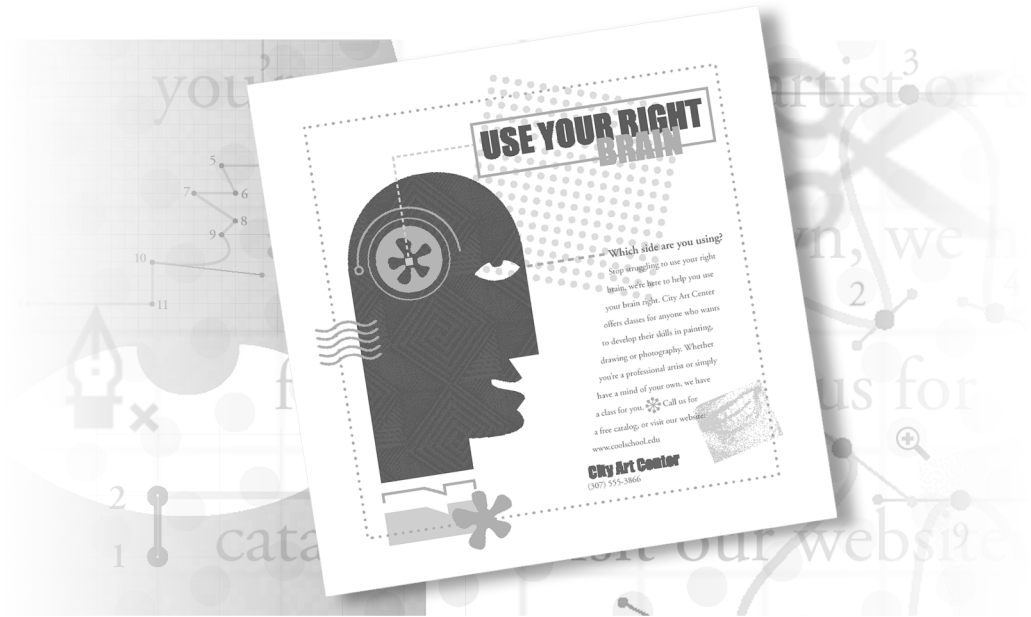


8 Drawing with the pen tool



You can use the pen tool to draw straight lines and smooth, flowing curves with great precision. The pen tool will be familiar to you if you've used the pen tools in Adobe Illustrator and Photoshop. Shapes you draw with the pen tool can enhance your page designs in combination with text and imported graphics.

In this lesson, you'll learn how to do the following:

- Draw and edit straight and curved path segments, and open and closed paths with the pen tool
- Create a hole in a filled shape by combining paths into a compound path
- Apply a shape (like an arrowhead) to the end of a path
- Slice paths into smaller pieces
- Paste an image inside a drawn path
- Scale, reflect, and duplicate objects
- Add a graphic so that it becomes part of a text story and flows with it

Getting started

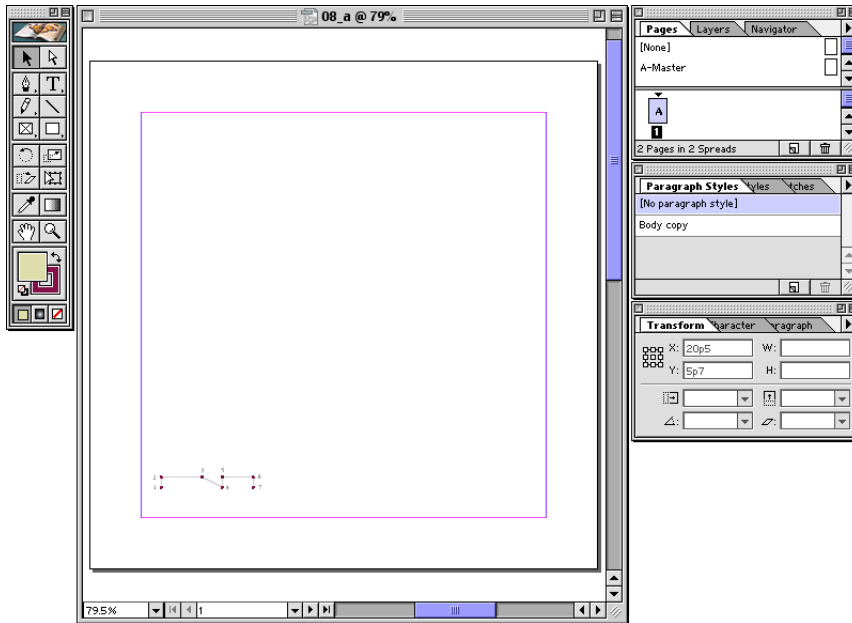
In this lesson, you'll create the front and back of a direct-mail piece. You'll use InDesign's drawing tools to draw some of the vector objects, or *paths*, in the design. Before you begin, you'll need to restore the default preferences for Adobe InDesign.

1 To ensure that the tools and palettes function exactly as described in this lesson, delete or deactivate (by renaming) the InDesign Defaults file and the InDesign SavedData file. See “Restoring default preferences” on page 2.

2 Start Adobe InDesign.

To begin working, you'll open an existing InDesign document.

3 Choose File > Open, and open the 08_a.indd file in the ID_08 folder, located inside the Lessons folder on your hard disk. If an alert message appears that asks which dictionary file you want to use, click No (Windows) or Document (Mac OS).



4 Choose File > Save As, rename the file **08_Mailer.indd**, and then click Save.

You'll notice that the page is blank except for a shape near the bottom left corner of the page. This document contains everything you need to create the completed version of the document, but to keep things simple, it uses layers to hide everything except the tracing template for the shape you're currently drawing. Right now you see the tracing template for the first shape you'll draw. As you progress through the lesson, you'll use the Layers palette to show and hide other parts of the document. When you're finished, you'll display all layers except the layers containing the tracing templates. For more information about using layers, see "Working with Layers" on page 99 in the User Guide.

5 If you want to see what the finished document will look like, open the 08_b.indd file in the same folder. You can leave this document open to act as a guide as you work. When you're ready to resume working on the lesson document, choose its name from the Window menu.



For a color version of the finished document, see the color section.

Note: Because you'll be using the Layers palette and Swatches palette throughout this lesson, you may want to enlarge those palettes so that you can easily see all of their items. In addition, feel free to move palettes around or change the magnification to a level that works best for you. For more information, see “Changing the magnification of your document” on page 50 and “Using the Navigator palette” on page 57.

Setting up the document grid

Many of the paths you draw in this lesson will be straight lines, precise corners, and symmetrical curves. It's easier to draw these kinds of paths if you set up the document grid in a convenient way. The grid is drawn and measured from the ruler origin.


1 Choose Edit > Preferences > Grids.

2 In the Document Grid section, for Gridline Every make sure **10p0** (10 picas, 0 points) and **10** subdivisions are entered for both the Horizontal and Vertical values. Then click OK.

Now you'll display the grid and constrain drawing to it.

3 Choose View > Show Document Grid.

4 Choose View > Snap To Document Grid to select it.

 Sometimes the grids are hard to see because they're covered by objects on the layout. You can move grids to the front of the display order by choosing Edit > Preferences > Grids, and deselecting the Grids in Back option.

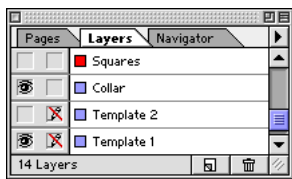
Drawing straight segments



You can use the pen tool to draw straight lines by clicking two *anchor points*, which define a segment. You can create straight lines that are vertical, horizontal, or diagonal by holding down Shift as you click with the pen tool. This is called *constraining* the line.


Drawing an open path of straight segments

You'll begin by drawing a simple open path, tracing over the template at the bottom left corner of page 1.

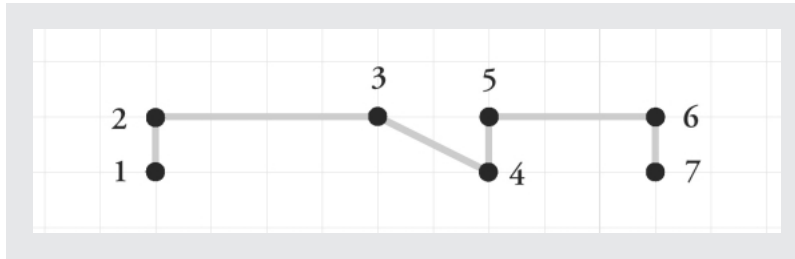
1 Click the Layers palette tab (or choose Window > Layers) to make the palette visible. You'll be working with the Template 1 layer which is at the bottom of the Layers palette; to see it, scroll or resize the Layers palette if necessary.



The tracing template for the shirt collar top exists on the Template 1 layer. The eye icon () indicates that the layer is visible, and the crossed-out pencil icon () for that layer indicates that the layer is locked. All of the template layers are locked so that you don't draw on them by accident.

2 In the Layers palette, select the Collar layer. The path you'll draw will appear on the Collar layer because it is the target layer, as indicated by the pen icon () to the far right of the layer name.

3 Using the zoom tool (Q), zoom in so that you can read the numbers on the shirt collar template.

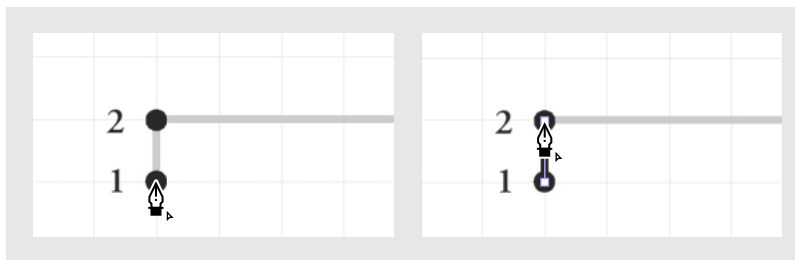


4 Select the pen tool (A), and position the pointer on point 1 on the template for the top edge of the shirt collar.

Notice that the pointer has a small hollow arrowhead (A) next to it. This indicates that the pointer will snap to the closest guide or grid intersection when you click. Because you turned on the document grid, the pointer will always snap to the closest grid intersection, so the hollow arrow will always be on when you use the pen tool, unless another icon takes precedence over the hollow arrow.


5 Using the pen tool, click point 1.

6 With the pen tool still selected, click point 2 on the collar top template.

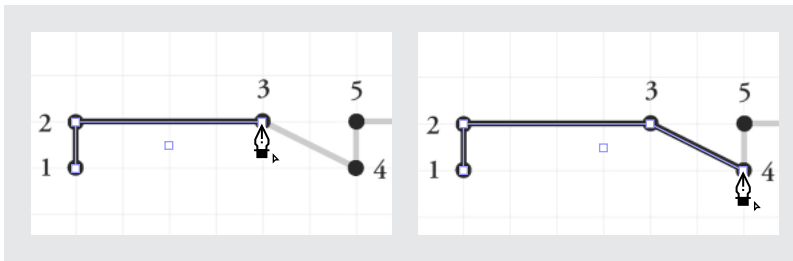


As you draw paths with the pen tool, you'll see many visual cues along the way. These cues provide you with useful information. By this step, you're already able to observe the following:

- A third point has appeared between point 1 and point 2. That's a *center point* that automatically appears on any path that has at least two points. A center point makes it easier to select and align objects. As you progress through this lesson, watch how the center point automatically keeps itself at the center of a path as you change a path's shape.
- When you click the second point, a caret (^) appears next to the pointer as long as the tip of the pen tool icon is on the new endpoint. The caret indicates an opportunity to create a curve out of that anchor point. You'll create curves later in this lesson.
- The path and anchor points you've drawn appear in lavender. This is because the Collar layer uses lavender as its layer color, indicated by the colored square immediately to the left of the Collar layer name in the Layers palette. The layer color identifies the layers that contain the currently selected objects.

 When the *Snap To Document Grid* command is not on, you can still position points at 45-degree angles by holding down *Shift* as you click.

7 Click points 3 and 4. Because you're clicking at positions that fall on the grid, the shape is perfect.



8 Click points 5, 6, and 7.

You must end the path before you can draw any other segments that aren't connected to this path.


9 End the path using one of the following methods:

- Choose *Edit > Deselect All*.
- Click the pen tool in the toolbox.
- Hold down *Ctrl* (Windows) or *Command* (Mac OS) to temporarily activate the most recently used selection tool, and then click in an empty area to deselect the path. If you use this method, make sure you're not selecting any white objects.


Now you'll hide the Template 1 layer to more clearly see the path you just drew.

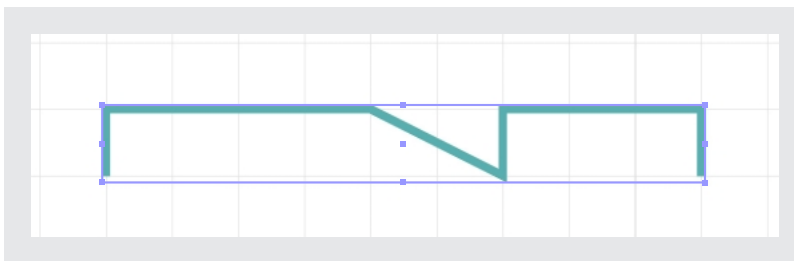
10 In the Layers palette, click the eye icon for the Template 1 layer to hide that layer.

The default fill and stroke colors are still applied to the path, so now you'll apply the correct colors for the design. The colors for this illustration have already been stored in the Swatches palette for you.

11 Using the selection tool () , select the path.

12 Click the Swatches palette tab (or choose Window > Swatches) to make the palette visible.


13 In the toolbox, select the Stroke box () , and then in the Swatches palette select TRUMATCH 25-c1 (You may need to enlarge the palette or scroll through it). Then select the Fill box and make sure that [None] is selected in the Swatches palette.



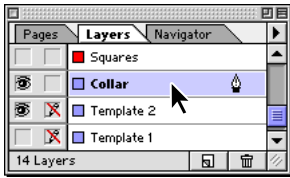
14 Choose Edit > Deselect All, and then choose File > Save to save the file.

Drawing a closed path of straight segments

You'll continue by drawing a closed shape below the open shape you just drew. First you'll show the Template 2 layer, which you will use for this section.

1 In the Layers palette, click the square to the far left of the Template 2 layer to display the eye icon () . This contains the template for the bottom of the shirt collar. In the document window, change the view if necessary so that you can see the entire closed collar shape and the numbers next to it.

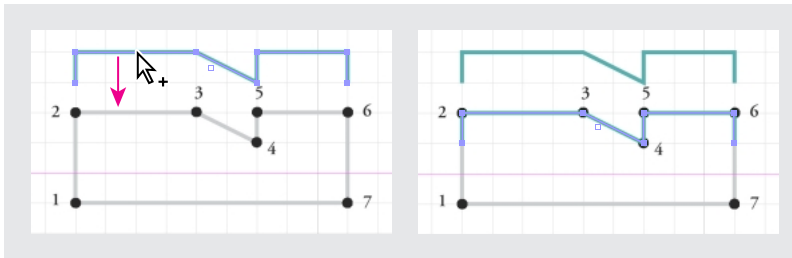
2 Make sure the Collar layer is targeted in the Layers palette.



Notice that the top edge of the template you just displayed is the same as the collar top you've already drawn. You can save time by duplicating and editing the collar top.

3 Select the direct-selection tool (⌘), and then hold down Alt (Windows) or Option (Mac OS) as you click anywhere on the top collar path. This selects all points and segments on the path.

4 Click and hold down the mouse button on the top collar path; press Shift+Alt (Windows) or Shift+Option (Mac OS) as you drag down a copy of the top collar path until it lines up with the top edge of the template for the collar bottom.



Dragging a copy of upper path (left), and the new copy in position (right)

You used the direct-selection tool to precisely align the path itself. If you had used the selection tool, the path would have aligned with the outer edge of its stroke width instead.

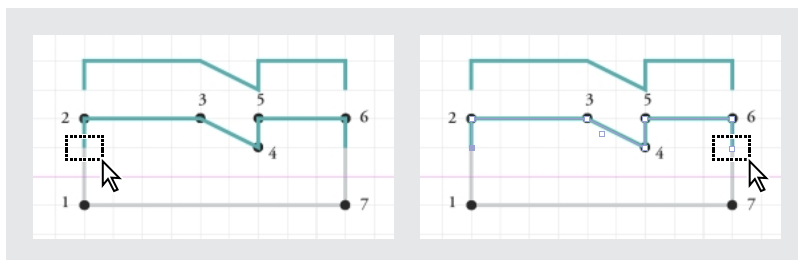
When you drag any object, holding down Alt/Option drags a copy of the object; holding down Shift constrains movement to multiples of 45-degree angles.

Note: If you find yourself dragging one point instead of the entire shape, choose *Edit > Undo* and try again, making sure all points on the path are selected (solid) before you begin dragging.

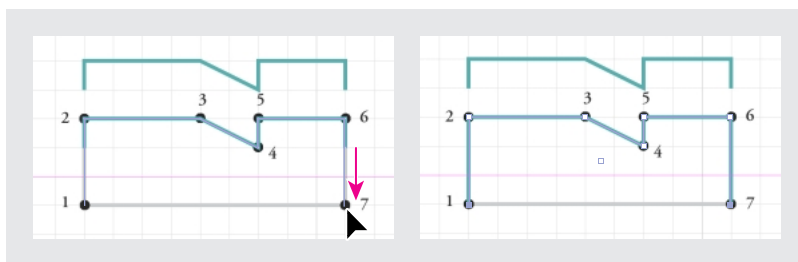
5 Deselect everything.

Now you'll extend the sides of the collar by moving some, but not all, of the points on a path.


6 Using the direct-selection tool, drag a selection marquee around the bottom left point to select it. With the point still selected, hold down Shift as you use the direct-selection tool to drag a selection marquee around the bottom right point. Now both points should be selected.

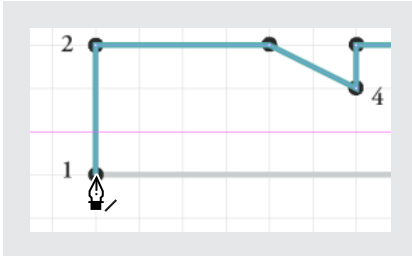



7 Position the pointer on the lower right endpoint of the collar path. Then drag it down to the point number 7 on the template to extend the selected segments.




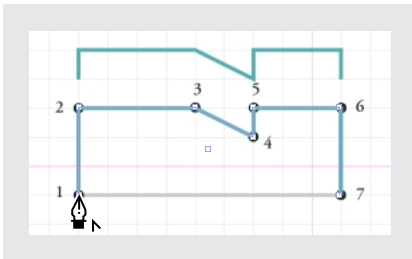
Now you'll switch back to the pen tool, using a convenient keyboard shortcut.

8 Press the P key to select the pen tool, and position the pointer on the endpoint by the number 1. Notice that a slash () appears next to the pointer when its tip is directly on an endpoint. The slash indicates that clicking will continue that endpoint's path rather than starting a new path.

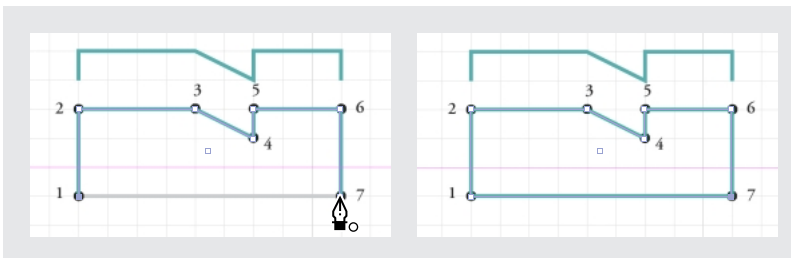


 *By learning the keyboard shortcuts for drawing (such as the pen tool shortcut you just used), you save many trips to the toolbox, letting you work faster and more smoothly. Keep the mouse in one hand, and keep the other hand over the keyboard to press tool shortcut and modifier keys.*

9 Click the endpoint. The slash next to the pointer changes to the caret ().



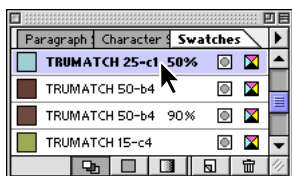
10 Position the pointer on the lower right endpoint until a loop appears next to the pointer. Then click to close the collar shape.



The loop indicates that clicking the endpoint will close the path.

11 In the Layers palette, click the eye icon for the Template 2 layer to hide that layer. The default fill and stroke colors are still applied to the path, so now you'll apply the correct colors for the design.

12 With the path still selected, in the toolbox select the Fill box (■), and then in the Swatches palette select TRUMATCH 25-c1 50% (the second instance of the color).

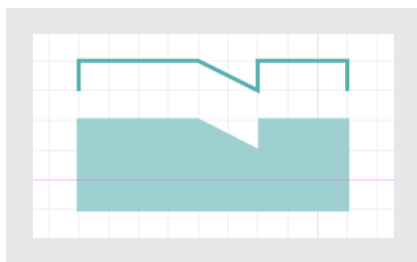


13 Press the X key.

This doesn't change the fill and stroke that are applied, only whether the fill or stroke of an object is active. Because the fill was active, pressing X activates the stroke.

14 In the toolbox, click the None button (□) to remove the stroke.

15 Press Shift+Control+A (Windows) or Shift+Command+A (Mac OS).



The keyboard shortcut corresponds to the Edit > Deselect All command, and is the fastest way to make sure you've deselected all objects.

16 Choose View > Fit Page in Window, and then save the file.

Drawing curved segments

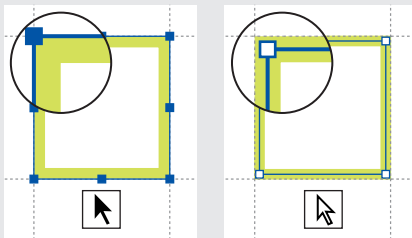
In this part of the lesson, you'll learn how to draw smooth curved lines using the pen tool. With the pen tool, you draw a curve by setting anchor points and dragging to define the shape of the curve. Although drawing curves this way takes some getting used to, it gives you the most control and flexibility in computer graphics.

You'll examine a single curve, and then draw a closed shape that's completely made up of curves, using template guidelines to help you. First you'll turn off the document grid because you won't need to use it for a while.

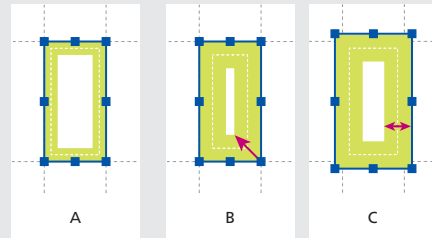
- 1 Choose View > Snap to Document Grid to deselect it.
- 2 Choose View > Hide Document Grid.
- 3 Choose View > Hide Guides.

Affecting how the stroke weight affects the bounding box

For most shapes, changes to the stroke weight happen inward from a bounding box, so changing the stroke weight can change how much of a path's fill or contents are visible. If you want stroke weights to be centered on the path edge, growing or shrinking both inward and outward, make sure **Weight Changes Bounding Box** is selected on the **Stroke palette menu**. This will have less effect on how much of a path's fill or contents are visible, but will cause the total area of the fill and stroke to change whenever you change a stroke weight.



The selection tool activates the bounding box at the outer edge of the stroke weight (left). The direct-selection tool displays the path at the center of the stroke (right)



A. Original path B. Stroke weight increased
C. Stroke weight increased after selecting the **Weight Changes Bounding Box** option

—From the *Adobe InDesign User Guide*, Chapter 6.

Selecting a point on a curve

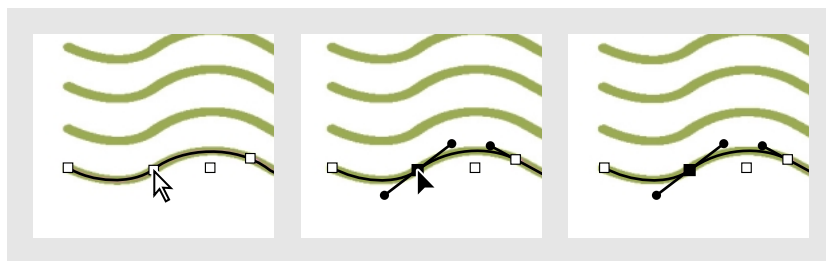
When you select a point that's part of a curved segment, the segment displays additional controls you can use to adjust a curve precisely. Before you begin drawing curves, it's helpful to recognize these controls.

- 1 In the Layers palette, click the square to the far left of the Hair layer to display the eye icon (👁). This contains the wavy lines you'll use in this section.
- 2 Using the zoom tool, zoom in on the set of wavy lines.



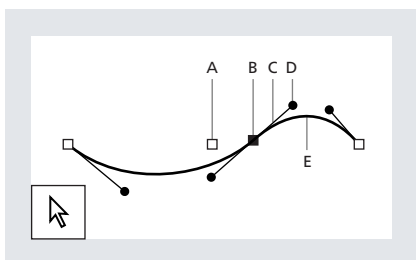
💡 *Pressing the Z key selects the zoom tool in the toolbox.*

- 3 Press the A key to switch to the direct-selection tool (⌘), and then click any of the wavy lines. In the Layers palette, the Hair layer becomes selected, and the path and its anchor points appear in the Hair layer color of magenta.
- 4 With the direct-selection tool still selected, select the second anchor point from the left of any of the wavy lines. When selected, the anchor point becomes solid and displays two direction lines.



The direction lines cause the anchor point to connect the two adjacent path segments as a continuous curve shaped by the direction lines. The angular collar path you drew in the previous section only has corners because its anchor points don't have any direction lines.

As their names imply, the anchor points anchor the curved segments, and the direction lines control the direction of the curves. You can drag the direction lines or their endpoints, called *direction points*, to adjust the shape of the curve.



A. Center point B. Anchor point C. Direction line

D. Direction point E. Path segment

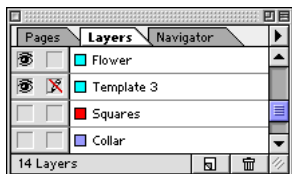
Anchor points, direction points, and direction lines are aids to help you draw. Anchor points are square and, when selected, appear solid. When unselected, anchor points appear hollow. Direction points are always round and solid. Direction lines and points do not appear in print or in any other output; they exist only to help you draw precisely.

Drawing curves

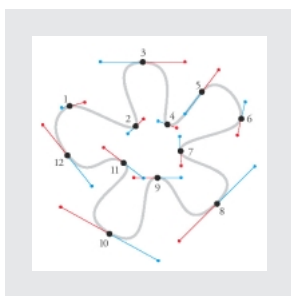
Now you'll use the pen tool to draw a shape completely made up of curves. As with the straight line segments you drew, drawing curves with the pen tool involves positioning points that anchor the path. However, instead of simply clicking the pen tool, you'll drag to extend the two direction lines that precisely influence curve direction. When you release the mouse, a curve's starting point is created with its direction lines. Then you drag the pen tool to end the curve and to set the starting point and direction of the next curve.

- 1 Choose View > Fit Page in Window.

2 In the Layers palette, click the eye icons (👁) for the Hair and Collar layers to hide each. Click the square to the far left of the Template 3 layer to display the eye icon. The Template 3 layer contains the template for the flower you'll draw, which will appear in front of the collar you drew.



3 In the Layers palette, make sure the Flower layer is targeted and set to be visible. In the document window, scroll or zoom if necessary so that you can easily see all of the numbers and colored direction line guidelines on the flower template.



4 Choose Window > Stroke to display the Stroke palette.

5 Press Shift+Control+A (Windows) or Shift+Command+A (Mac OS) to make sure no objects are selected. In the Stroke palette, make sure the Weight is 1 point.

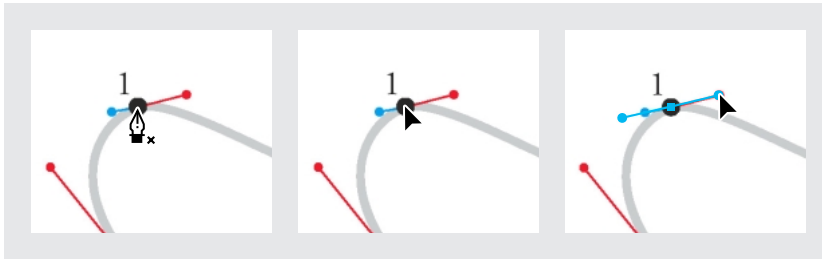
When you adjust any option while no objects are selected, you adjust the default setting for that option. For this lesson, you want the default stroke weight to be 1 point so that the paths you draw don't obscure the lines on the template layer.

6 If the Stroke palette is in the way, drag it to a different position.

7 Select the pen tool (🖋).

Notice that the pen tool has a small *x* (🖋_x) next to it. This indicates that the pen tool will start a new path when you click. You didn't see the *x* before because the snap-to cursor (🖋_s) took precedence.

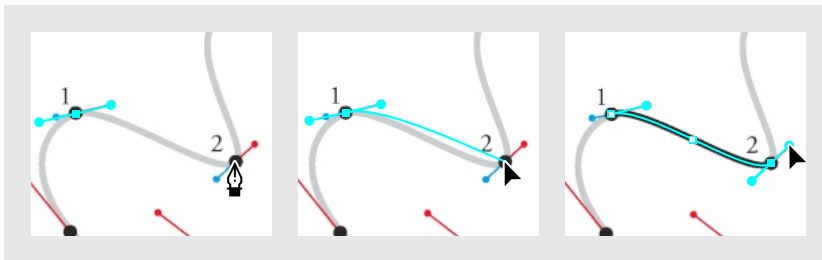
8 Position the pointer on point 1 on the template. Press the mouse button and drag to the right from point 1 to the red dot at the end of the red guideline, then release the mouse.



Don't be concerned about the direction line that appears over the blue guideline; you'll correct it later in this section.


Next, you'll create the second anchor point and its direction lines, which will complete the first curved segment. As you do the next step, notice how you control the shape of the curve by changing the length and angle of the direction lines you drag out of the anchor point.


9 Drag from point 2 to its red dot, and then release the mouse button. Anchor points 1 and 2 are now connected by a curve shaped by the direction lines you dragged.



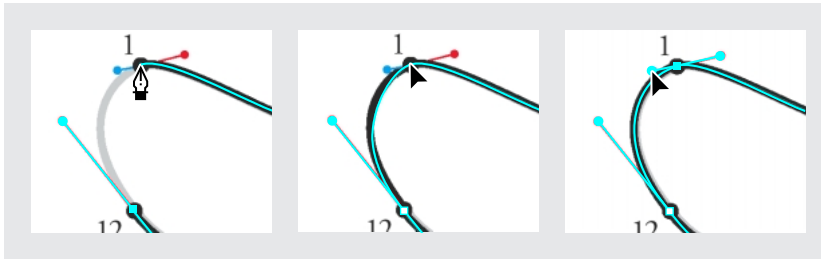
10 For points 3 through 12, drag from each numbered dot to its corresponding red dot. If you make a mistake, simply choose Edit > Undo and try again.

Notice how both direction lines extend to the same length and angle, so that dragging to the red dot automatically makes the opposite direction line extend to the corresponding blue dot. Later in this lesson, you'll learn how to manipulate the direction lines separately.

 For a color version of drawing curved segments, see figure 8-1 in the color section.

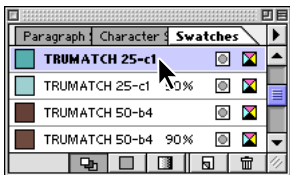
 To reposition an anchor point while drawing, hold down the spacebar as you drag.

11 After you draw point 12, end the path by positioning the pointer on point 1 until you see the small loop next to the pointer, and then drag left (backwards) to point 1's blue dot (not the red dot).



12 In the Layers palette, click the eye icon for the Template 3 layer to hide it. The default fill and stroke colors are still applied to the path, so now you'll apply the correct colors for the design.

13 In the toolbox, select the Fill box (■), and then in the Swatches palette select TRUMATCH 25-c1.



This shape is one solid color that doesn't require a separate stroke. You'll remove the stroke color and weight from the path.

14 Press X to select the Stroke box (■) in the toolbox, and then in the Swatches palette select [None].

15 Press Shift+Control+A (Windows) or Shift+Command+A (Mac OS) to deselect everything.



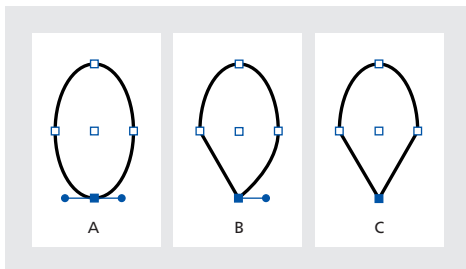
Now you'll use a keyboard shortcut to see the entire page.

16 Press Ctrl+0 (Windows) or Command +0 (Mac OS) to fit the page in the window. Then save the file.

Note: If the keyboard shortcut for Fit Page in Window doesn't work, make sure you pressed the numeral zero above the letter keys, not the letter O or the zero on the numeric keypad.

Drawing combinations of curved and straight segments

When you drew curves for the previous shape, two direction lines pivoted together around each anchor point. Those anchor points are called *smooth points* because they connect segments as a continuous curve. You can use the pen tool with a modifier key to drag each of the two direction lines at different angles, which converts a smooth point into a *corner point* with two direction lines that move independently. The only difference between the corner points you first created in this lesson and the corner points you'll create in this section is that these corner points will have direction lines.

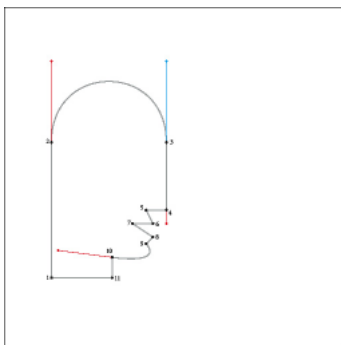


A. Smooth point **B.** Corner point with direction line
C. Corner point without direction lines

Drawing the head shape

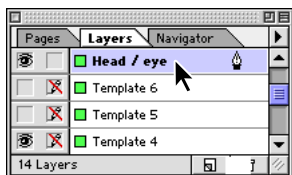
The final head shape includes a mix of curves and straight segments joined by corner points. You'll draw the entire outline using the pen tool only.

1 In the Layers palette, click the eye icon (👁) to the far left of the Flower layer to hide it. Then click the square to the far left of the Template 4 layer to display the eye icon. The Template 4 layer contains a tracing template for the head.




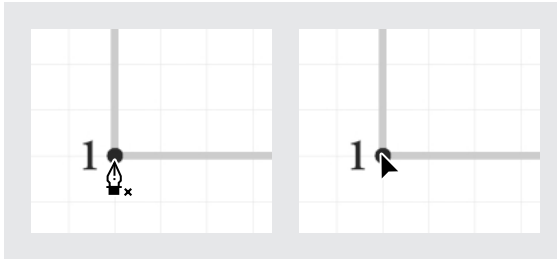
You may have noticed that the finished artwork uses curved segments for the mouth. Don't be concerned that this template contains only straight lines for the mouth—after you draw the outline, you'll return to the mouth segments and change them from straight to curved segments.

2 In the Layers palette, make sure the Head / Eye layer is both targeted and set to be visible. In the document window, scroll or zoom if necessary so that you can easily see all of the numbers and direction lines on the Template 4 layer.



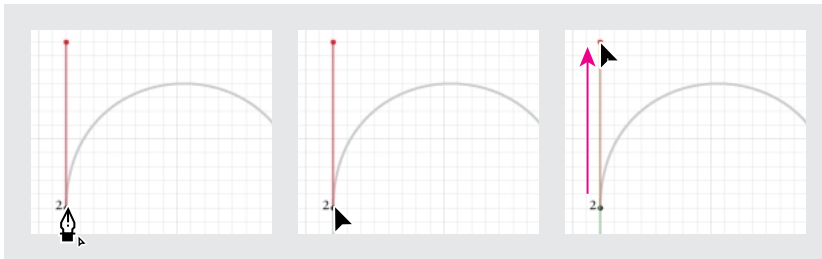
Now you'll use keyboard shortcuts to make the grid visible and make objects snap to it.


- 3 Press Ctrl+' (Windows) or Command+' (Mac OS) to show the document grid.
- 4 Press Shift+Ctrl+' (Windows) or Shift+Command+' (Mac OS) to make objects snap to the document grid.
- 5 Press P to select the pen tool (). Position the pointer on point 1 on the template, and then click.



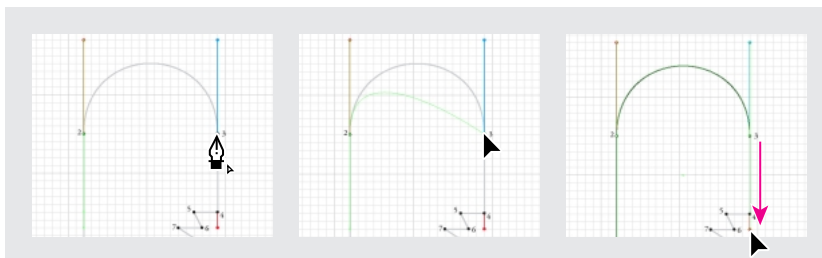
The next segment is a semicircular curve connected to the existing straight segment. You can draw the entire curve simply by strategically placing points 2 and 3 and dragging their direction lines.

- 6 Position the pointer on point 2. Drag from point 2 up to the red dot at the end of the red guideline. Then release the mouse.



 When the document grid is off, you can maintain an existing vertical segment, such as the one connecting points 1 and 2, by pressing Shift as you drag.

7 Position the pointer on point 3. Drag from point 3 down to the red dot visible below point 4; this should create a curve that matches the curve on the template.



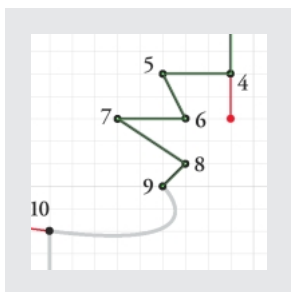
8 Position the pointer on point 3 until the caret appears, and click. This retracts the lower direction line. Because a direction line can create a curve, retracting it ensures that the next segment will be perfectly straight.

9 Position the pointer on point 4, and click. This creates a vertical straight segment connecting points 3 and 4.

10 Click point 5.

Now you'll quickly block out the shape of the mouth using straight segments. These are the straight segments you will later change into curves.

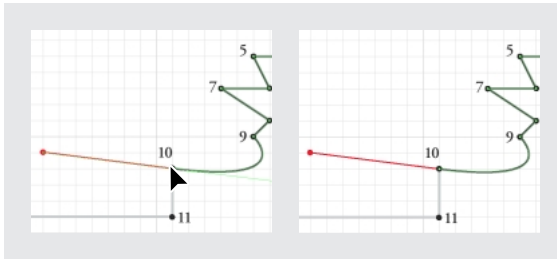
11 Click points 6, 7, 8, and 9.



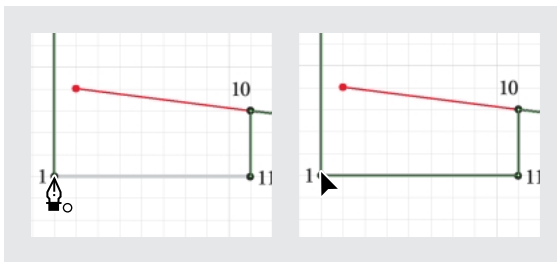
You'll draw the chin by drawing a curved segment in between two straight segments.

12 Position the pointer on point 10. Drag left from point 10 to the red dot.

13 Click point 10 to remove the left direction line. Removing it allows the next segment to be perfectly straight.



14 Click points 11 and 1 to draw the right angle at the bottom of the neck and to close the path.



15 In the Layers palette, click the eye icon for the Template 4 layer to hide it.

16 Save the file.

You'll adjust the fill and stroke of this path later, after you've edited the mouth and drawn the eye.

Changing the shape of existing segments

Now you'll create a more expressive mouth by changing some of the straight segments to curves. It's easy to change the shape of existing segments at any time.

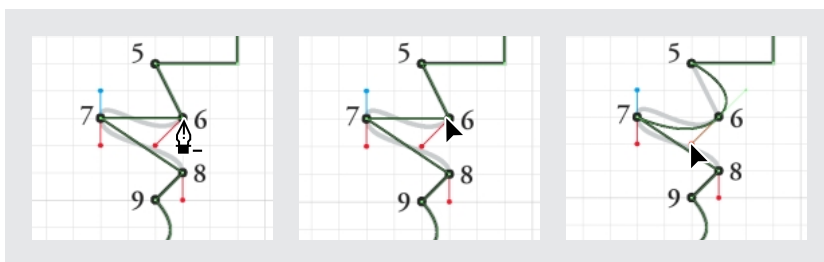
1 Click the square to the far left of the Template 5 layer to display the eye icon (👁). The Template 5 layer contains a template for the finished mouth.

2 In the document window, zoom in so that you can see the nose, mouth, and chin.

3 Press A to select the direct-selection tool (⌘), and click the head path to select it. You must use the direct-selection tool because the selection tool displays the path's bounding box, not its anchor points.

4 Press P to select the pen tool (⌘), and position it on point 6 (but don't click). You'll know it's positioned on the point when you see a minus sign next to the pointer (⌘).

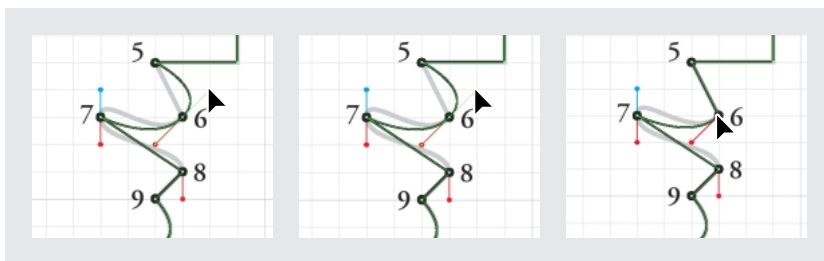
5 With the pen tool still positioned, hold down Alt (Windows) or Option (Mac OS). Notice that the pointer changes to the icon for the convert-direction-point tool (↵)—this switches to the actual tool, not the pen with a caret. Continue holding down Alt or Option as you drag down from point 6 to the red dot. Direction lines appear, converting the corner point to a smooth point.



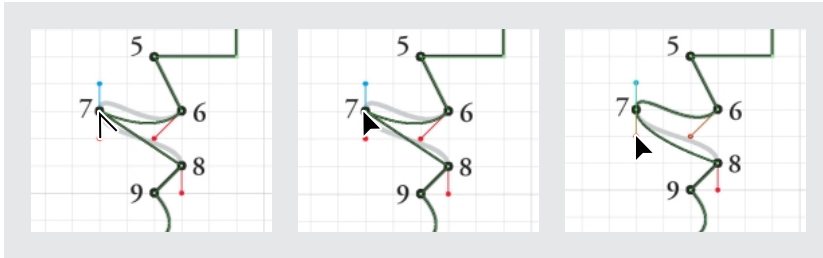
Don't be concerned that the segments between points 5, 6, and 7 don't match the template. You'll fine-tune the segments in the following steps. First you'll retract the upper direction line to restore the straight segment between points 5 and 6.

💡 If you Alt/Option-click a smooth point, you convert it to a corner point, removing its direction lines.

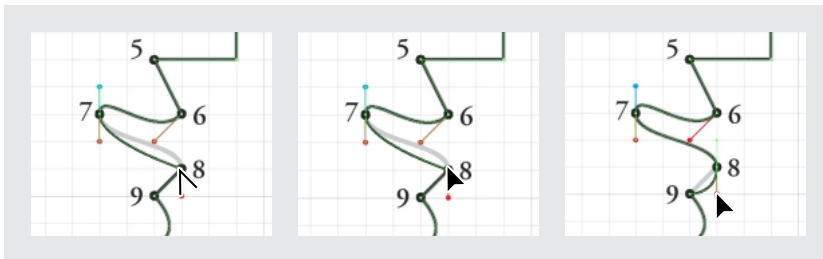
6 Position the pen tool on point 6's upper direction point. Then hold down Alt or Option as you drag the upper direction point down into point 6.



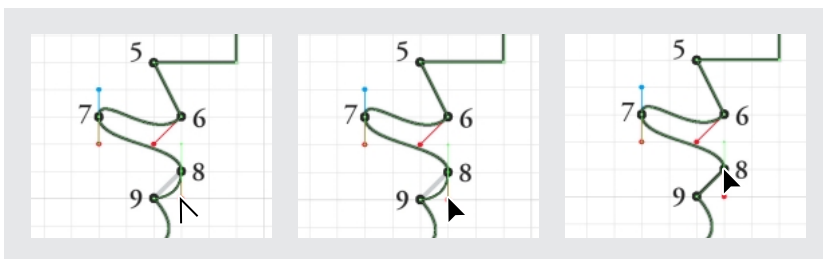
7 Position the pen tool on point 7, and then hold down Alt or Option as you drag from point 7 down to the red dot. You've converted point 7 from a corner point to a smooth point. Extending the direction lines also shapes the left half of the segment between points 6 and 7 so that it now matches the template.



8 Position the pen tool on point 8, and then hold down Alt or Option as you drag from point 8 down to the red dot so that the segment between points 8 and 9 becomes curved. Now all of the mouth curves match the template; the only thing left to do is straighten the path between points 8 and 9.



9 Position the pen tool on point 8's lower direction point. Then hold down Alt or Option as you drag the lower direction point up into point 8.



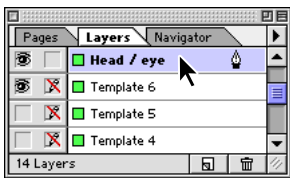
- 10 Press Ctrl+0 (Windows) or Command+0 (Mac OS) to fit the page in the window.
- 11 In the Layers palette, click the eye icon for the Template 5 layer to hide it.
- 12 Deselect everything, and then save the file.


Different artists use various drawing styles. Some prefer to lay down all corners and curves correctly the first time, and others prefer to rough out a shape by clicking corner points, and then returning later to create and refine the curves as you did in this section. With practice, you'll discover which way you prefer to draw.

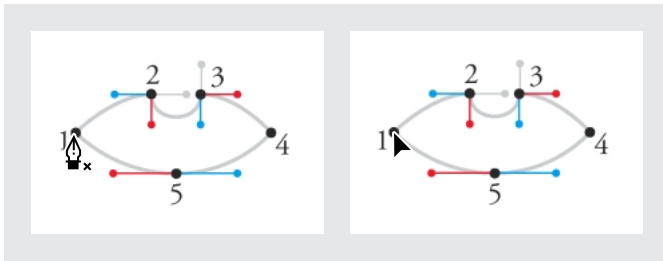
Drawing the eye

To draw the eye for the head, you'll practice more techniques for interactively controlling corner angles and curve shapes as you draw. First you'll use keyboard shortcuts to quickly turn off and hide the document grid, which you don't need for this section.

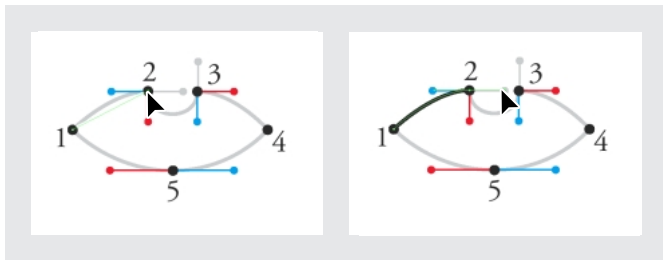
- 1 Press Ctrl+' (Windows) or Command+' (Mac OS) to hide the document grid.
- 2 Press Shift+Ctrl+' (Windows) or Shift+Command+' (Mac OS) to turn off snapping to the document grid.
- 3 Click the square to the far left of the Template 6 layer to display the eye icon (👁). This layer contains the template for the eye. In the document window, zoom in on the eye template.
- 4 Make sure the Head / Eye layer is targeted in the Layers palette.



- 5 Using the pen tool () , position the pointer on point 1 on the template, and then click.

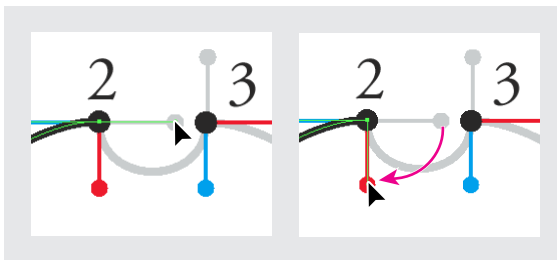


- 6 Position the pointer on point 2, and then hold down Shift as you drag right to the gray dot.

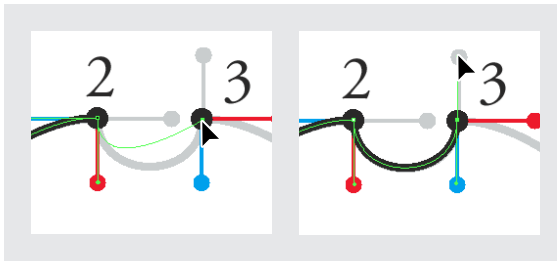


The next curved segment requires a direction line pointing down, but neither direction line does that. In one motion, you'll convert the smooth point to a corner point and reposition the second direction line only.

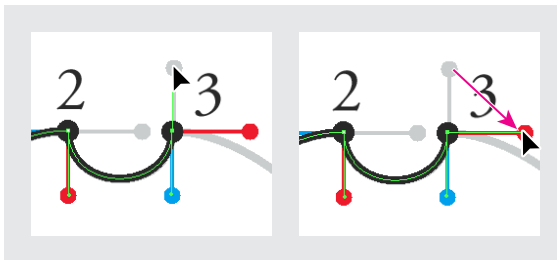
- 7 Position the pointer on point 2's right direction point (on the gray dot). Hold down Alt (Windows) or Option (Mac OS) as you drag the direction point down to the red dot. Point 2's left direction line remains intact.



- 8 Hold down Shift as you drag from point 3 up to the gray dot.



- 9 Hold down Alt/Option as you drag point 3's upper direction line down and right to the red dot. This will shape the left half of the next segment.



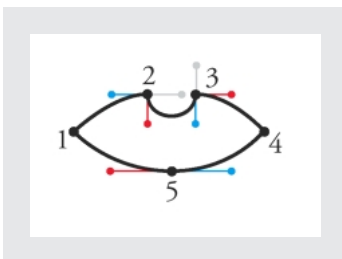
- 10 Click the pen tool at point 4.

- 11 Hold down Shift as you drag from point 5 to the red dot.

Holding down Shift constrains your dragging to a perfectly horizontal line.

Note: If you have trouble with this step, choose *Edit > Undo* and make sure you start dragging before you press Shift.

- 12 Click point 1 to close the path, and then press Shift+Control+A (Windows) or Shift+Command+A (Mac OS) to make sure the path is deselected.



13 In the Layers palette, click the eye icon for the Template 6 layer to hide it.

14 Deselect everything, and then save the file.

Notice that as you clicked new segments, the pen tool preserved any existing smooth and corner points, and that pressing Alt/Option changed the default behavior of the pen tool.

Creating a compound path

Now you'll combine the eye with the head as a *compound path*. When you make a compound path, overlapping areas become holes. In this illustration, the eye will become a hole in the head through which you will be able to see the background behind the head.

A compound path isn't the same as a group, where different objects in the group retain their own attributes. All parts of a compound path have to be paths, and they will all share the same set of attributes such as color and stroke weight.

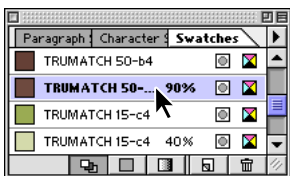
1 In the document window, scroll or zoom if necessary so that you can easily see the entire head.



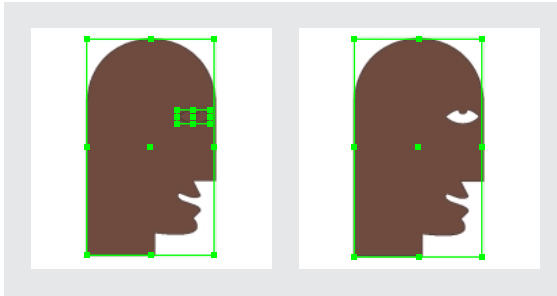
You'll fill the head with a color first. This will make it easier to see the effect of creating a compound path.

2 Using the selection tool (⌘), click the head path to select it.

3 In the toolbox, make sure the Fill box (■) is selected. In the Swatches palette, select TRUMATCH 50-b4 90%. Then press X and set the stroke to [None].



- 4 With the head still selected, hold down Shift as you click the eye to select both paths.
- 5 Choose Object > Compound Paths > Make.



The head and the eye are now two *subpaths* of the same compound path. The compound path uses the eye shape as a hole.

- 6 Deselect everything, and then save the file.

Note: When you use the selection tool to select a compound path, it selects the entire compound path. To select a subpath, select the direct-selection tool and Alt-click (Windows) or Option-click (Mac OS) a subpath.

Creating a perfect semicircle

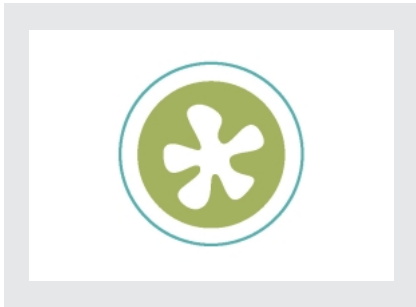
The finished document contains a semicircle outside another circle, both located inside the head shape. Although you could draw the semicircle using the pen tool, it's easier to slice an arc out of a circle.


Duplicating as you scale

The semicircle you'll create must be larger than and concentric with an existing circle. In a single action, you can scale the existing circle from the center and make a copy of the result.

- 1 In the Layers palette, click the eye icon for the Head / Eye layer to hide it.
- 2 Click the square to the far left of the Circles layer to display the eye icon. This layer contains the circle shape you'll duplicate.

3 Make sure the Circles layer is targeted in the Layers palette. In the document window, zoom in on the circles, leaving some room for the larger circle you'll create.




4 Using the selection tool () , select the blue (outer) circle.

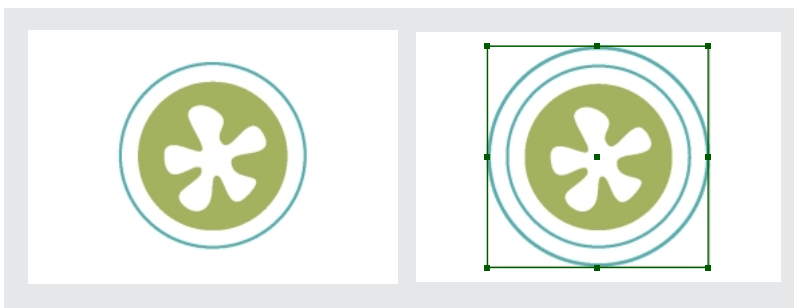
5 Click the Transform palette tab (or choose Window > Transform) to make the palette visible.

6 In the Transform palette, click the center proxy point ().

This ensures that the next action you take in the Transform palette will be measured from the center of the selection.

7 In the Scale X Percentage option () in the Transform palette, enter **120** and then press Ctrl+Alt+Enter (Windows) or Command+Option+Return (Mac OS). A larger duplicate of the circle appears.


Note: The larger duplicate of the circle also has a heavier stroke weight. When you scale a path, its stroke weight is scaled as well.




If you simply wanted to scale the horizontal (X) dimension of the circle, you'd press only Enter or Return after typing in the value. In this case, you pressed Ctrl (Windows) or Command (Mac OS) to also make the other (W) dimension scale proportionally, and you pressed Alt or Option to duplicate the original circle using the new scale value.

Slicing a path with the scissors tool

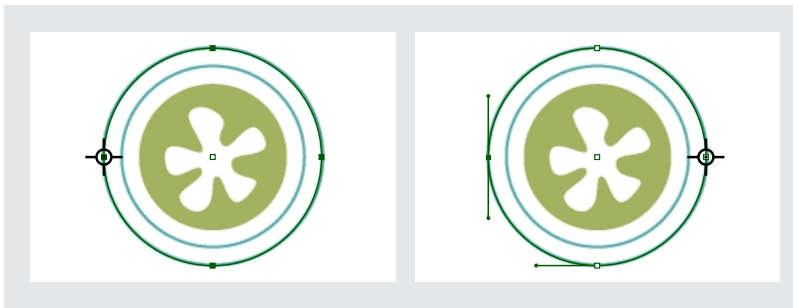
Now you can simply slice off the part of the circle that you don't need.

- 1 Choose the direct-selection tool () , and make sure the larger circle is selected so that you can see its anchor points.

Note: If the larger circle still displays a bounding box after you switch to the direct-selection tool, deselect it and then use the direct-selection tool to select it again.


- 2 In the toolbox, click and hold the mouse button on the pen tool, and then select the scissors tool () from the tool menu that appears.

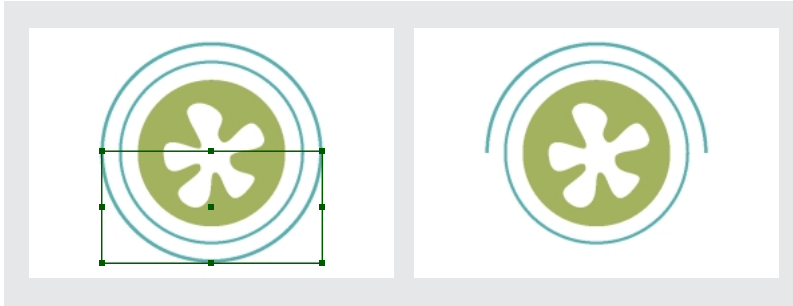
- 3 Using the scissors tool, click the new circle at the anchor point on its left side. Then click the anchor point on its right side. Then deselect everything. Now that you've made two cuts, the path has become two separate paths.



Clicking left anchor point, and right anchor point

Note: You don't have to click the scissors tool on a point, but because you're creating a perfect semicircle here, the circle's anchor points are convenient places to slice.

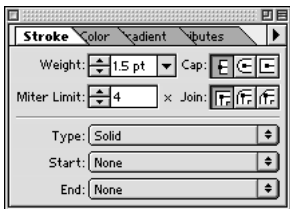
- 4 Switch to the selection tool () and make sure the bottom of the larger circle is selected. Notice that the bounding box surrounds the bottom half only because it is no longer connected to the top half.
- 5 Press the Delete key.



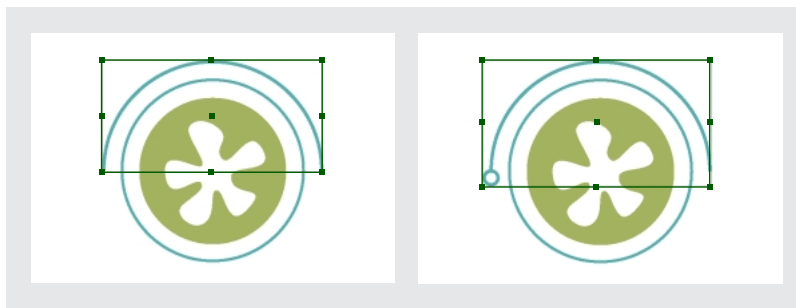
Adding an end shape to an open path


You can instantly add an end shape, such as an arrowhead, to either end of a path by using the Stroke palette. Here, you'll add a loop to the end of the semicircle you just created.

- 1 With the selection tool, select the semicircle.
- 2 Click the Stroke palette tab (or choose Window > Stroke) to make the palette visible. If the Stroke palette is displaying the Weight option only, position the pointer on the black triangle to the right of the Stroke tab, and choose Show Options from the Stroke palette menu.



- 3 In the Stroke palette, choose Circle from the Start menu. This adds a circle shape to the start of the path—the first point drawn when the path was created.



 To reverse the start and end of a path, use the direct-selection tool to select a point on the path and then choose *Object > Reverse Path*.

- 4 Deselect everything, zoom out to see the entire page, and then save the file.

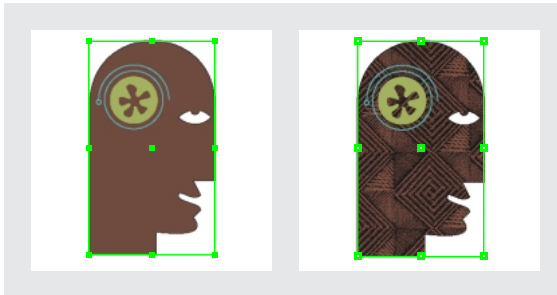
Creating a texture effect using a colorized image

In the final version of this file, you can see that the head is filled with a texture, which is actually a colorized image placed directly inside the compound path. You'll add the image to the compound path now.

- 1 In the Layers palette, click the square to the far left of the Head / Eye layer to display the eye icon (👁), and make sure the Head / Eye layer is targeted.
- 2 Using the selection tool (⌘), select the head. Using the selection tool selects the entire compound path you created from the head path and eye path earlier in this lesson.

Now you'll use a keyboard shortcut for placing a file.

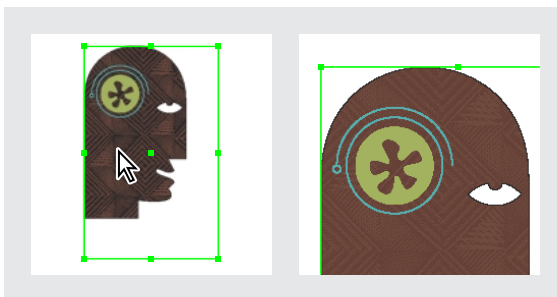
3 Press Ctrl+D (Windows) or Command+D (Mac OS). Double-click the file 08_c.psd in the ID_08 folder.



The image appears inside the head automatically, because the head was selected when you placed the image. Notice that you can still see through the eye. The brown pattern you see is actually the path's brown fill showing through the pixels of the black 1-bit image. In InDesign, empty areas of a 1-bit image are transparent.

Now you'll use InDesign to colorize the image, which you can do only if the image was saved as a 1-bit or grayscale image.

4 Using the direct-selection tool (⌘), click the image inside the head. Select the Fill box in the toolbox, and then in the Swatches palette select TRUMATCH 50-b4. The pattern is still visible but more subtle now, because the image and the path are each filled with different tints of the same color.



5 Deselect everything, and save the file.

● For a color version of colorizing bitmap images, see figure 8-2 in the color section.

Adding an inline graphic

You can add a graphic between any text characters or spaces so that the graphic flows with the text as you add or remove text. Such a graphic is called an *inline graphic*. The invitation text uses an ornamental inline graphic at the end of the text, often called a *dingbat*.

- 1 In the Layers palette, click the square to the far left of the Text layer to display the eye icon (👁), and make sure the Text layer is targeted.
- 2 In the document window, zoom in so that you can more clearly see the bottom half of the paragraph of text at the lower right corner of page 1.
- 3 Select the text tool (T), and then click an insertion point after the period at the end of the sentence at the bottom of the text that reads "...we have a class for you."



- 4 Press Ctrl+D (Windows) or Command+D (Mac OS). Double-click the file 08_e.eps in the ID_08 folder. The graphic is placed directly into the text where you clicked the insertion point.



Depending on where the insertion point was flashing when you placed the inline graphic, the graphic might be right up against a character in the text. You can add space around the graphic by typing a space character, because the inline graphic behaves as if it were simply another text character.

5 With the text tool still selected, click an insertion point just before the dingbat and press the spacebar to add a little more space as needed before or after the dingbat.



6 Using the selection tool (⌘), click to select the dingbat. Then press the down arrow key until the graphic sits nicely between the lines above and below it. (You can also drag the dingbat, but using the keyboard is more precise.)



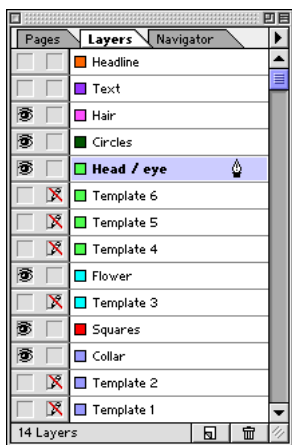
7 Deselect everything, zoom out to see the entire page, and then save the file.

Reflecting objects

The back of the completed invitation (page 2) will use duplicates of objects from the front. The duplicates will be reflected so that you see them as if from behind. You will quickly duplicate the objects on page 1 and then use the Transform palette to flip them.

1 In the Layers palette, make the Hair, Circles, Head / Eye, Squares, Flower, and Collar layers visible in the document, and hide all other layers including any currently visible Template layers. Make sure all visible layers are also unlocked, that is, they do not display the crossed-out pencil icons (✖).

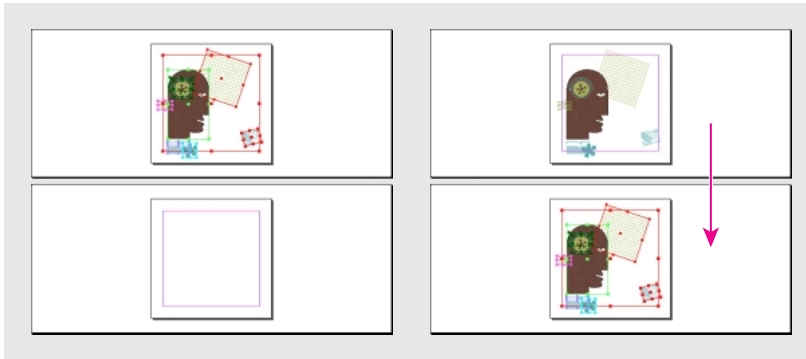
You can't select objects on hidden layers, so don't be concerned about the lock status of hidden layers.



2 In the document window, zoom out so that you can see both pages of the document.


3 Choose Edit > Select All.

4 Hold down Alt (Windows) or Option (Mac OS) as you drag all of the selected objects down to Page 2, positioning them on the page within the margins like the originals on page 1.

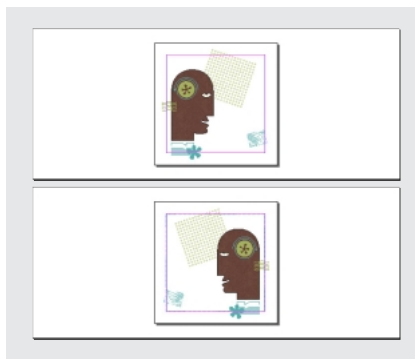


All objects selected on first spread (left), and duplicate objects dragged to the second spread (right)

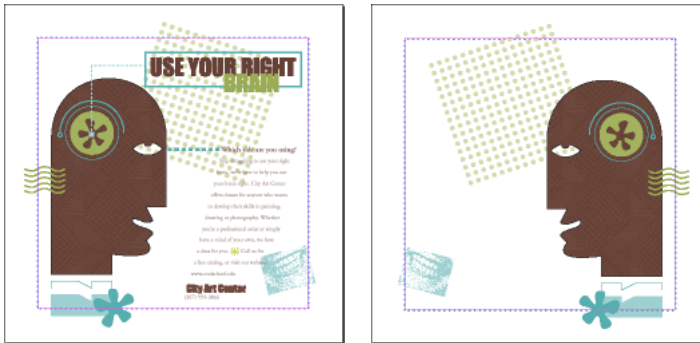
Note: If you make a mistake, choose *Edit > Undo*. Before you choose *Select All* again, be sure to activate the page 1 spread (click the first spread in the document window, not in the Pages palette). Otherwise, the *Select All* command will try to select objects on page 2, the last page you worked on.

5 Make sure all of the objects on page 2 are still selected. In the Transform palette, click the center point on the proxy () and then choose *Flip Horizontal* from the Transform palette menu.

6 Deselect everything and save the file.



7 In the Layers palette, make the Headline and Text layers visible. You can now see the entire document you've created.



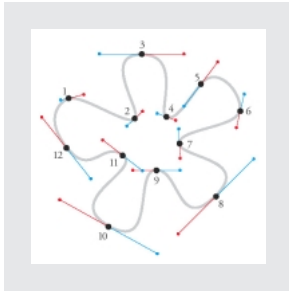
Congratulations! You've completed a design using a wide variety of drawn shapes, imported graphics, and layout effects.

On your own

Now that you've had practice drawing with the pen tool, try drawing shapes with the pencil, smooth, and erase tools. While the pencil tool isn't as precise as the pen tool, it's handy for creating a more hand-drawn look. You can use the smooth and erase tools to edit paths you draw with the pencil or pen tools; see the sidebars at the end of this exercise.

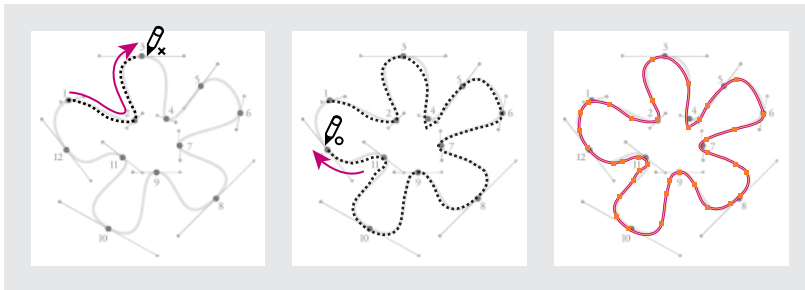
- 1 Open the 08_a.indd file again, and save it as 08_Drawing.indd.
- 2 Choose View > Fit Page in Window.

3 In the Layers palette, hide all layers except the Template 3 and Flower layers. Make sure the Flower layer is targeted and set to be visible. In the document window, scroll or zoom if necessary so that you can clearly see the flower template. You won't be using the numbers and direction lines in this exercise, so don't be concerned with making them readable.



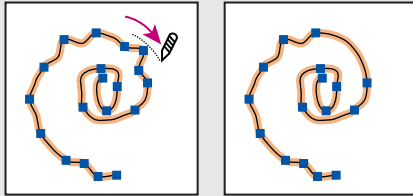
4 In the Stroke palette, make sure the Weight is 1 point.

5 Select the pencil tool (P) from the toolbox, and drag to trace the flower, as you would if it was an actual pencil. To close the path, hold down Alt (Windows) or Option (Mac OS)—a small circle appears on the pointer—and continue dragging to draw the end of the line connected to the starting point.



To smooth a path with the smooth tool:

- 1 If the path you want to smooth is not selected, select it with the selection tool (⌘). Or Ctrl-click (Windows) or Command-click (Mac OS) the path to select it.
- 2 Select the smooth tool (⌘).
- 3 Drag the tool along the length of the path segment you want to smooth. The modified stroke or path usually has fewer anchor points than the original.

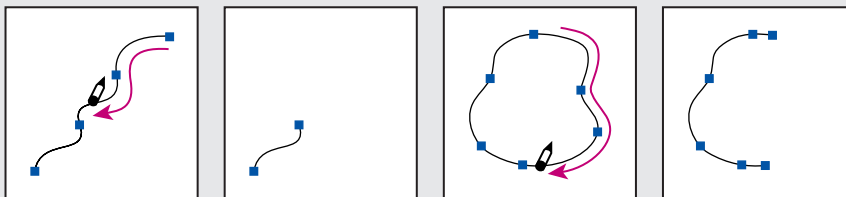


Path before and after using the smooth tool

- 4 Continue smoothing until the stroke or path is the desired smoothness.

Erasing a path with the erase tool

The erase tool lets you remove a portion of an existing path or stroke. You can use the erase tool on paths but not on text (unless you convert the text to outlines).



Strokes before (left) and after (right) using the erase tool

To use the erase tool:

- 1 Select the erase tool (⌘).
- 2 Drag the tool along the length of the path segment you want to erase (not across the path). For best results, use a single, smooth, dragging motion.



Anchor points are added to the ends of the resulting paths.

—From the Adobe InDesign 1.5 User Guide Supplement

Review questions

- 1 Why is the direct-selection tool more useful than the selection tool when drawing or editing paths?
- 2 What is the key difference between smooth and corner points?
- 3 Which tool can change an anchor point from a corner point to a smooth point or vice versa?
- 4 How do you make sure a transformation (rotating, scaling, etc.) occurs in relation to the center of an object?

Review answers

- 1 The selection tool displays only the path's bounding box. The direct-selection tool displays the path itself, and the exact location of the anchor points on it.
- 2 The two direction lines of a smooth point always exist at the same angle. The direction lines of a corner point (if present) usually exist at different angles, creating a corner at the anchor point.
- 3 You can switch between smooth and corner points using the convert-direction-point tool () . It's grouped with the pen tool in the toolbox.
- 4 With the object selected, click the center of the proxy () in the Transform palette.