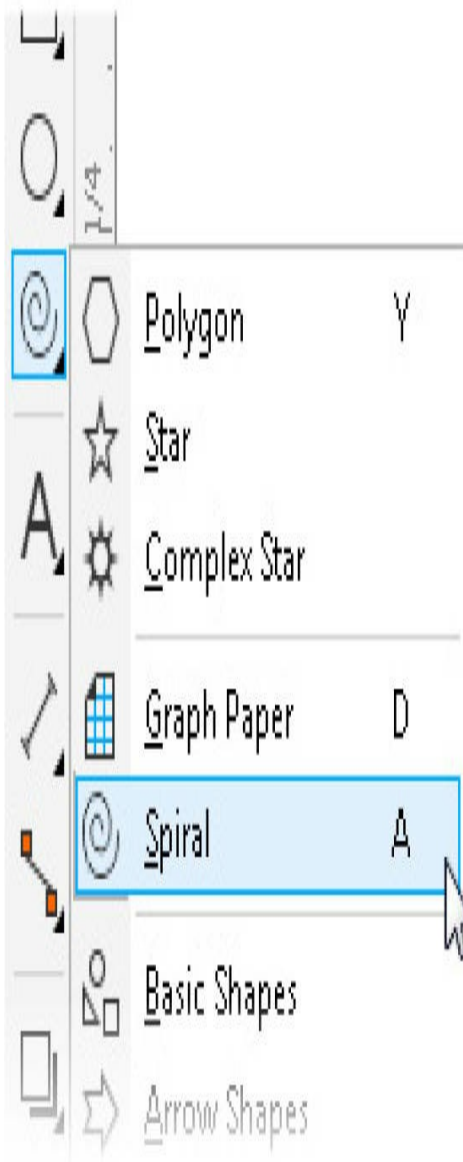
Logarithmic Spiral

Spiral Revolutions

Symmetrical Spiral

Spiral expansion factor (while using logarithmic spiral)

|		
⬡	Polygon	Y
☆	Star	
⚙	Complex Star	
▦	Graph Paper	D
◎	Spiral	A
⬚	Basic Shapes	
⇨	Arrow Shapes	

Spiral tool

The objects you create can have between 1 and 100 revolutions, each of which is equal to one complete rotation around its center point. The direction of the revolutions is set according to the click-diagonal-drag action during the creation of the initial shape, as shown here.
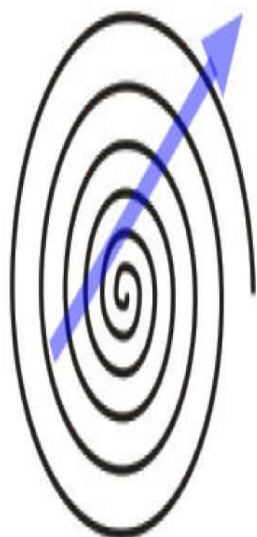
10 symmetrical
revolutions
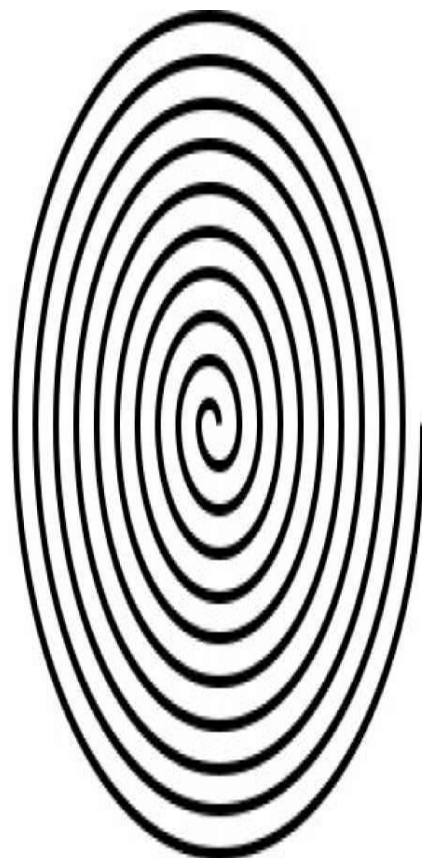
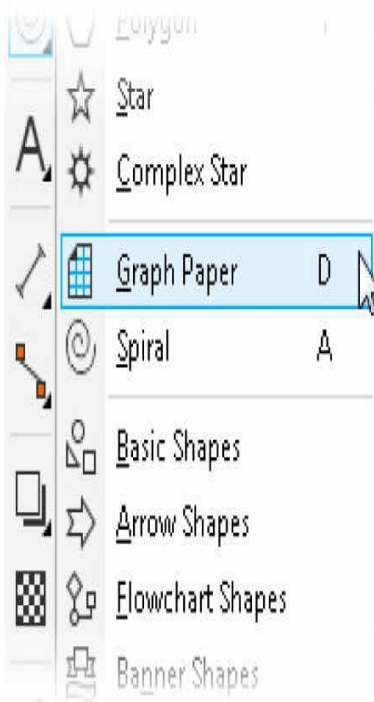10 revolutions,
logarithmic factor of 63
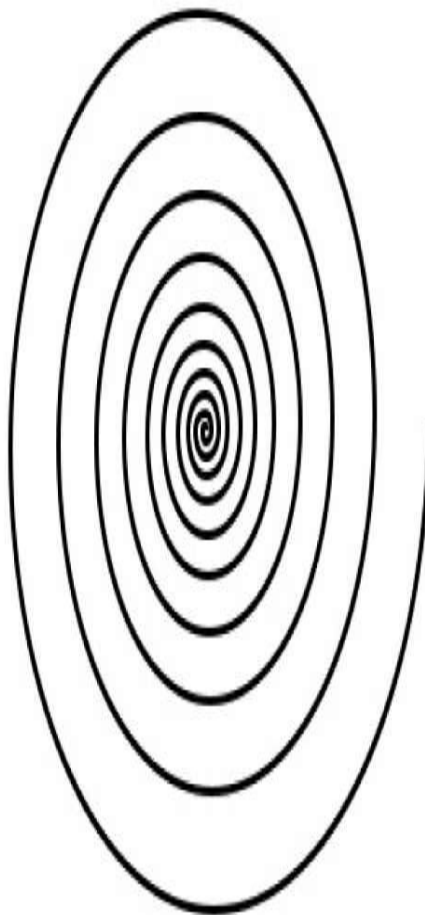
Note   Spiral objects are *not* dynamic; no special editing or redefining is possible once the spiral has been created. This means you must set their properties before they are created. Other than using the Pick or Shape tool to edit their size or shape, spiral objects are a "done deal."

By default, all new spiral objects are set to Symmetrical. If you choose the Logarithmic Spiral, the Spiral Expansion slider becomes available. Here's how the modes and options affect the spiral objects you can create.

- **Symmetrical vs. Logarithmic**   A symmetrical spiral object appears with its spiral revolutions evenly spaced from the center origin to the outer dimensions of the object. To increase or decrease the rate at which the curves in your spiral become smaller or larger as they reach the object's center, you may want to use the logarithmic method. The term *logarithmic* refers to the acceleration (or deceleration) of the spiral revolutions. To choose this option, click the Logarithmic Spiral button in the Property Bar before drawing your shape.
- **Logarithmic Expansion option**   While the Logarithmic Spiral mode is selected, the Logarithmic Expansion slider becomes available—as well as a value field you can type in—and you can set this rate based on a percentage of the object's dimensions. Logarithmic Expansion may be set from 1 to 100 percent. A Logarithmic Expansion setting of 1 results in a symmetrical spiral setting, whereas a setting of 100 causes dramatic expansion. If you need a shape that is reminiscent of a nautilus, increase the Logarithmic Expansion option to 50 or so.

Using the Graph Paper Tool

The Graph Paper tool (the shortcut is D) is used to create a grid containing hundreds (even thousands) of rectangles—an emulation of graph paper. Graph paper is invaluable in chart making as well as artistic uses. You find the Graph Paper tool, shown next, grouped with the Polygon and Spiral tools. This tool's options on the Property Bar let you set the number of rows and columns for your new graph paper object. As with the Spiral tool, you must set options *before* drawing your graph paper object; a Graph Paper object cannot be edited dynamically.

Polygon

☆ Star

✿ Complex Star

⊞ Graph Paper   D   ← Graph Paper tool

◎ Spiral   A

Basic Shapes

⇨ Arrow Shapes

Flowchart Shapes

Banner Shapes

Columns   ⊞ 8 ▼ ▲

Rows   ⊞ 8 ▼ ▲

Welcome Scre
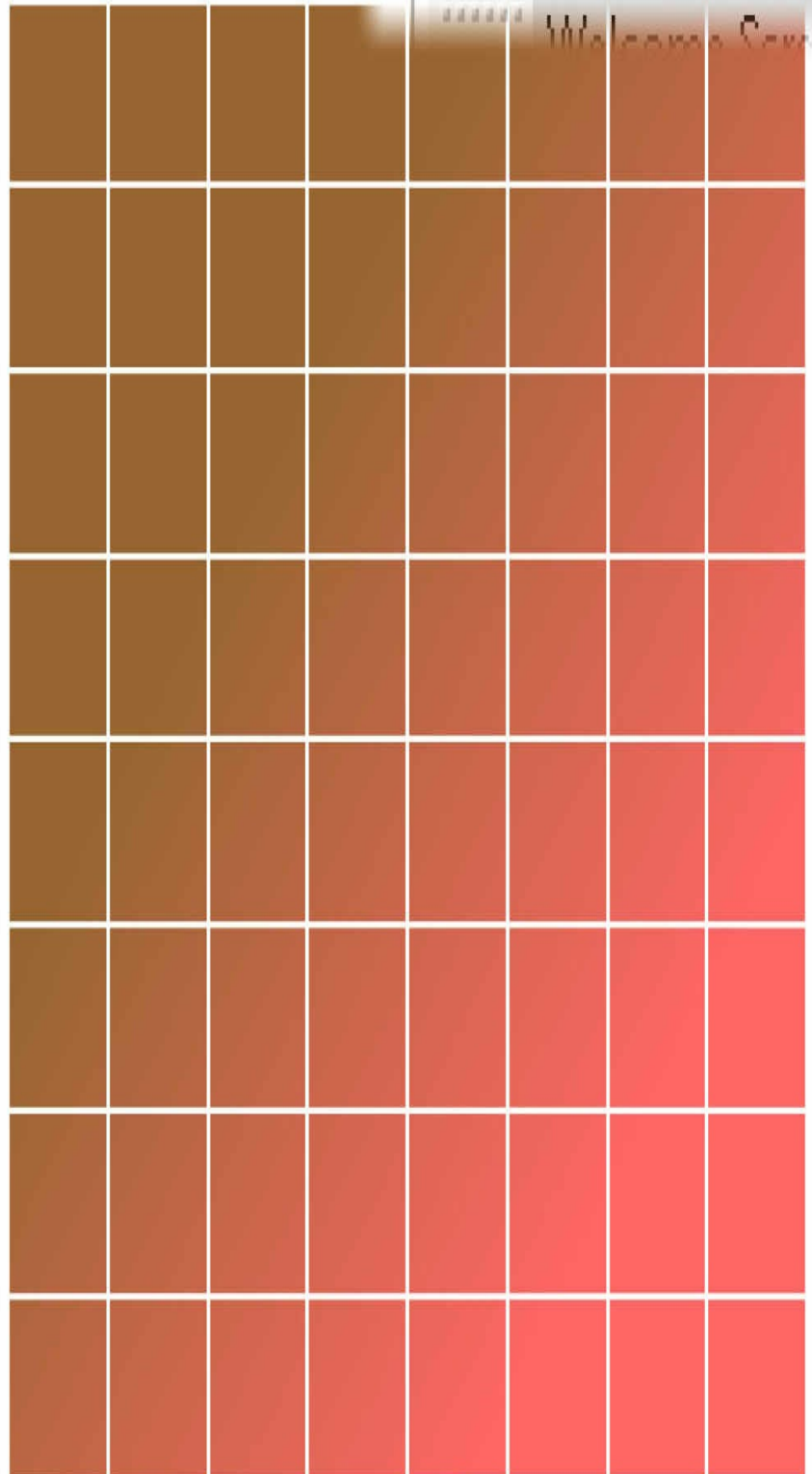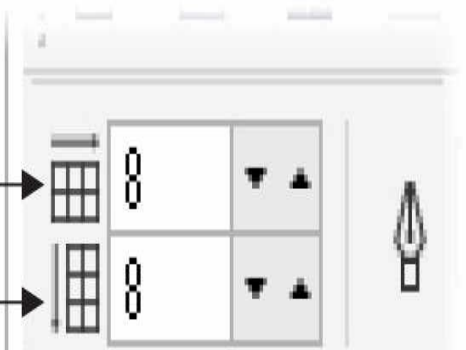
Tip The rectangles in a Graph Paper group are, in fact, *native rectangles*; you can ungroup the rectangles (CTRL-U) and then make scalloped and rounded rectangles on each and every one of the Graph Paper component objects.
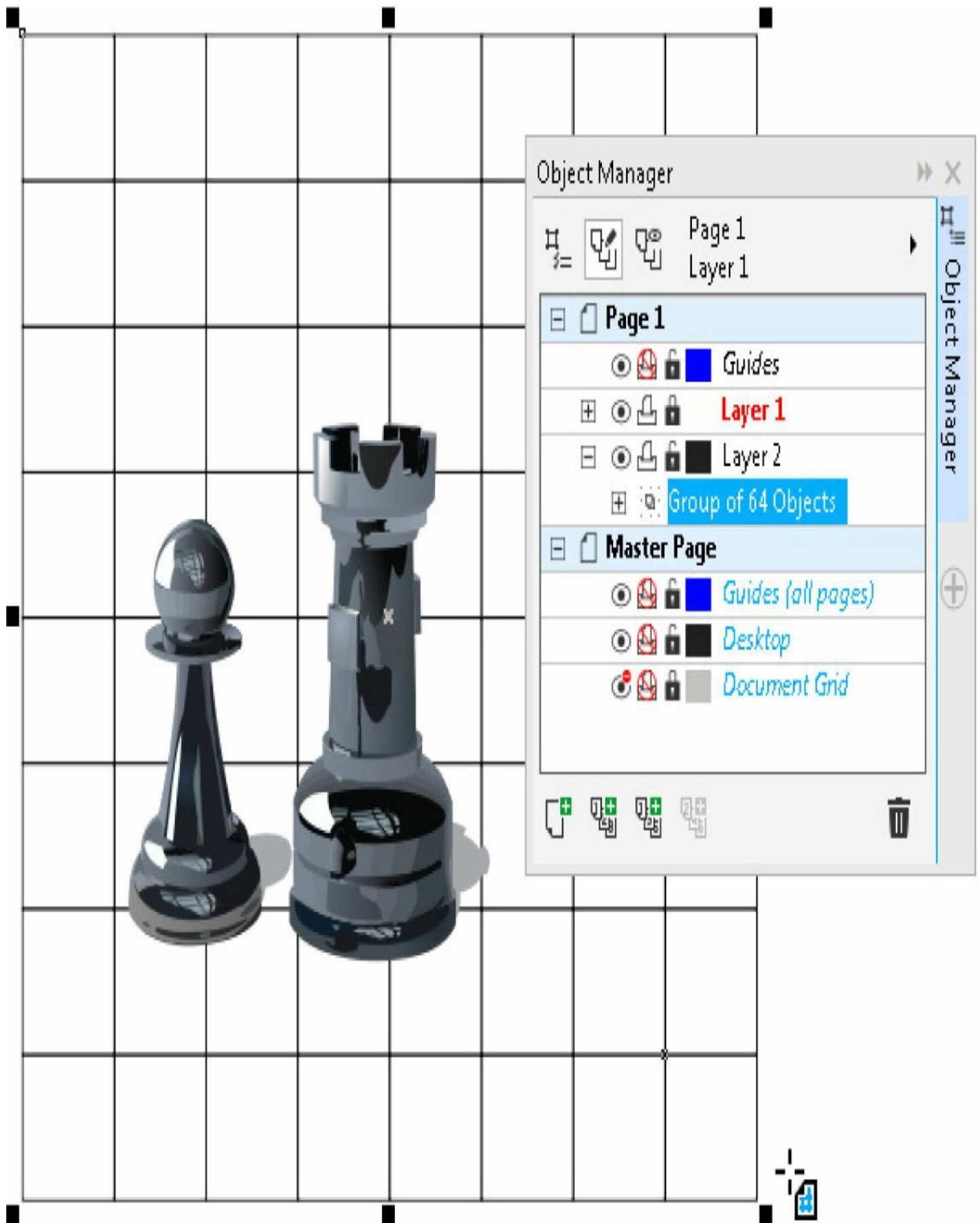
Let's explore one of the many ways to create and use the group of rectangles the Graph Paper tool builds for you. This next assignment uses the Add Perspective Effect to make a dimensional chessboard beneath a drawing of chess pieces, as well as one or two tricky editing techniques—but you're guided step by step all the way. Watch how you can dramatically improve the look of a composition just by using the Graph Paper tool and some minor editing.

Power-Drawing a Grid with Graph Paper

Tutorial

1. Open Chess set limited edition.cdr. Your assignment is to put a chessboard behind the drawings of the pawn and rook. Choose Window | Dockers | Object Manager if it's not already docked and visible.
2. Select All (CTRL-A) and then with the Selector tool, scale the objects down to about 35 percent; you'll see you've arrived at the correct percentage toward the left of the Infobar.
3. On the Object Manager, click Layer 1 to make it the current editing layer, and then lock the layer.
4. Click the New Layer button on the Object Manager. The title "Layer 2" appears over the Layer 1 title. Click-drag the Layer 2 title to beneath Layer 1. This is now your current editing layer, the guy upon which you'll create the chessboard.
5. Choose the Graph Paper tool from the Toolbox (or press D).
6. Using Property Bar options, set the number of rows and columns to 8 for your new graph paper object.
7. Using a click-diagonal-drag action, hold CTRL and drag to create the new object. Release the mouse button when the graph paper is about 4 and ¾ inches high. See the following illustration.

Object Manager

Page 1
Layer 1

- ⊟ **Page 1**
  - ⊙ Guides
  - ⊞ ⊙ **Layer 1**
  - ⊟ ⊙ Layer 2
    - ⊞ Group of 64 Objects
- ⊟ **Master Page**
 - ⊙ Guides (all pages)
  - ⊙ Desktop
  - ⊙ Document Grid

8. Look at the Status Bar; it tells you that a group of 64 objects is selected. All the Graph

Paper objects can take on a new fill and outline color in one fell swoop: click the 80% Black color well on the Color Palette, and then right-click white to make the outlines white.

9. The white grouting that the outlines represent on this chessboard are a little too thin. No problem: with the grouped objects selected, set the outline width to 2 points now. The ability to set the outline width of grouped objects directly from the Property Bar comes in handy for stuff like this!

0. Choose Effects | Add Perspective. You'll see a red dashed outline with four control points surround the group, but it's not time yet to apply a perspective.

1. Using the Pick tool, click on the selected Graph Paper object to reveal the rotate and skew handles. While holding CTRL to constrain rotation, rotate the grouped rectangles by 45°. By default, CorelDRAW constrains rotation to 15° increments; therefore, two points of resistance as you CTRL-drag does the trick.

2. Choose the Shape tool (F10); the grouped shapes again feature the Perspective control points.

3. Choose the top control point and then drag it down until you have a chessboard in perspective. You will know when you've dragged enough—the drawing of the chess pieces will visually fit right into place.

Hold CTRL and rotate 45°.   Use the Shape tool to drag the top node down.

node
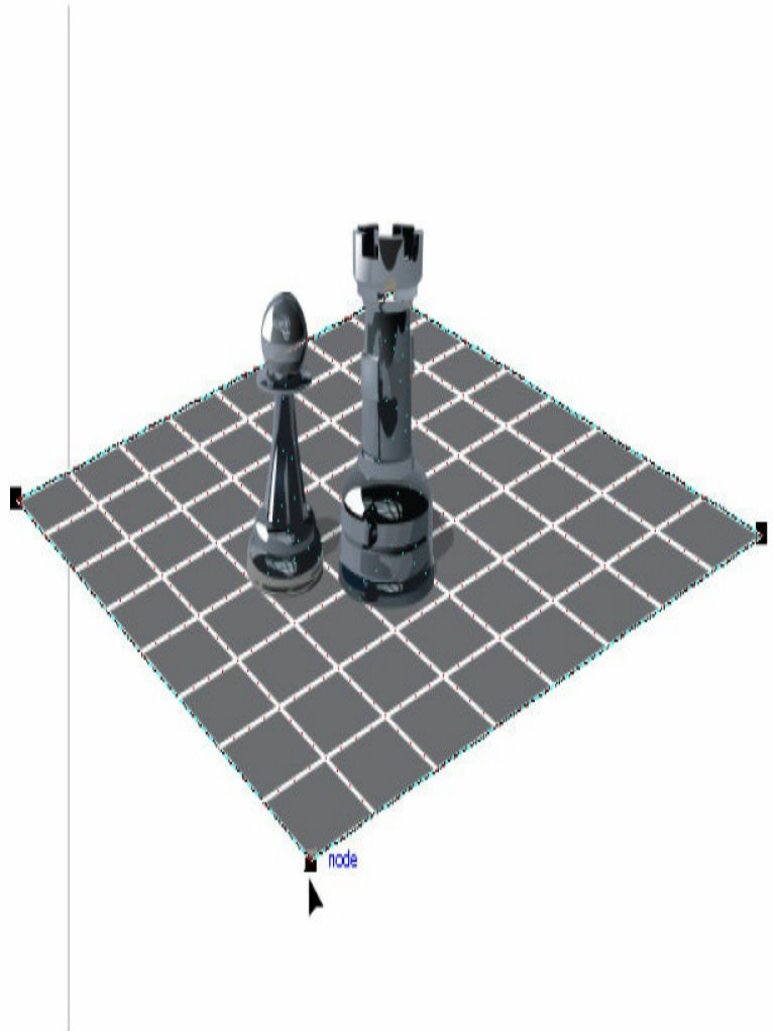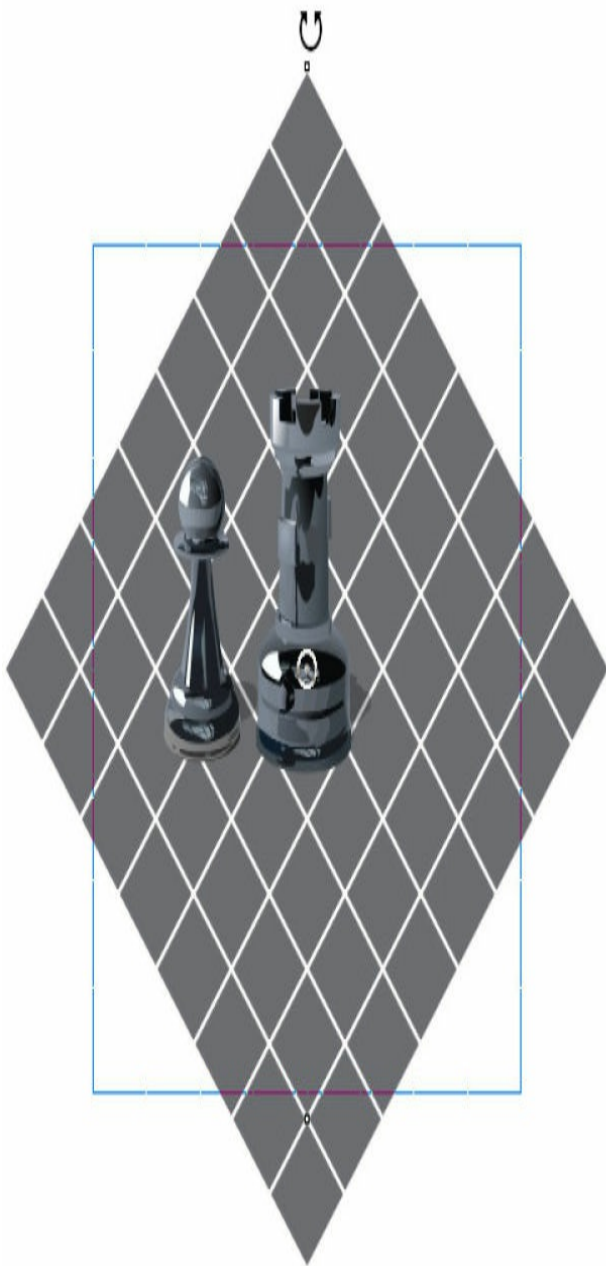
4. With the grouped chessboard in its final perspective aspect, you really should make the chessboard look *checkered*, and not like the tile work in your kitchen. Press CTRL-U (or select Object | Group | Ungroup Objects). Fill every other rectangle with a lighter color; try orange, and you'll have a hit chessboard for Halloween.

5. A clever shortcut to filling every other square with orange (or the color of your choice) is to fill one square with your color and then use the Color Eyedropper tool to sample the orange square. The cursor immediately turns into the Apply Color paint bucket, and all you do is click on every other square to apply the sampled color, as shown in the following illustration.

An attractive, contrasting color combination enhances the overall illustration, and also makes the cast shadows from the chess pieces more apparent.
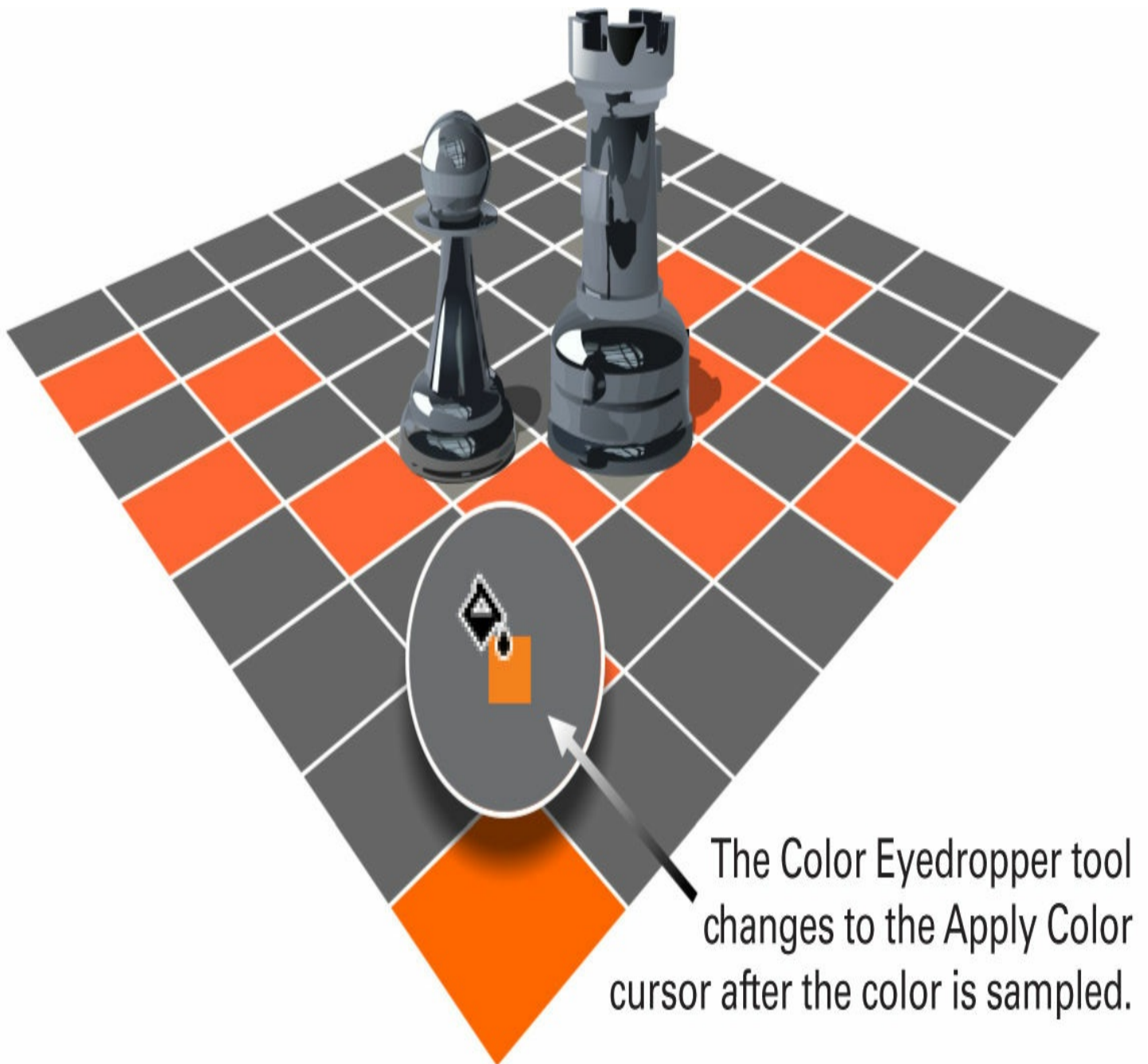
The Color Eyedropper tool changes to the Apply Color cursor after the color is sampled.

Tip Holding CTRL while you drag constrains the shape of the Graph Paper object, but not the cells in the graph. Therefore, you could, for example, create a five-row, two-column graph whose overall proportions are square, but the cells within the graph paper object are distorted to rectangles.

Note You can ungroup a bunch of rectangles on the graph paper after applying the Perspective command, then redefine the perspective, and then *move* individual cells around the page *with a newly applied perspective*. With the Pick tool, marquee-select all the ungrouped objects. Then choose the Shape tool and click one of the rectangles to select it. When the Perspective overlay appears, you can click-drag any of the Perspective handles. The selected rectangle takes on a different perspective from the other affected rectangles, and you can create some wonderfully bizarre three-dimensional compositions.

Converting Shapes to Curves

CurvesAny of the shapes discussed in this chapter can be converted to curves by using the Object | Convert to Curves command (CTRL-Q). Using this command removes any dynamic-editing properties. For example, an ellipse shape may be converted to a pie or arc (and vice versa); but after it is converted to curves, you'll no longer have the option of turning the object into a pie wedge. The same applies to rectangles, polygons, and so on. With the exception of the Undo command, once an object is converted to curves, there is no way to return the object to its dynamically editable state.

Using the Convert Outline to Object Command

A lot of the shapes covered in this chapter—the spiral in particular—have outline properties but no fill. So what do you do, for example, if you want a gradient-filled spiral? The Object | Convert Outline To Object command converts any shape's outline properties to a closed path. To apply the command to a selected object, choose Object | Convert Outline To Object, or use the shortcut CTRL-SHIFT-Q. Once the outline is converted, the resulting closed path looks exactly like the shape of the original, except it can be filled because it's not an outline. Instead, it's a closed path object whose shape is based on an outline.

When an outline is converted to an object, CorelDRAW performs a quick calculation of the Outline Pen width applied to the object and creates a new object based on this value. When you apply this command to objects that include a fill of any type, a new compound-path object is created based on the outline width. If the object includes a fill of any type, the fill is created as a new and separate object applied with an outline width and color of None. When you're converting open paths, only the path itself is created as a single outline

object of the path according to the Outline Pen width applied. Figure 5-7 shows a spiral shape with a thick red Outline Pen width that is converted to an object using the Convert Outline to Object command.
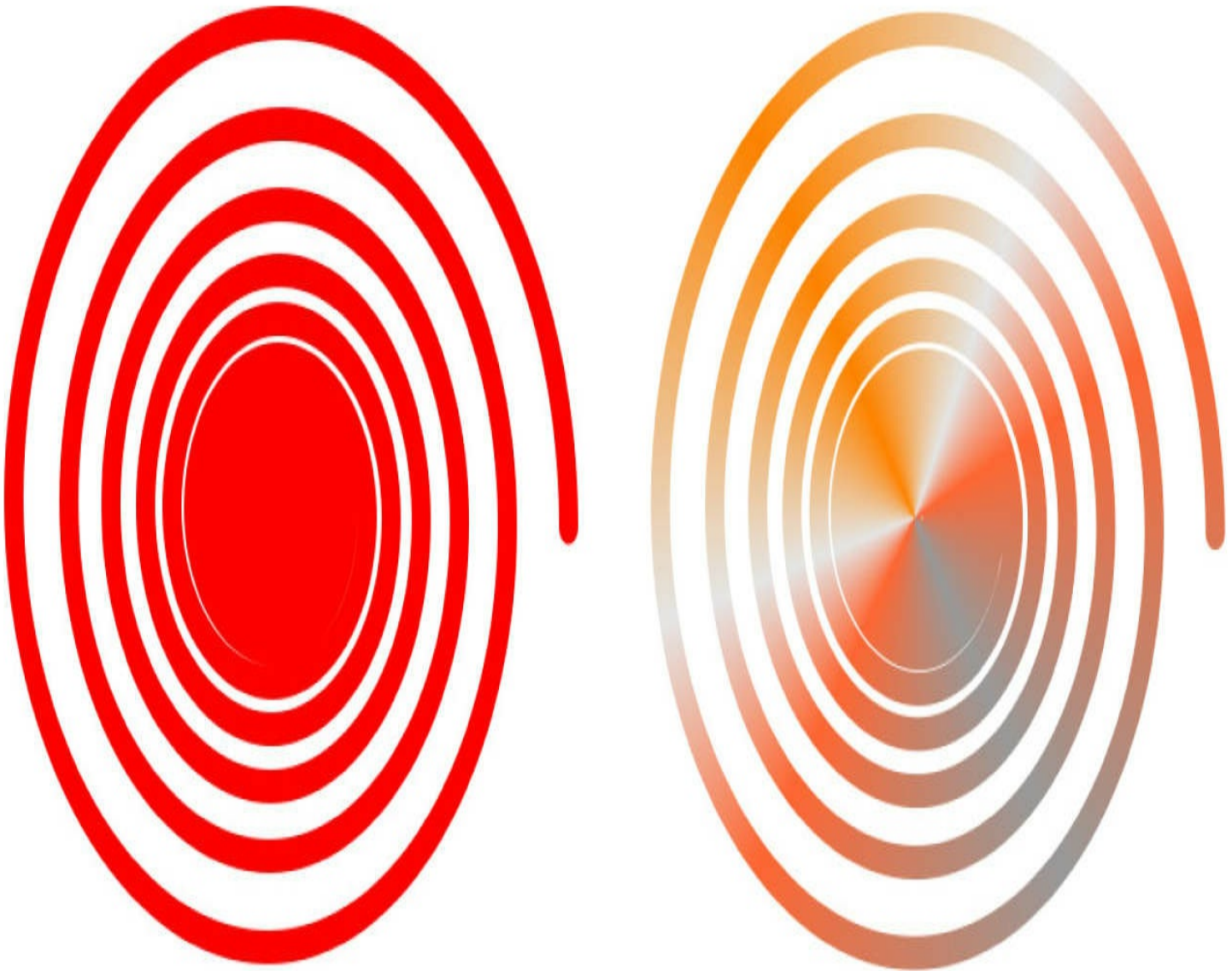

FIGURE 5-7 **When an outline is converted to an object, CorelDRAW performs calculations that create a new object.**

Things are certainly shaping up now, aren't they? You've learned how to create basic shapes as well as how to edit them to create scores of original and visually interesting items. This isn't the half of it. In Chapter 6, you learn to move, rotate, scale, and put your new objects anywhere you like on the page, on a new layer, in a group, or on a bus to

Cleveland. Okay, that might be stretching a joke as well as the length of the book. Arranging and organizing objects is your next destination, and you'll find it to be a moving experience.

6   Arranging and Organizing Objects

When you create or import an object, it might not be *exactly* where you want it on the page. Or the position might be fine, but the object's a little too large. It might also be rotated by a few unwanted degrees, or it's part of a group or on the wrong layer—you get the picture. This chapter covers the techniques to use in CorelDRAW to *transform* objects—both the manual approach and the "pinpoint precise numerical entry" approach are covered. You'll soon have the skills to compose elements on a page the way you want them, and then you can stop cursing at the cursor.

Note   Download and extract all the files from the Chapter06.zip archive to follow the tutorials in this chapter.

Basic Object Selection

The Pick tool—by default, the tool at the top of the Toolbox—can be used to move, scale, and make other transformations when you click an object to select it and then drag to move the selection, for example. Use the SHIFT key as the modifier when you're selecting things on a page; you *add* to your existing selection by SHIFT-clicking other objects. If you've selected an object unintentionally, SHIFT-click on the object (which is already selected) to deselect it.

With one or more items selected, you'll notice that information about the selected shapes is displayed on the Status Bar. The other workspace area to watch is the Property Bar; it shows the position, size, and rotation of the selection. In addition to seeing info about your selection, you can also change transformations by entering numbers directly into the info boxes and then pressing ENTER. Also, if you press ALT-ENTER when something is selected, the Object Properties docker provides you with not only details about the object, but also the opportunity to quickly *change* many of the object's properties.