

RASTER VS. VECTOR GRAPHICS



Characteristics of **RASTER** graphics

- ✦ Made up of **PIXELS** (small squares of color).
- ✦ Also known as **Bitmap** graphics.
- ✦ Resolution Dependent - raster graphics have **jagged** edges.
- ✦ Raster graphics can look **blurry, jagged, and “pixelated”** when **enlarged**.
- ✦ Common raster file types:
 - ✦ **jpeg** (Joint Photographic Experts Group)
 - ✦ **bmp** (Bit-Map graphics)
 - ✦ **gif** (Graphics Interchange Format)
 - ✦ **psd** (Photoshop Document)

Characteristics of VECTOR graphics

- ✦ Vector graphics use **mathematical formulas** which define **geometrical shapes like** lines, curves, objects, arcs, etc.
- ✦ Vector graphics are **not** made of pixels.
- ✦ Vector graphics have **smooth** edges.
- ✦ Resolution Independent- Vector graphics **retain** their clean, smooth edges when **enlarged** as they are **scalable**.
- ✦ Common vector file types –
 - ✦ **eps (Encapsulated Post Script),**
 - ✦ **ai (Adobe Illustrator)**
 - ✦ **swf (Shockwave Flash – Small Web Format)**

Recap: Raster vs. Vector

RASTER GRAPHICS

- ✦ **Pixels**
- ✦ Quality dependent
- ✦ **Jagged edges**
- ✦ Blurry, jagged, and “pixelated” when enlarged
- ✦ .psd, .jpg, .bmp, .gif

VECTOR GRAPHICS

- **Mathematical formulas**
- Quality Independent
- **Smooth edges**
- Clean and smooth when enlarged
- .ai, .swf, .eps,

Letter a represented as a Vector graphic

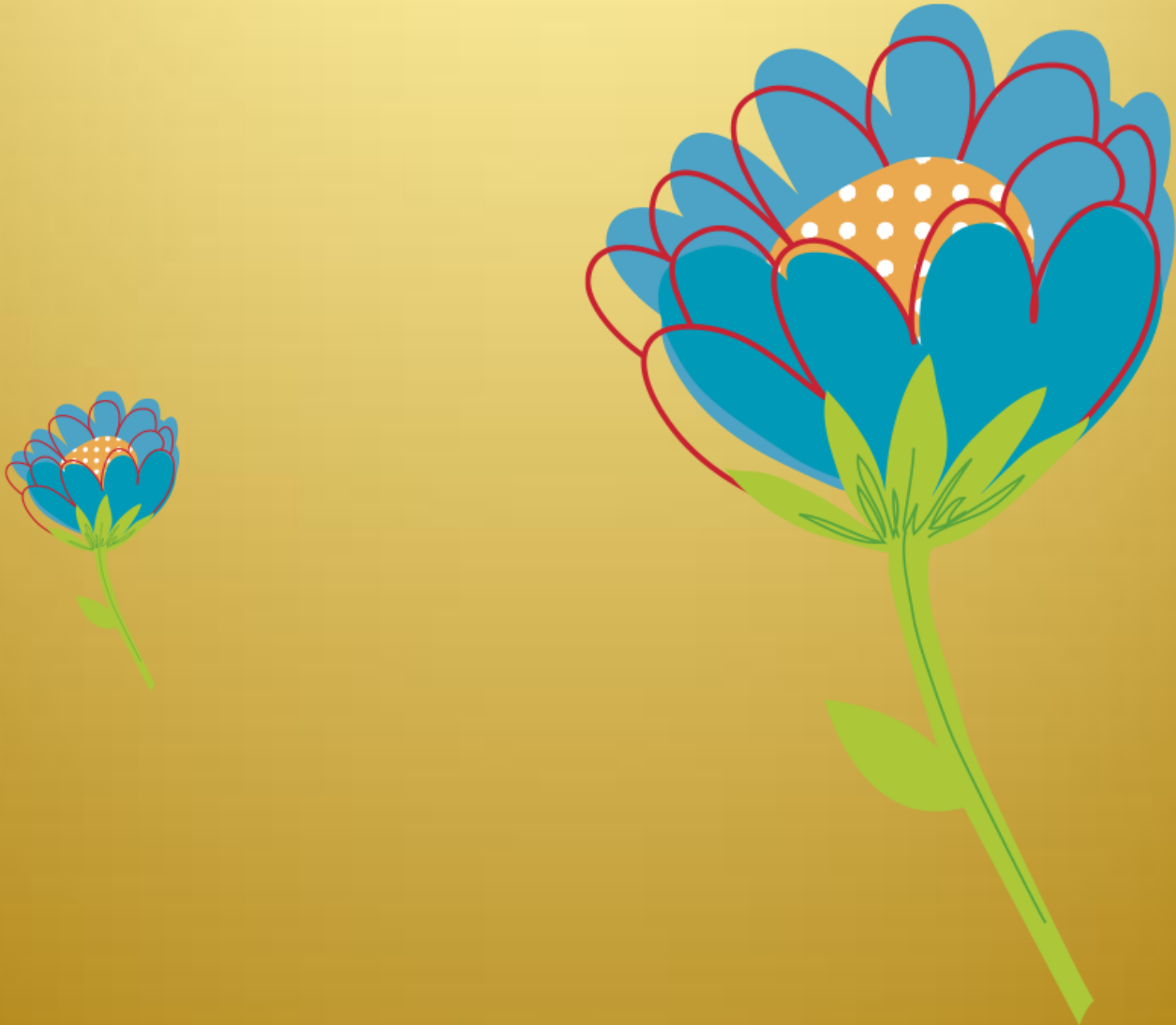
A solid black lowercase letter 'a' in a serif font, shown as a simple graphic without any internal structure or editing handles.

Myriad Pro True Type font shown in the
example

Raster image enlarged



Vector artwork enlarged



Introduction to ADOBE ILLUSTRATOR

Q. WHAT IS ILLUSTRATOR USED FOR?

- ✦ Illustrations, logos, drawings, billboard artwork, banners, text, etc.

Q. WHAT IS THE NATIVE FILE FORMAT FOR ILLUSTRATOR?

- ✦ .ai (Adobe Illustrator)

Q. WHAT TYPE OF GRAPHICS ARE CREATED IN ILLUSTRATOR?

✦ Vector graphics

Q. CAN ILLUSTRATOR GRAPHICS BE ENLARGED WITHOUT LOOKING BLURRY?

✦ *Yes!* Since they are vector graphics they retain their smooth lines even when enlarged

ALWAYS CHANGE YOUR GENERAL UNITS FROM *POINTS* TO *INCHES* WHEN STARTING AN ILLUSTRATOR PROJECT:

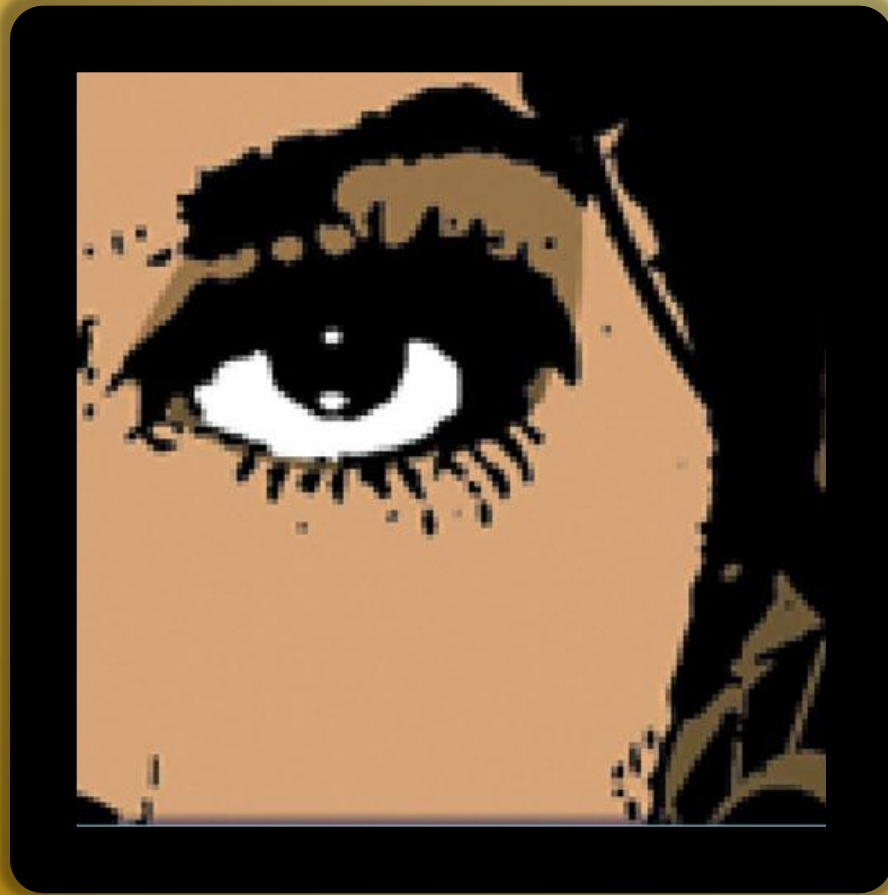
1. **Illustrator menu -> Preferences -> Units**
2. **Change General Units to Inches**
3. **Leave the other ones in Points**

Q. What is the preferred file format for printing Illustrator files?

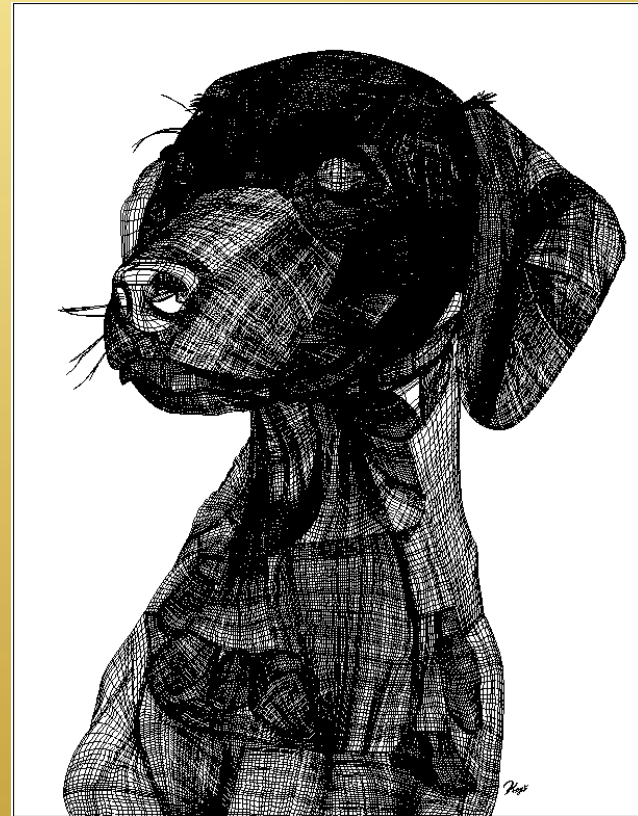
✦ pdf (portable document format)

✦ You can go to File->Save As->pdf

Raster or Vector?

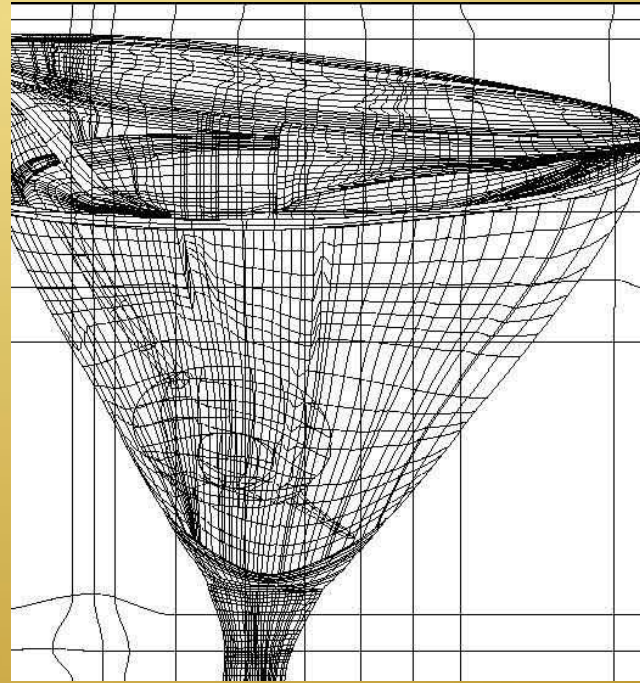


Raster or Vector?



VECTOR

Raster or Vector?



VECTOR