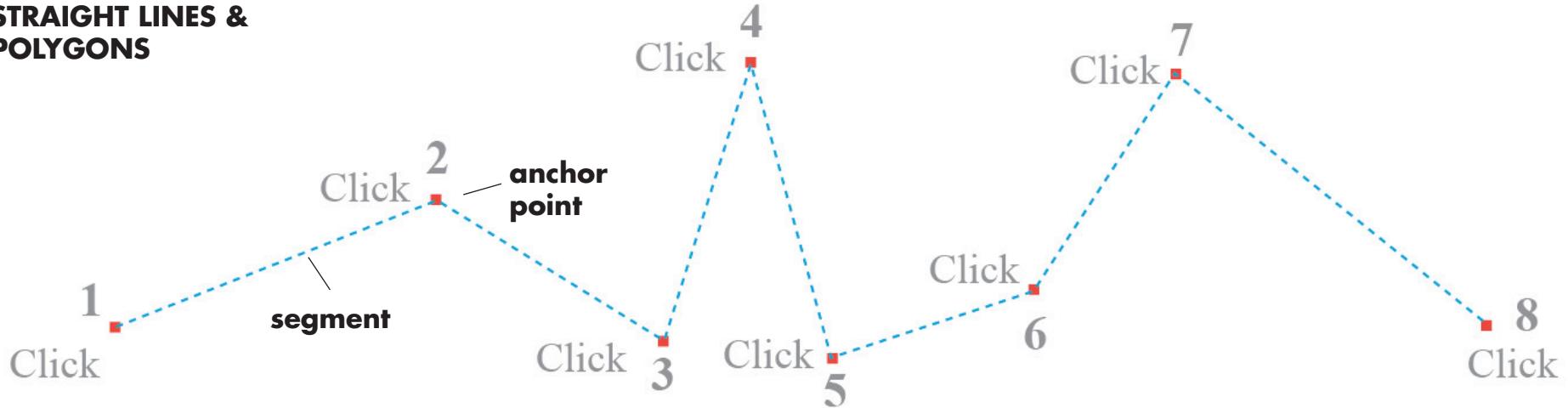


STRAIGHT LINES & POLYGONS



The Pen Tool

What to say about the pen tool? Way cool...about the coolest tool to come along since we started using computers as an illustration tool. Here are some of the reasons I think it's important to begin your love affair with the pen tool now.

1. The Pen Tool uses Bezier curves to create paths that give a visual representation of precise mathematical positions by communicating to the output device in the postscript programming language. *I.E. the Pen Tool makes smooth, clean lines no matter how big the artwork is printed.*

2. The Pen Tool works in *Illustrator, Photoshop and InDesign!*

By virtue of the above two Pen Tool attributes, users get the functionality and the precision of postscript in Photoshop, which is a raster imaging program. One way to take advantage of postscript in Photoshop is to use it in order to make a precise selection.

Begin your love affair with the Pen Tool

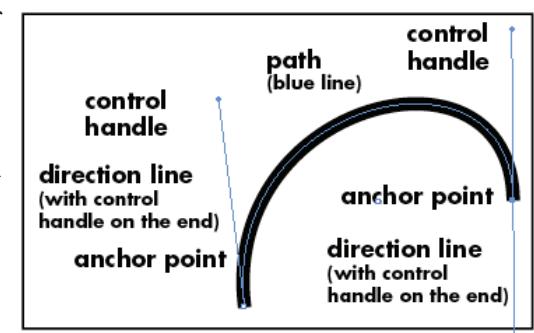
Get to know the pen tool gradually by getting straight to the point. The Pen Tool is honest. Everything about its appearance is a clue to its behavior. It's

up to the user to read the Pen Tool's signals to have an understanding of why it behaves in the particular way it does, and why it is different from the paint brush or pencil in Adobe Photoshop.

The Pen Tool is used to create paths, which can be open or closed, filled or not, and stroked, or not. Paths can contain multiple segments and segments can be straight lines or curved lines.

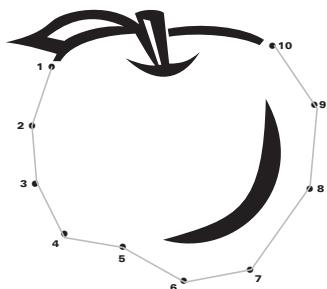
The blue (or other color) line you see that runs along the path is a **non-printing aid**. Along the path are important symbols called **anchor points** and

control handles that symbolize the code telling the output device exactly where to print those straight lines and luscious curves at the heart of the Illustrator program—**Bézier Curves**, to be precise. The curves, named for their creator, Pierre Bézier, are a mathematical, as opposed to an artist's approach, to creating curves.



The illustration at the top of the page provides the method for creating a path with straight line segments. You've probably heard the expression, "The shortest path between two points is a straight line." With Adobe

Illustrator it's the same. Creating straight lines and multiple straight line segments is about as basic as Illustrator gets.



The Pen Tool - Back to the Basics

Remember Dot to Dots? To create a straight line, click and release the pen tool where you

want the line to begin. Move the cursor to the point on the screen where you want the line to end and click and release to set the second and last anchor point. In order for the computer to "know" that it is the last anchor point in the path, click the pen tool to indicate you are done.

If you prefer to continue using the pen tool for straight lines (or Bézier curves), you can press the command key and click in the image area, or the pen tool again. Command click is the computer's signal that you have completed a path and are ready to begin a new path using the pen tool.

Click and release to begin the path and move the mouse to each subsequent anchor point to click and release, adding a straight line segment each corner point.

Notice the little upside down "v"? That's a clue that you're creating neither the first, nor the last anchor point along a path.

To close a path, whether it's a polygon or other closed shape, click and release over the starting anchor point. You'll know it's the right one when you see the hollow circle —'o.'

Curves

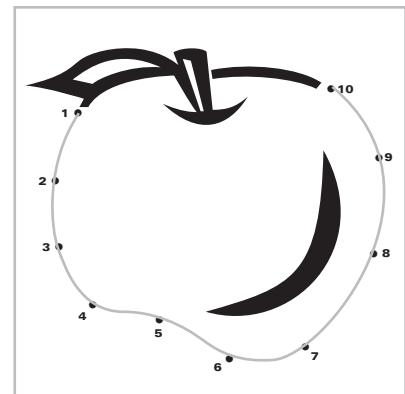
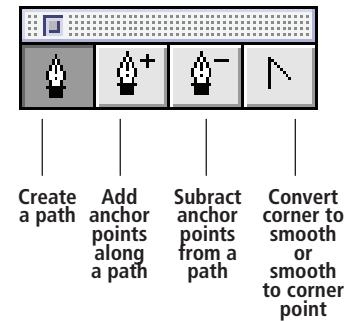
I've always thought that Bézier curves behaved a bit like strings on a marionette. The control handle works like the control handles on the marionette. Pulling and stretching the end of the control handle forces the curve to bend and stretch as if there were a string tied from the control handle to the curve.

But the string isn't tied just anywhere on the curve...it's tied to the shortest distance between it and the curve, and that point is determined by drawing an invisible plane that touches but does not intersect the curve.

The best way to understand how to create elegant Bézier curves is to spend lots of time practicing them. You didn't learn to handwrite overnight, so don't expect to be able to master Bézier curves in one or two lessons, but you should be able to complete the three exercises that follow, and use the techniques you learn to work on your selections on the "Fancy Lady" and Joe/Lou exercises in Photoshop.



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Use the pen's editing features to create smooth curves.

tangent - a line or plane that touches but does not intersect a curve or surface at a point so that it is closer to the curve or surface in the vicinity of the point than any other line or plane drawn through the point.

