



# THE PEN.....Your friend.

In our projects so far, the Pen tool has only been used to make straight lines. Now we start with some CURVES. From here on out you'll get to know the pen tool VERY well, it might feel a little awkward at first, but soon it will be as natural as writing or typing. It just takes practice. What follows is an anatomy of the pen tool's functions that you can refer to if you get stuck

## TOOL TIP

If you are having trouble selecting a path with a heavy stroke, switch to Outline View for a more precise look at the line!  
(command Y)

## TOOL TIP

No matter what tool you are currently using, you can press the command key to access the last selection tool you used.

## THE PEN TOOLS AND THE SELECTION TOOLS.

These tools go hand in hand. You will constantly go back and forth between the selection tools and the pens tools as you draw, so it's goo to get comfortable with the selection tools. The selection tools are always easy to find, they are right at the top of your Tool Palette. These are important tools because you can't do anything to an object in Illustrator unless it is SELECTED.

### SELECTION TOOL

This tool selects a WHOLE object or line. Click with the tip of the arrow to select the object. If the object has a Fill you can click on any part of it to select it. If the object has no Fill then you have to click on the path to select it (which can be a little tricky sometimes!) When your object is selected it will have a colored outline (the default color is blue) and will show all of its anchor points.

### DIRECT SELECTION TOOL

The Direct Selection tool allows you to select a PART of an object. You can use it to select individual points on a path, or a line segment. The Direct Selection tool can also select a whole filled object by clicking in the center of the object. You will use this tool to manipulate Bezier Handles, which we will when we talk about The Pen Tool.

### GROUP SELECTION TOOL

When your illustrations become very complex, you will often make groups of objects (We'll discuss this in class.) When five objects are grouped together and you select one of them with the Selection Tool, you will select all five. All five objects will move together as well. The Group Selection Tool will allow you to select a single object out of the group. You probably won't be using this Selection Tool much at this point.

### MARQUEE SELECTING

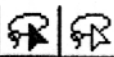
With any of the selection tools you can click and drag to make window or a marquee. When you let go, anything inside the marquee will be selected.

### SHIFT SELECTING

When you hold down SHIFT and use a selection tool you can select multiple objects, points or line segments when you click on them. If you have multiple items or points selected you can DESELECT one of them by holding down shift and clicking on it.

### LASSO SELECTING

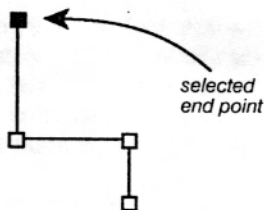
These tools allow you to select objects using non-rectangular marquees. So you can very precisely select groups of objects or points. There is a Selection and Direct Selection version.



## WHAT IS AN ANCHOR POINT?

Here's what Adobe says:

A path is made up of one or more straight or curved segments. The beginning and end of each segment is marked by anchor points, which work like pins holding wire in place. You change the shape of a path by editing its anchor points. You can control curves by dragging the direction points at the end of direction lines that appear at anchor points (we'll get into this later). A path is either open, like an arc, or closed, like a circle. For an open path, the starting and ending anchor points for the path are called endpoints.




This Path has four POINTS. A point that is selected (using the Direct Selection Tool) appears as a filled square. Unselected points appear as unfilled squares.

## THE PEN TOOLS


There are four Pen Tools in the Tool Palette. You will use all of them very often, so it is very helpful to know the key commands for them.


### The changing Pen Icon!


The pen tool is smart. It will change its appearance to give you hints while you work.

 The normal pen tool icon you see when you are drawing a path

 Continue a line

 Start a new path


 Click to close a path

 Add an Anchor point



 Delete an Anchor Point





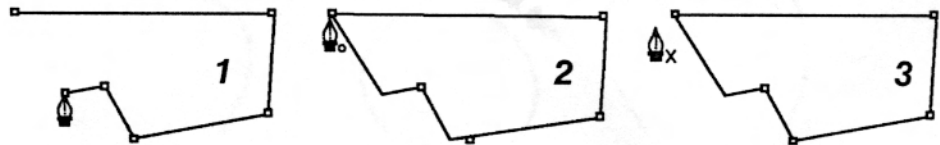
### The Pen Tool


This is to tool that you use to start a path or an object. As you already know, you can click with the Pen Tool to make points and Illustrator will connect the points automatically with a line. 

### Making Paths With The Pen Tool

What if I want to continue with the line above but it isn't selected? Select it, and then, using the Pen Tool, click on one of the end points. You'll know when it is right because the cursor will change from a regular pen icon  to a pen icon with a little slash: 

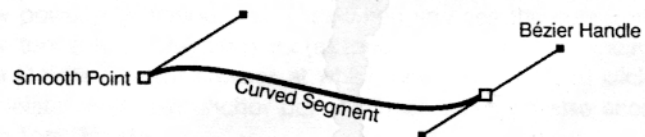
To close the path, click on the point you started the object off with. When your cursor is positioned correctly over the point that will close the path, the cursor will change to:  once your path is closed, your cursor will change to:  indicating that your next click will start a new path.



Clicking with the pen tool results in **Corner Points**. Notice that when you click with the Pen Tool and hold the cursor over the point you created, the cursor changes to:  This indicates that you have created a **Corner Point**.


## CURVES

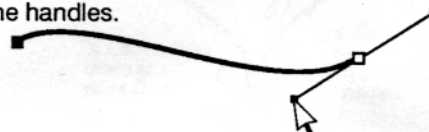
Illustrator's great strength is that it creates beautiful precise curves which will reproduce perfectly regardless of their size. The program does this mathematically, but fortunately there is no math involved for us. Instead you use **Smooth Points** and **Bézier Handles**. You probably created a few curves by accident when you were working on your last project. To create smooth points you **Click and Drag** with the Pen Tool.



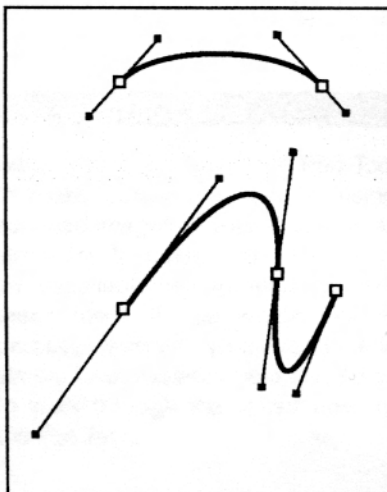
You'll notice when you click and drag with the Pen Tool, that it pulls out thin lines in two directions, these are the **Bézier Handles**. The length and angle of the Bézier handles determines the curve of your line segment. Look at the length and angles of the handles in two examples at left.

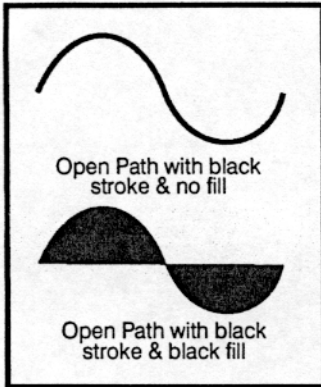
## ADJUSTING CURVES

Until you become comfortable using the Pen Tool, you will probably click and drag and make some crazy shapes. Fortunately you can modify your curves simply by adjusting the handles that you made. The Bézier Handles are not always visible. To see the handles, you need to click on the point with the **Direct Selection Tool** . Once the handles are visible you can adjust them by clicking and dragging the little dots at the ends of the handles.



Bézier Handles





### ADJUSTING CURVES (adjusting on the fly)

You can adjust the Bézier Handles midway through the creation of a path finessing the curves as you go. Temporarily select the **Direct Selection Tool** by pressing the **Command Key**, adjust you handles, release the command key to return to the pen tool and resume drawing your path.

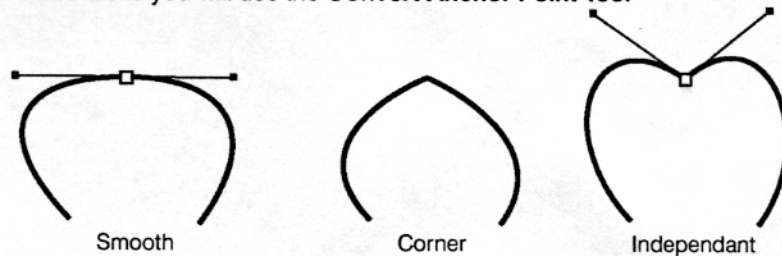
### OPEN & CLOSED

There is no rule about whether a path should be open or closed, it depends entirely on the art you are creating. A few things should be kept in mind however. Open paths should generally contain **strokes**, but not **fills**. See the example at left. Also, if you are finished with a path and want to move on to create a new path, hold down the **Command Key** to temporarily activate the **Selection Tool** and click away from your path on an empty part of your page. Release the Command Key to return to the Pen Tool and start your new path.



### CONVERTING YOUR POINTS

Often you will want to change your points from smooth points to corner points. Or to create a point with Bézier Handles that can be manipulated independently of each other. For these tasks you will use the **Convert Anchor Point Tool**



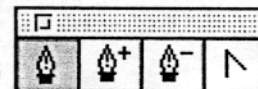
#### TOOL TIP

Hold down the option key while the pen tool is selected to temporarily access the Convert Tool.

#### TOOL TIP

You can create independant Bézier Handles as you draw by clicking with the Pen Tool and then pressing option while your mouse button is still pressed.

To convert a corner point to a smooth point just click with the **Convert Tool** on the corner point and drag. New Bézier handles will be created. To convert a smooth point to two independant handles, click and drag on one of the black dots at the end of a Bézier Handle with the **Convert Tool**



### THE REST OF THE TOOLS

The **Add Anchor Point Tool** and the **Delete Anchor Point Tool** actually appear all the time while you work With the Pen Tool. If you hold the pen tool over a segment of a selected path you will see the **Add Anchor Point Cursor**, this makes it very easy to quickly add new points to a shape. Just click when you see the cursor change. When you hold the pen tool over a selected point (as long as it is not an end point) your cursor will change to a **Delete Anchor Cursor** at which point you can just click. This allows you to quickly delete unwanted anchor points. These tools are also accessible in the pullout tab in the **Tool Palette**.

### PRACTICE!

When you begin using the Pen Tool to make curves, you will be using scanned images of your drawings as templates to guide you. Tracing is an excellent way to learn to use these tools. If you would like to practice without your scan, this simple heart exercise is a good way to work through the varied uses of the Pen Tool.

