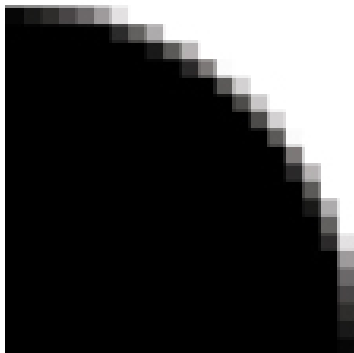# 1. RASTER VS. VECTOR

Before starting to learn Adobe Illustrator, it's important to know the main differences between raster files (predominantly used in Photoshop) and vector files (predominantly used in Illustrator).

	RASTER	VECTOR
File structure	- uses pixels (dots) - dots per inch (dpi) or pixels per inch (ppi) *close-up of raster circle*	- vector (geometry - uses point -tp-point shapes) - paths and Bezier curves *close-up of vector circle*
Advantages	- shading/gradients - texture - photographic detail	- precision - no size limitation - faster processing
Disadvantages	- size limitation (resolution restrictions) - less precision - slower processing in larger sizes.	- limiting shading/gradient - less detail (graphic, not photographic)

Illustrator Handout #1

Raster vs. Vector
Interface
Pen Tool
Selection Tools

2. THE INTERFACE: A BRIEF ORIENTATION

1. Menu Bar : *File, Edit, Object, Type, Select, Effect, View, Window, and Help.*
   Navigate the wealth of options through drop down menus.
2. Toolbox: The tools of Illustrator craft. Tools for selection, typing, drawing, shape
   creation, etc. (Image Below)
3. Control Panel: Sits below the Menu Bar. Allows you to modify a selected object.
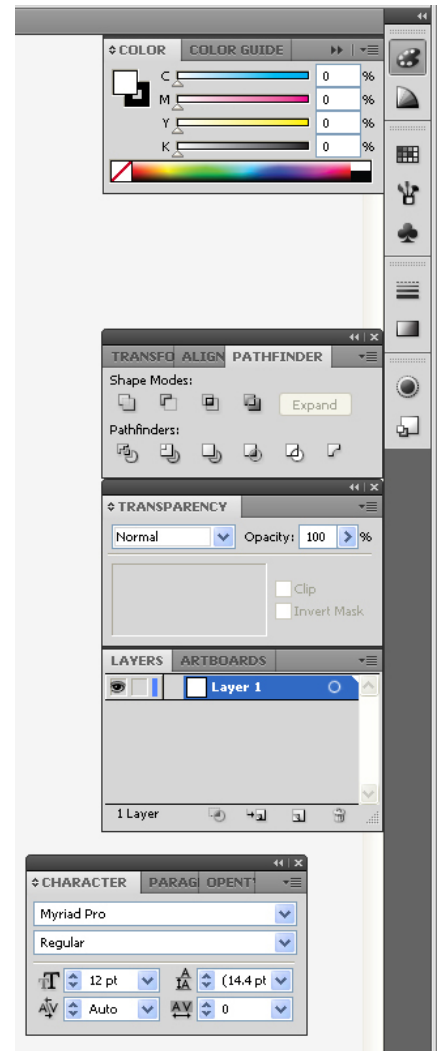4. Document Window: Opened files.
5. Palettes: Palettes keep information, tools and options visible and at the
   ready while you are working on a file. Highly adjustable. They can
   be docked in the Palette Well, far right. (See Below)
6. Floating Palettes: Palettes can be pulled out of the Well and maneuvered for
   convenience.
7. Workspace. In the menu bar, click Window > Workspace to see a drop down menu full
   of options for laying out your workspace according your comfort or the nature of
   the project. Select a few to see the potential changes. Reset by clicking Window >
   Workspace > Essentials. This will take you back to the default setting.
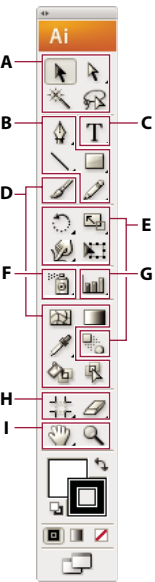
(left) Toolbar

(right) Palettes

When you open Illustrator, the palettes
menu has the palettes hidden or reduced.
Symbols represent the different options,
and can be clicked to expand, and clicked
a second time to return the palette to it's
hidden position.

There are many more palette
options to be explored. Click Window in
the Menu Bar to see the full list.

Note: *Hovering the mouse over the symbols
will display the name of the hidden palette it
represents. (This will work with the Toolbar
as well as in other areas. Hover your mouse
over unknown tools to learn more informa-
tion.)*

You can expand some tools to show hidden tools beneath them. A small triangle at the lower-right corner of the tool icon signals the presence of hidden tools. To see the name of a tool, position the pointer over it.

Tools panel overview

Ⓐ Selection tools
- ▪ Selection (V)
- ▪ Direct Selection (A)
  - Group Selection
- ▪ Magic Wand (Y)
- ▪ Lasso (Q)

Ⓑ Drawing tools
- ▪ Pen (P)
  - Add Anchor Point (+)
  - Delete Anchor (-) Point
  - Convert Anchor Point
- ▪ Line Segment (\)
  - Arc
  - Spiral
  - Rectangular Grid
  - Polar Grid
- ▪ Rectangle (M)
  - Rounded Rectangle
  - Ellipse (L)
  - Polygon
  - Star
  - Flare
- ▪ Pencil (N)
  - Smooth
  - Path Eraser

Ⓒ Type tools
- ▪ Type (T)
  - Area Type
  - Type On a Path
  - Vertical Type
  - Vertical Area Type
  - Vertical Type On a Path

Ⓓ Painting tools
- ▪ Paintbrush (B)
- ▪ Mesh (U)
- ▪ Gradient (G)
- ▪ Eyedropper (I)
  - Measure
- ▪ Live Paint Bucket (K)
- ▪ Live Paint Selection (Shift+L)

Ⓔ Reshaping tools
- ▪ Rotate (R)
  - Reflect (O)
- ▪ Scale (S)
  - Shear
  - Reshape
- ▪ Warp (Shift-R)
  - Twirl
  - Pucker
  - Bloat
  - Scallop
  - Crystallize
  - Wrinkle
- ▪ Free Transform (E)
- ▪ Blend (W)

Ⓕ Symbol tools
- ▪ Symbol Sprayer (Shift +S)
  - Symbol Shifter
  - Symbol Scruncher
  - Symbol Sizer
  - Symbol Spinner
  - Symbol Stainer
  - Symbol Screener
  - Symbol Styler

Ⓖ Graph tools
- ▪ Column Graph (J)
  - Stacked Column Graph
  - Bar Graph
  - Stacked Bar Graph
  - Line Graph
  - Area Graph
  - Scatter Graph
  - Pie Graph
  - Radar Graph

Ⓗ Slicing and cutting tools
- ▪ Crop Area (Shift +O)
  - Slice (Shift+K)
  - Slice Select
- ▪ Eraser (Shift +E)
  - Scissors (C)
  - Knife

Ⓘ Moving and zooming tools
- ▪ Hand (H)
  - Page
- ▪ Zoom (Z)

▪ Indicates default tool   * Keyboard shortcuts appear in parenthesis

View hidden tools
❖ Hold down the mouse button on the visible tool.

View tool options
❖ Double-click a tool.
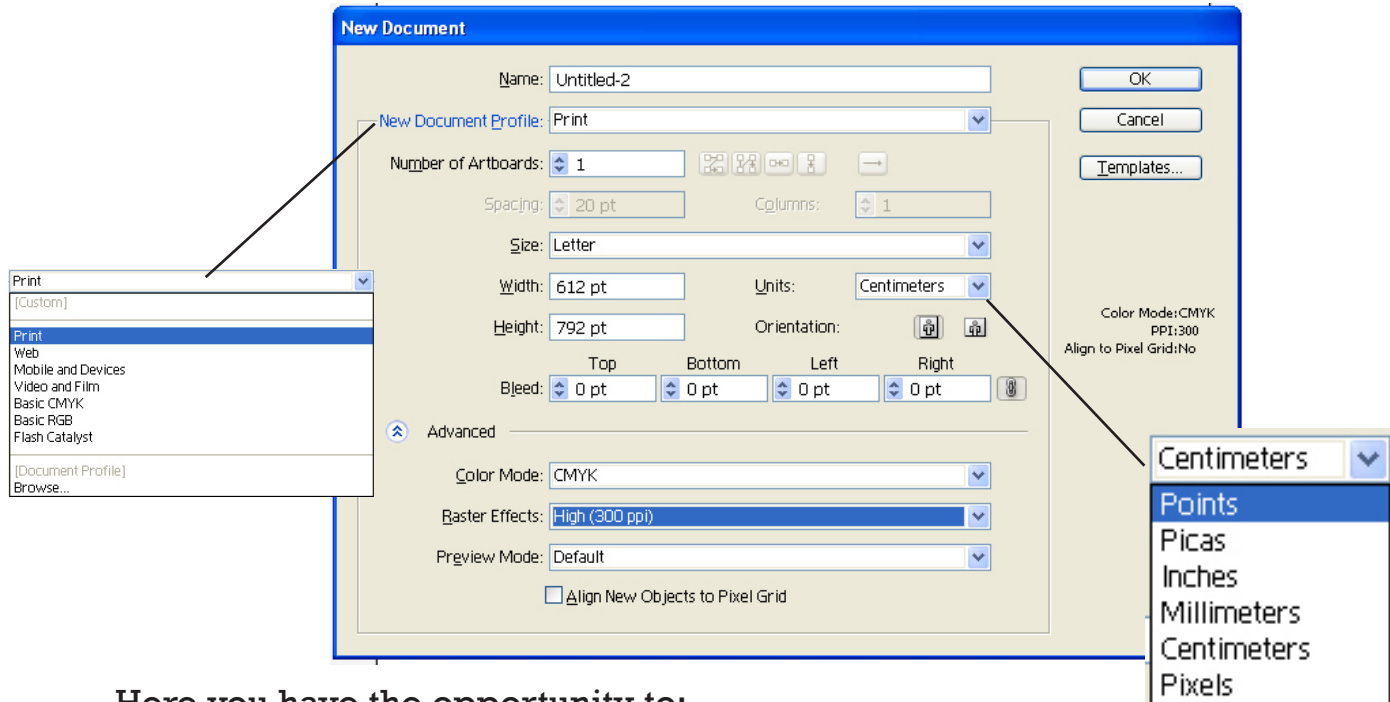
Move the Tools panel
❖ Drag its title bar or the Illustrator icon.

3. NEW DOCUMENT, ZOOM TOOL AND HAND TOOL

In Adobe Illustrator, the user can precisely determine the size and the colour format of a document. It is important to decide on the destination of your design (web, print, etc) when you are selecting these options.

To open a new document:
1. Go to File menu (top menu bar)
2. Select New (Quick Key: Ctrl N)
3. Select format of the document (see below)

Here you have the opportunity to:

1. **Name** your file (you can also do so later when you save it).
2. Select a **New Document Profile** - what will this document be used for?
3. Open one or multiple new **Artboards** at once. (Artboard=printable area of a window)
4. Select the document **Size** via drop down menu, OR
5. By entering values for **Width** and **Height**...
6. Select the **Unit** of Measure of your choice (more on this below)
7. Add **Bleed** to your document (More on Bleed below)
8. Set your **Colour Mode** (RGB for Web, CMYK for Print)
9. Setting **Raster Effects** changes the resolution of Raster images within your document. (300ppi for print, 72ppi for Web)

Width/Height Measures:

pixels: Stands for "picture element" - smallest measure of a digital image (Best for Web).
inches, cm, mm: Best settings for Print projects.
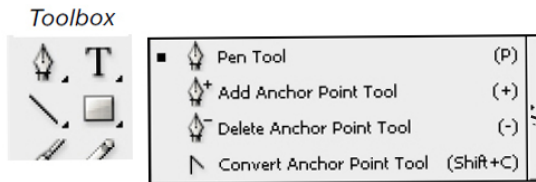**points:** A unit of measure in typography. Measures 1/72 of an inch. 72 point type is 1 inch high.
picas: A pica is 12 points.

Bleed:

"Full Bleed" means a document is printed to the very edge of the page with no white border. Setting bleed on a file allows you an additional margin around your document for colour, images and design elements to run over. This way, regardless of printing and trimming error, you can ensure that there is no white space between your design and the edge of the page.
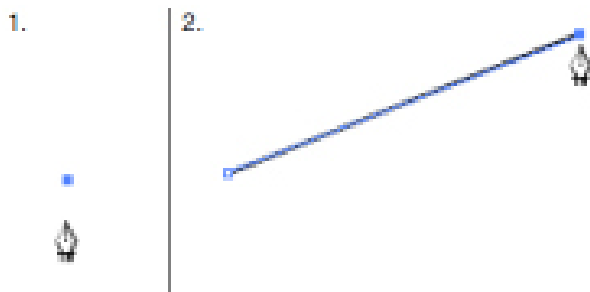
4. PEN TOOL

The pen tool is the drawing instrument in Illustrator. It uses anchor point and Bézier curves to create graphics.
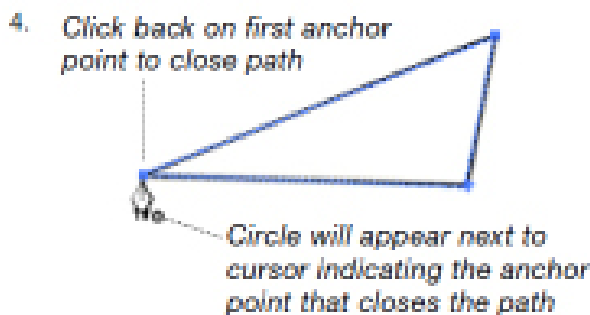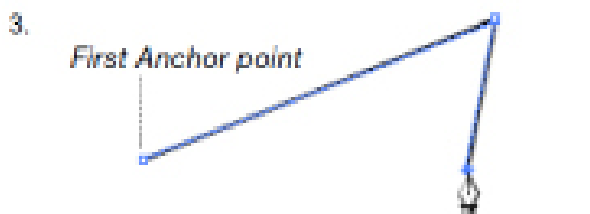
Toolbox

Pen Tool	(P)
Add Anchor Point Tool	(+)
Delete Anchor Point Tool	(-)
Convert Anchor Point Tool	(Shift+C)

• Click, hold and move to the right on Pen tool button to select between pen options.
• Select small arrow on the far right to release pen toolbox.

Pen tool
• Click on page to create an anchor point.
• Click on another location to create line.

1.

2.

To create a shape, three or more anchor point are necessary. Also, the path needs to "close", see below:

3.

First Anchor point

4. Click back on first anchor point to close path

Circle will appear next to cursor indicating the anchor point that closes the path
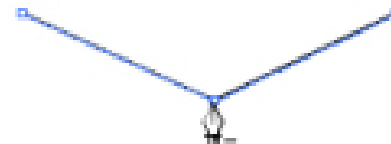
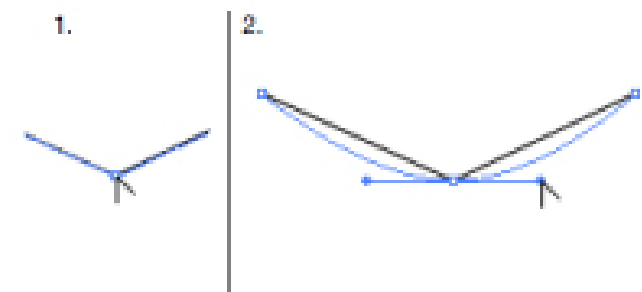## Add Anchor Point tool
• Click on line to add anchor point.

Delete Anchor Point tool
• Click on anchor point to delete.

Convert Anchor Point tool
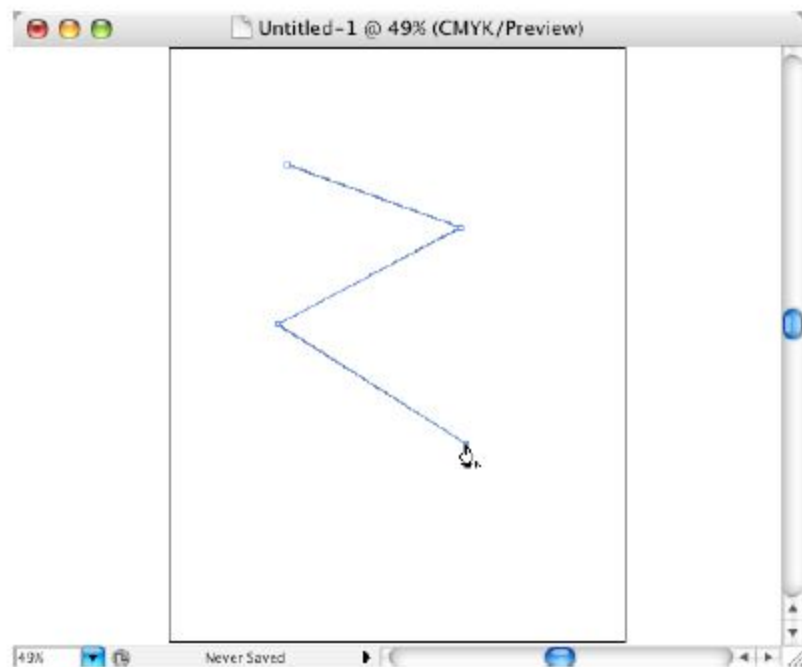• Click on anchor point and drag to create curve.

1.

2.

The Pen Tool

The heart of the Illustrator application is the Pen tool. All good computer artists should master it. Many find that a mouse is cumbersome to draw with, so they opt for a Stylus, such as a Wacom tablet. Once you let go of your natural instinct, when it comes to drawing, and accept the logic of Illustrator's pen tool, it gets much easier.
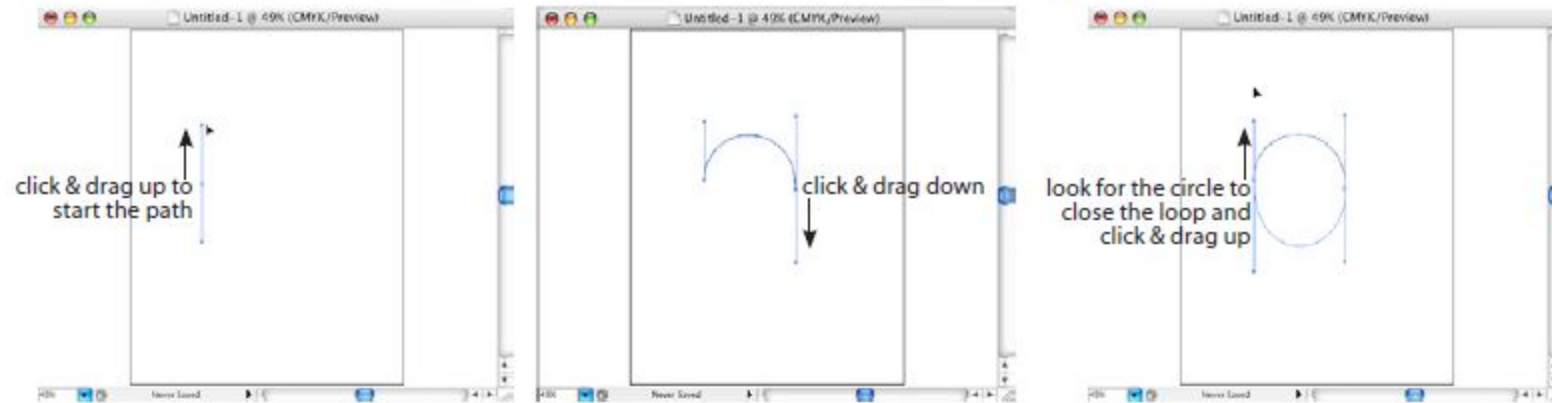
Straight Lines

When you do **quick clicks** with the Pen tool, from point to point, Illustrator plays **connect the dots**. You are telling the application to create lines. If you click and drag, you are instructing Illustrator to create a curve.

Curves

If you click and hold the mouse down while dragging to start a path, then let go and move away and click & hold again, you are telling Illustrator to create a curve. The perfect example is an egg shape.

click & drag up to start the path

click & drag down

look for the circle to close the loop and click & drag up

Pen States

Illustrator's cursor will indicate what mode the pen tool is in. Here are some helpful icons:

Start a **New Path** or shape

Close a path or shape

Convert Anchor Point *(changes a curve to a corner or a corner to a curve)*

Continue a Path or shape that has not been closed

Add an Anchor Point

Delete an Anchor Point

Pen Tips

Option or *Alt* will convert direction while drawing.

Command or *Ctrl* will switch to the **Select** arrow or **Direct Select** arrow *(which ever one you were on before you started drawing the shape)*.

5. SELECTION TOOL AND DIRECT SELECTION TOOL

Selection tool is used to select, and move objects.
Direct Selection tool is used to select and move anchor points and lines and also it's used to adjust Bézier curves (page 6).

Toolbox

Selection tool

Direct Selection tool

Selection Tool (Quick Key: V)

• Click on object to select. Click holding shift key to select more than one object.
• Click and drag to make a selection area and select one or more objects.
• To deselect, click on empty space on page.
• Press Backspace/delete key to erase object selected.

Bounding box will appear when object is selected

Selection area (Selection tool)

Direct Selection tool (Quick Key: A)

• When the Direct Selection cursor is over an anchor point a white square will appear on its bottom right. The same square will appear black when the cursor is over a line.
• Click on an anchor point or a line to select. Click holding shift key to select more than one.
• Click and drag to mark a Selection Area - everything within the Area will be selected.
• Anchor points will highlight when selected.
• To diselect, click on empty space on page.

Note: To multiply your line or shape hold down ALT as you click into the shape - Hold and drag your duplicate shape away and place it by releasing the mouse.

Cursor over an anchor point

Cursor over a line

Direct Selecting point

Selection area (Direct Selection tool)

① ②

1. Anchor point selected
2. Anchor point diselected

Line selected