Nine Lives Cat (Cutting & Joining)

OBJECTIVE: To introduce the concept of Illustrator’s “object construction” techniques.

You don’t have to be a pro with the Pen Tool to be able to create complex and beautiful illustrations. These techniques not only enable you to draw many things without the Pen Tool, a decidedly difficult tool to master, but also compliment it nicely. There is usually more than one way to do just about anything in Illustrator.

TASK: Draw 2 cats.

Work up the Nine Lives Cat illustration. Do at least two versions with the numeral “9” wrapped around a part of the cat’s body. Make the cats assume a similar posture to the examples above. Draw one cat face forward (full view) and one cat face in profile (side view). You may use the same body for both versions. Use a limited palette of black, red, and white in any way you wish, but use only black, red, and white. [Do a third cat if you want to create in different colors.]

RULES:

You may use the techniques you already posses to create the cats; you may draw the cats freehand; you may follow the the step-by-step procedure written here; or you may place an acquired image of the cat (or sketch of your own) on a template layer and trace it using the Pen Tool. In any event, you need to know and understand the skills and tools described in this exercise. No Live Trace permitted.
To make the cat eyes using the Shape Builder Tool:

Draw 2 ovals with the Ellipse Tool, one above the other. Change fill to none and stroke to black so you can see through it.

The area where they overlap is the shape you wish to retain.

Select both ovals with the Selection Tool, then grab the Shape Builder Tool. Notice how the segments highlight as you hover over them.

Delete the upper and lower parts, leaving the eye shape behind.

Option/Copy one eye to make a pair.
To make the cat ears using Object Menu and Smart Guides:

- Draw a perfect circle using the Ellipse Tool while holding down the Shift Key.

- Grab the Line Segment Tool and draw a line to represent one side of the kitty’s ear. Allow Smart Guides to help you move it into position along one edge of the circle until it reads ‘intersect’ in little green letters.

- Leaving only the line selected, Object>Transform>Reflect and in the Reflect Dialog Box choose the radio button for angle and input 45 degrees. Click ‘Copy,’ not ‘OK.’

- Drag second line segment into position on the other side until Smart Guides read ‘intersect.’

- Deselect and grab Direct Selection Tool (white arrow). Select just the two anchor points at the bottom of the ear and Object>Path>Join to form a line between them.

- Select all the pieces and Window>Pathfinder>Add to create a single object. Note: Everything needs to have been done correctly for this step to actually work; you may need to do it a few times to get it right!

- Select newly made ear and Object>Transform>Reflect and in the Reflect Dialog Box choose the radio button for vertical. Click ‘Copy,’ not ‘OK’ to create symmetrical ear.
To make a cat profile using Object Menu and Smart Guides:

Draw two overlapping circles of different sizes that overlap each other at the top. Smart Guides will tell you when you have achieved alignment of the two circles. Change fill to none and stroke to black so you can see through it.

Using Smart Guides and the Line Segment Tool, draw a line that transcends them exactly down the middle.

Leaving just the top line selected, Object>Path>Divide Objects Below. Deselect and grab the Direct Selection Tool (white arrow) and select and delete the parts you do not wish to keep. Subtractive.

Select remaining segments and Window>Pathfinder> Add to unite the sections into one. Note: The segments must be exactly adjacent or slightly overlapping to be united. Additive.

Select the object to reveal its anchor points, then grab the Convert Anchor Point Tool (hiding under the Pen Tool) and click on the anchor point on the far right side to convert it to a corner point. This forms the nose on the face in profile. (Tip: Attach ears on your own using Pathfinder> Add)
To make the cat nose using Pathfinder Panel and Align Panel:

Grab the Star Tool and click into the artboard once to bring up the Star Options Dialog Box. In the points field, change to 3 to make a triangle and click okay. Change fill to none and stroke to black so you can see through it.

Object>Transform>Rotate the triangle 180 degrees so the pointy end is down.

Grab the Ellipse Tool and draw a perfect circle by holding down the shift key. Drag it over the triangle and Use Smart Guides or Window>Align> Horizontal Align Center to align them symmetrically.

Select triangle and circle together. Window>Pathfinder>Intersect to leave only the shape of the nose behind.
Forming cat body with Ellipses, Scissor Tool, and Object> Path >Join:

Draw a series of carefully placed ellipses (circles and ovals) in broad sweeps to roughly define the shape of the cat.

Use the Scissor Tool to cut the path and delete unwanted portions. To unite line ends, select just the anchor points and use Object>Path>Average & Object>Path>Join to join them together. Use same method or Pen Tool to close open ends of paws. Use Smooth Tool (hiding under Pencil Tool) to help even out the contours of limbs and torso.

Use Pen Tool to draw quick, straight line, closed-path tail. [Tail looks rather like a lighting bolt on purpose. This cat was used to sell batteries!]

You may also scan in sketches or downloaded images, place them on a template layer, and trace with the Pen Tool. This scanned in drawing was reproduced with ellipses easily drawn by Illustrator.

Live Trace works well with high contrast images, like sketches, and can be a viable alternative to tracing by hand. Results, however, are somewhat unpredictable.
To assemble the cat parts using the Pathfinder Panel.

In general, any shape on top cuts out the one below with Window> Pathfinder> Minus Front. Here, two overlapping circles give different results by alternating which shape is on top.

Pathfinder>Unite works just the opposite. Overlap objects you wish to unite into a single object. Window> Pathfinder> Unite ears to head and head to body, then color, resize, and alter to taste. Add chest detail with Pen Tool or just modify a triangle. Object> Transform> Reflect the image if you want it to face the other way.

Wrapping the ‘9’ around the cat. Type a big ‘9’; select it with the black arrow and Type> Create outlines. Place into position over the cat’s body and Pathfinder >Divide (both ‘9’ and cat must be selected); deselect and reselect (using white arrow) just the overlapping area of ‘9’ and cat (that looks like it should go behind). Using the Eyedropper Tool, color it the same color as the cat (black). This is an illusion of color.

Place white eyes, nose and chest on top of the black cat body (stacking order) then select all the pieces and Object>Group them together; or use them to cut holes with Object>Compound Path>Make.
Add whiskers to kitten’s face by drawing white lines (strokes) with the Line Segment or Pen Tool. Illustrator also provides prefab whiskers in Symbols Panel. Window> Symbols> fly-out menu> Open Swatch Libraries> Hair & Fur. Either drag out one at a time, or copy one and use it multiple times. Object> Expand or Expand Appearance the whisker after you pull it out if you wish to modify its color, size, shape, etc.

Variations on a theme; a cat less content made with pointy ears and no whiskers; he still has 9 lives.