

# **INTRODUCTION TO COMPUTER GRAPHICS**

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Vector graphics

# VECTOR *or* RASTER IMAGES

In design, there are basically two methods of creating imagery



- Vector

*Logos, symbols,  
graphic illustrations*

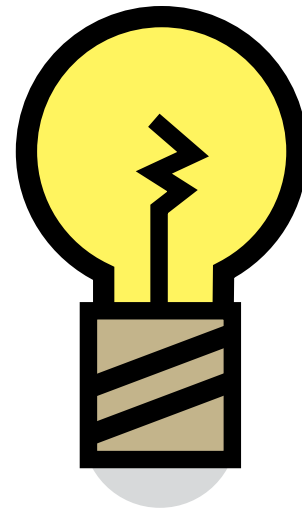


- Raster

*image collage, photo  
retouching, and image  
manipulation*



- Shape (or area) based images vs “sketching”
- Resolution **I**ndependent can be enlarged without loss of quality
- Relatively small file sizes  
file size depends on image complexity and use of “effects”



*Generally you create images from scratch, rather than manipulate existing images.*

## Vector

**.ai** (native format)

**.eps** (to place in pagelayout apps)

**.fxg** (place into Flex, Catalyst)

## *Other*

**.pdf** (to distribute for viewing/print)

FOR ON SCREEN

**RGB**

FOR PRINT

**PANTONE** - SPOT COLOR

**CYMK** - PROCESS COLOR

Vector Graphic image approach might be chosen for:

Style — “Graphic Look”  
(primarily a hard edge look)

Budget  
(limited color)

Appropriateness  
(logo, identity)

Scaleability  
(small to large)

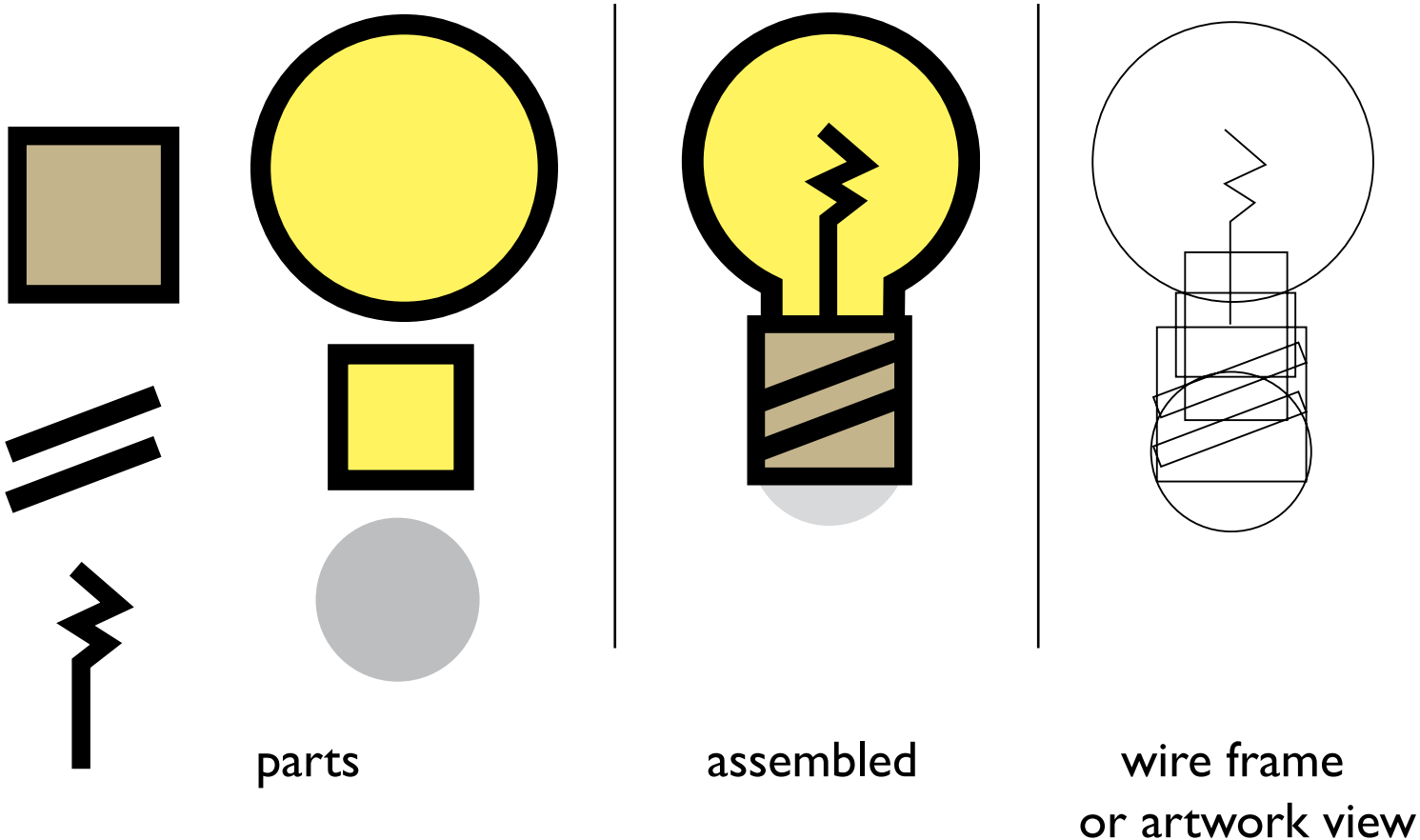
Three basic methods:

1. “Constructed” out of basic or simple *geometric shapes* each with a *fill & stroke*
2. “Constructed” out of more *complex organic shapes* drawn with the Pen Tool
3. Created out of “areas” using geometric shapes and/or drawn with Pen Tool and filled using *Live Paint*

*plus enhancements to all of these using blends, gradients, pathfinders, brushes, effects, etc.*

# CREATING VECTOR GRAPHICS

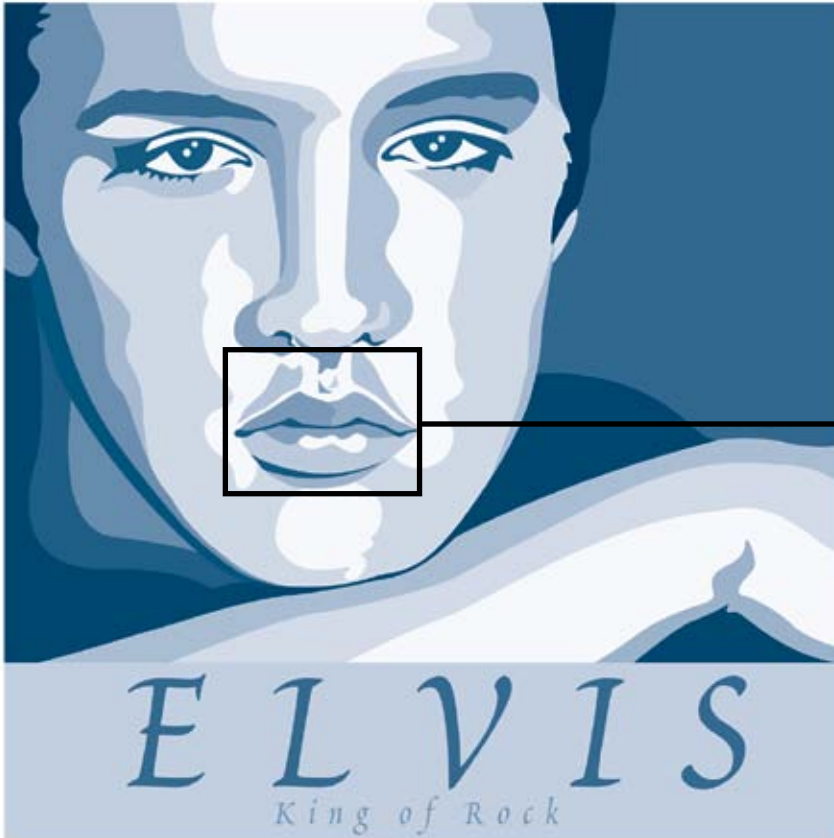
“Constructed” out of basic or simple geometric shapes each with a *fill & stroke*



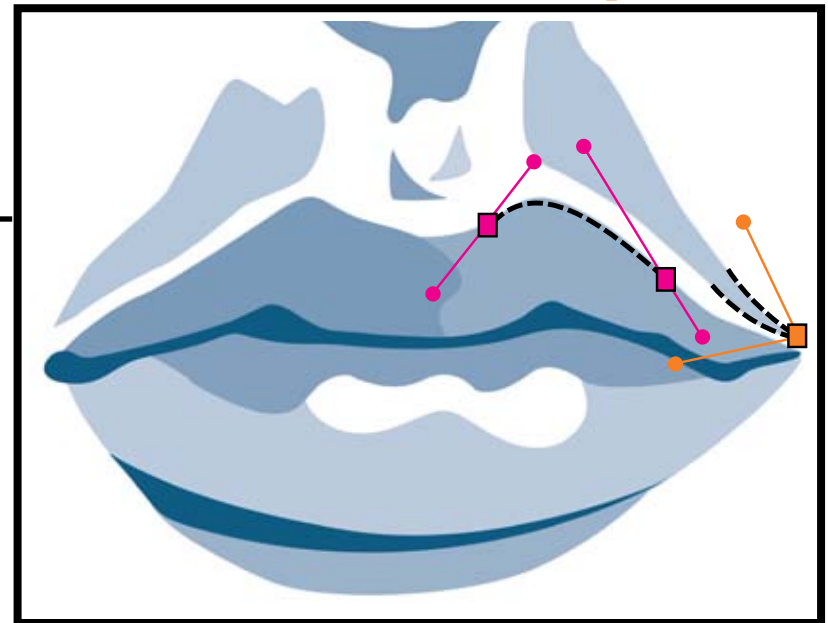


# CREATING VECTOR GRAPHICS

“Constructed” out of more *complex organic shapes* drawn with the Pen Tool



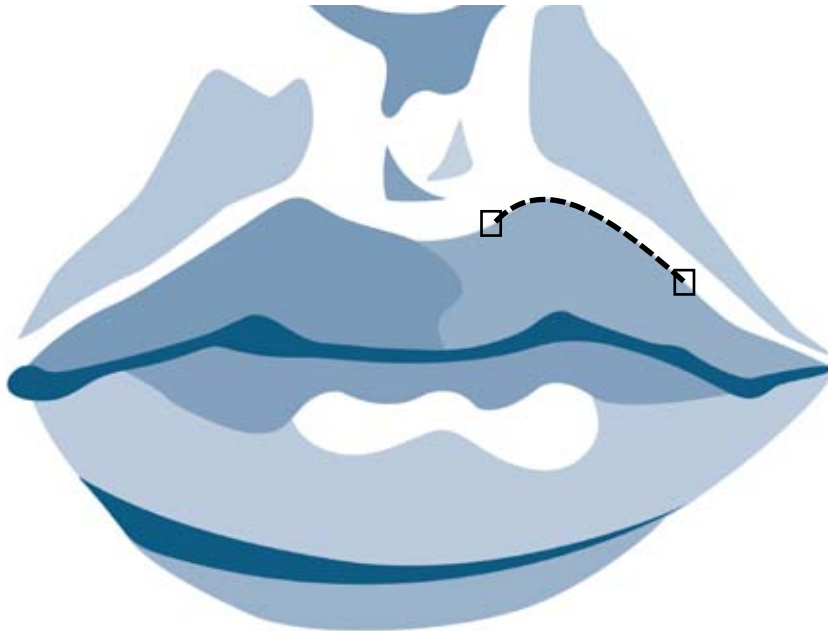
**Smooth points**  
**Corner points**



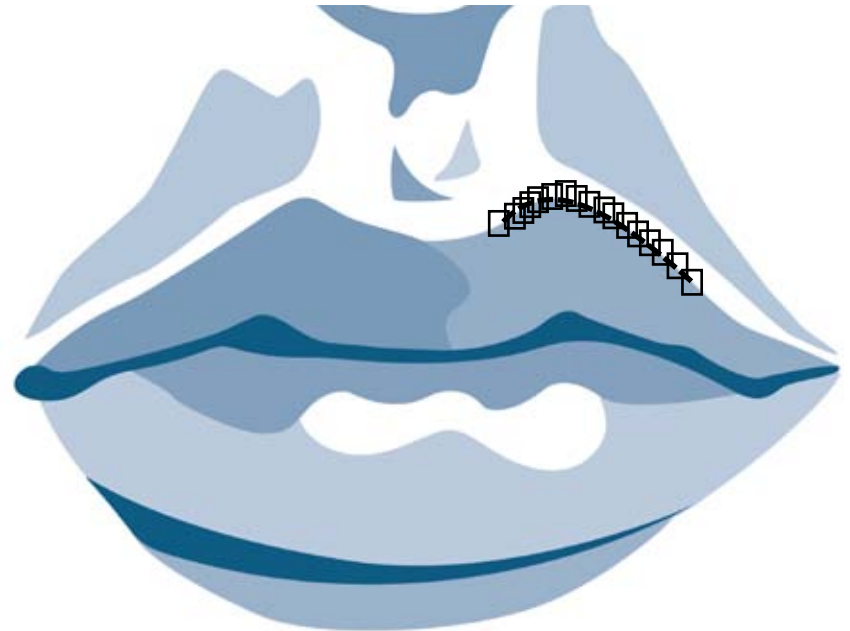
## Forming Points — Smooth points

Smooth arcs - use fewer points,

“Bump” rule - place points on either side of a “bump”

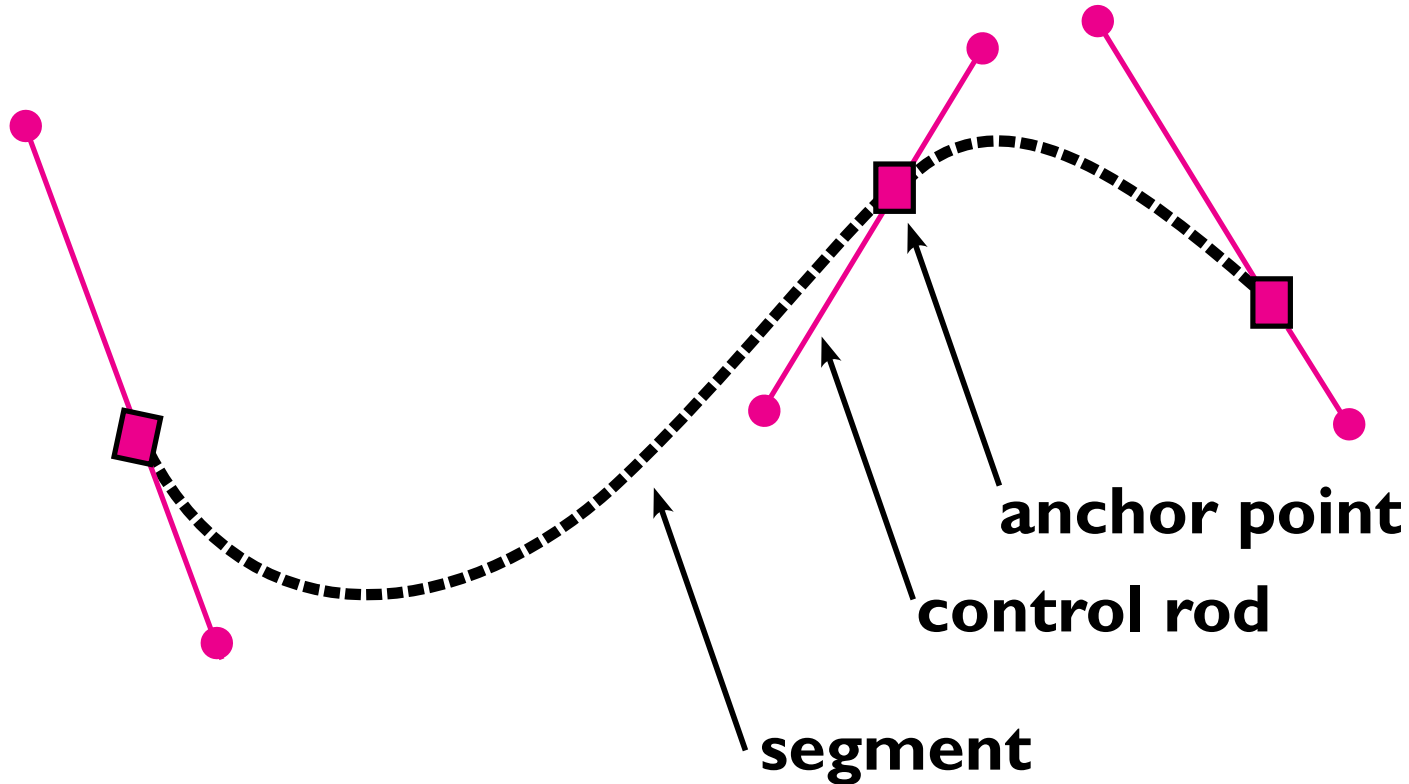


YES



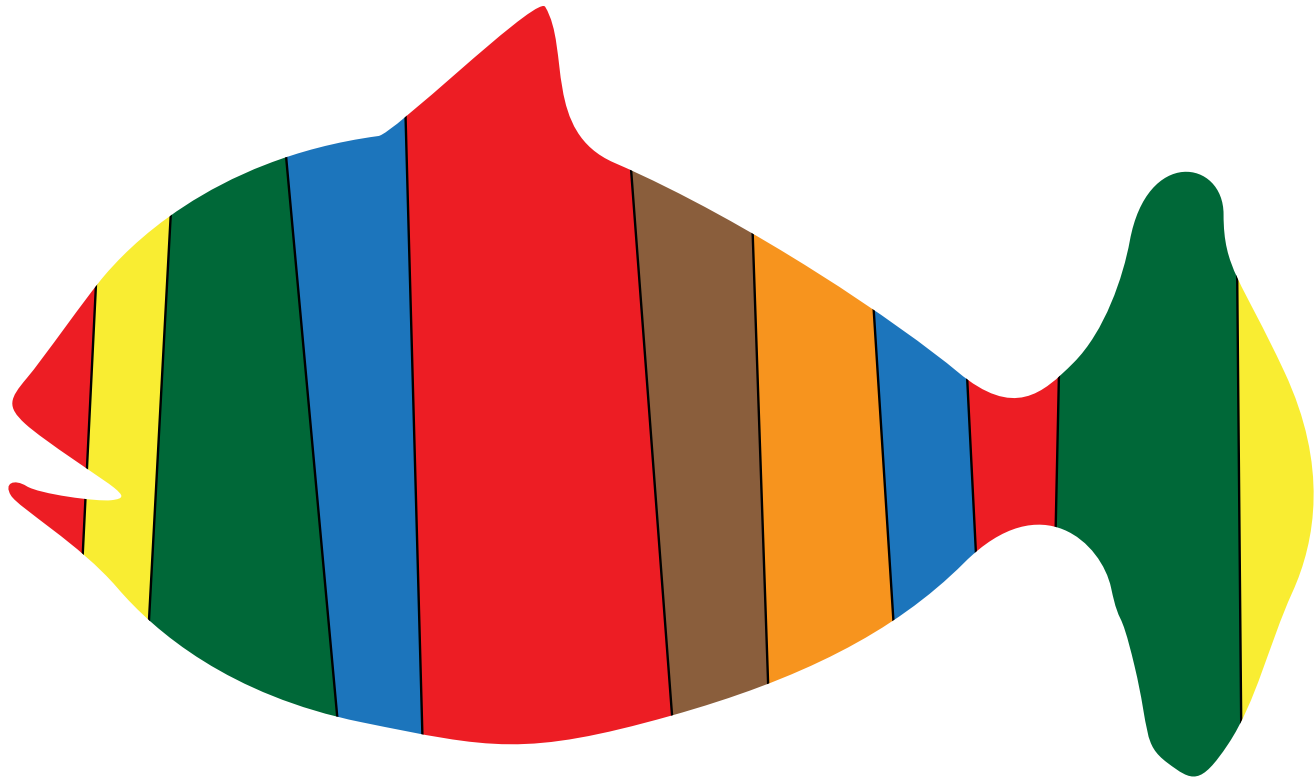
NO

## Bezier Curves



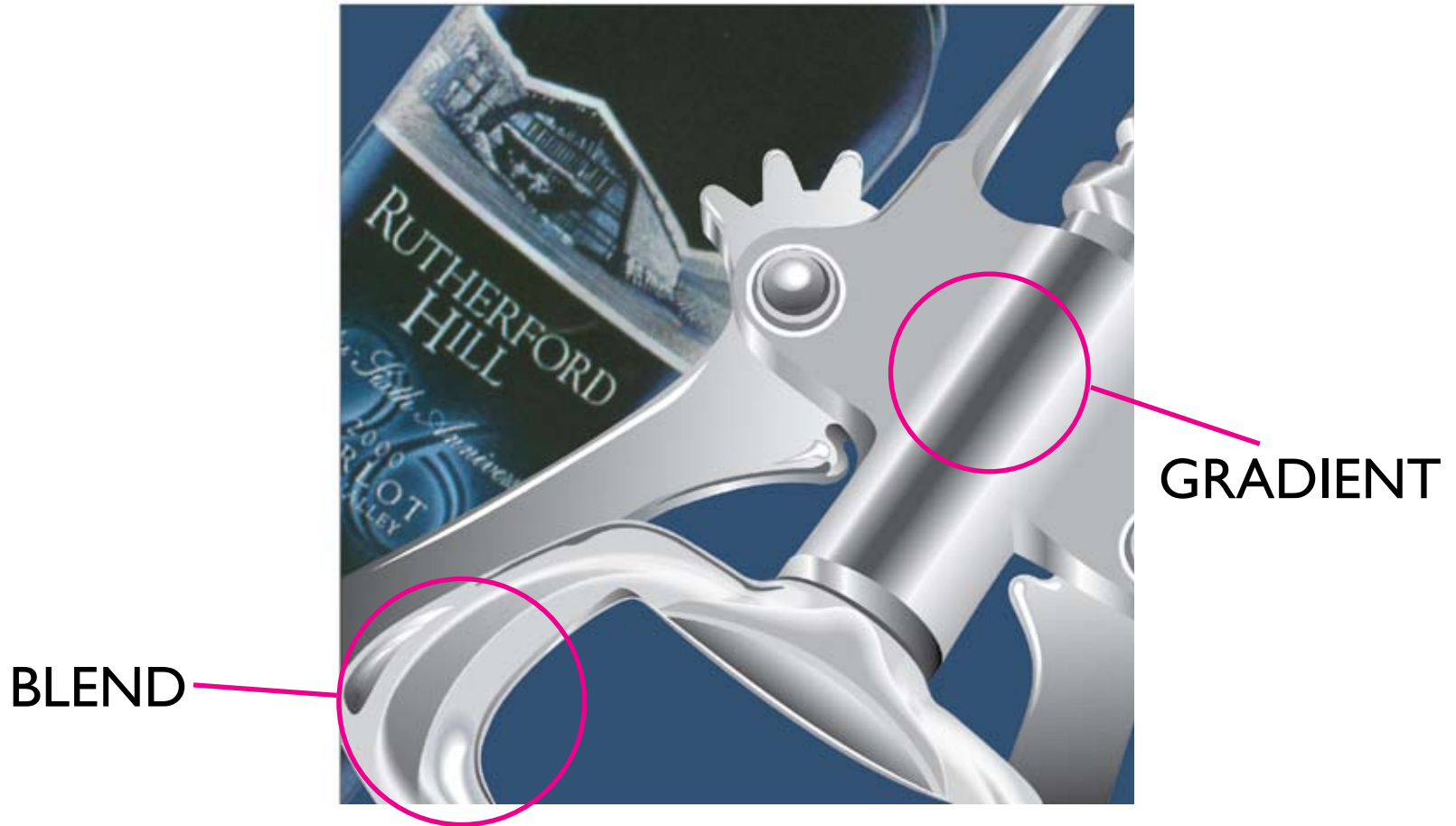
# CREATING VECTOR GRAPHICS

Created out of “areas” using geometric shapes and/or drawn with Pen Tool and filled using *Live Paint*



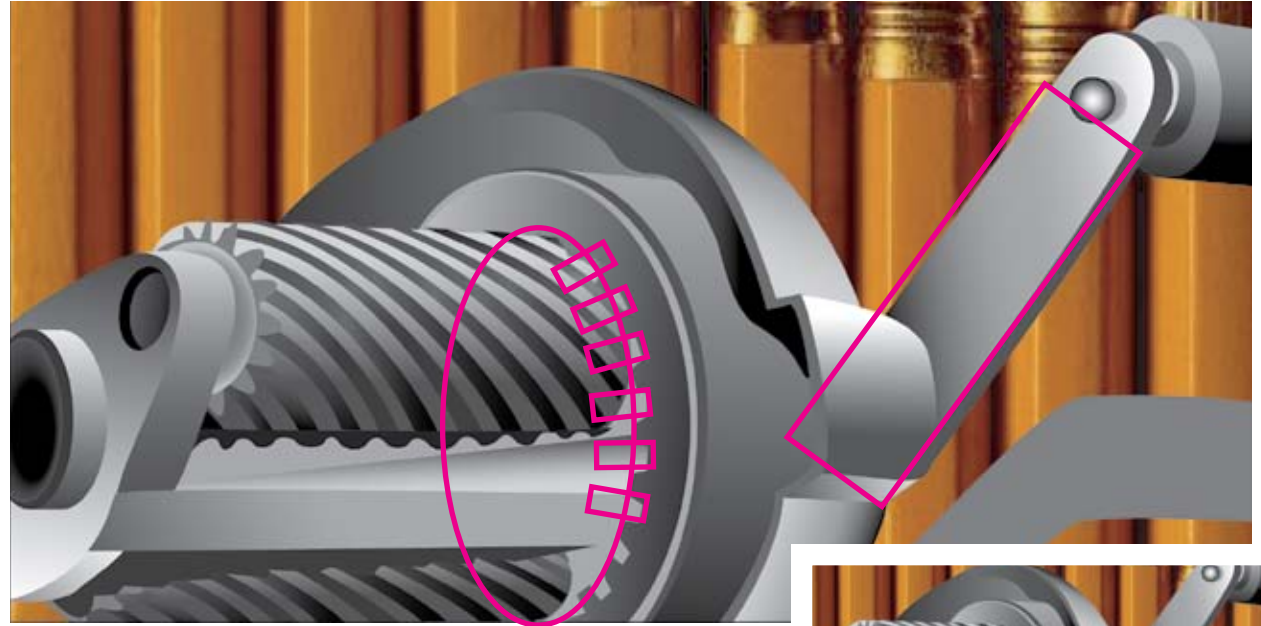
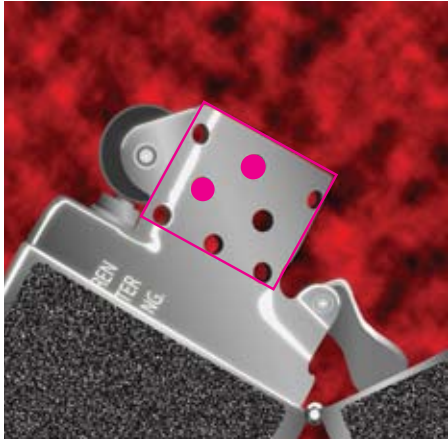
# CREATING VECTOR GRAPHICS

Gradients and Blends for shading and highlights



# CREATING VECTOR GRAPHICS

Pathfinders to create complex objects or cut holes



Brushes to create painterly images

