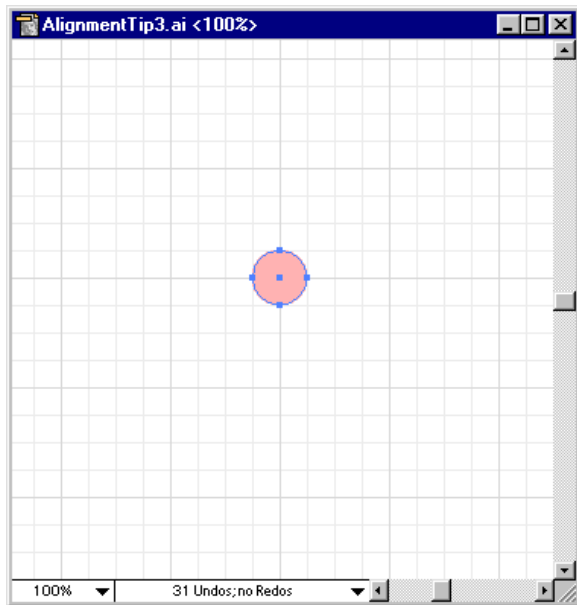


## Illustrator Tip : Aligning Rotated Objects

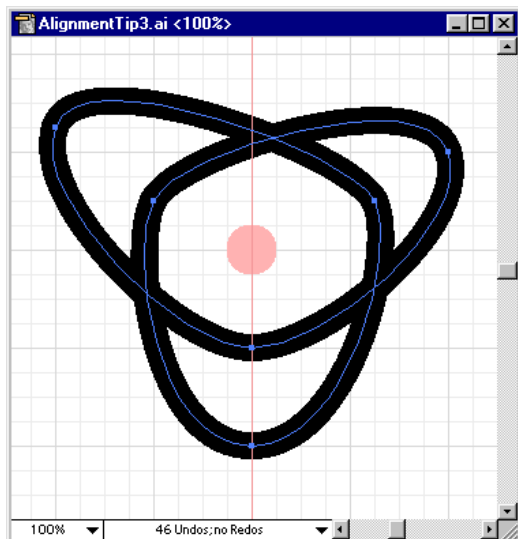
Illustrator isn't designed for working with shapes that have rotational symmetry. With a little ingenuity, though, it's possible to make perfectly aligned objects with rotational symmetry.

The trick is to start well. If you want to make something with rotational symmetry, your first step should be to make a small circle. Turn on the grid, snap to it, and create your circle.

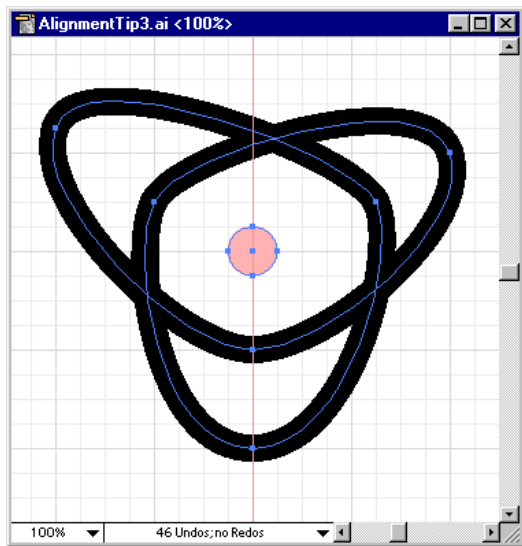


The circle is used to align your shape when you rotate it. For our example, let's make the line drawing at the top of the page.

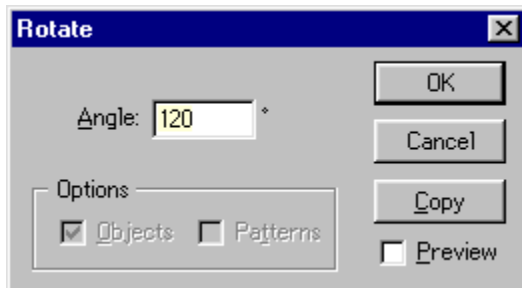
We'll start by doing the best approximation we can using the pen. Note the red vertical line; that's a guide. Right now, we only care about proper alignment for the points that are on the line. For the others, a rough approximation is enough.



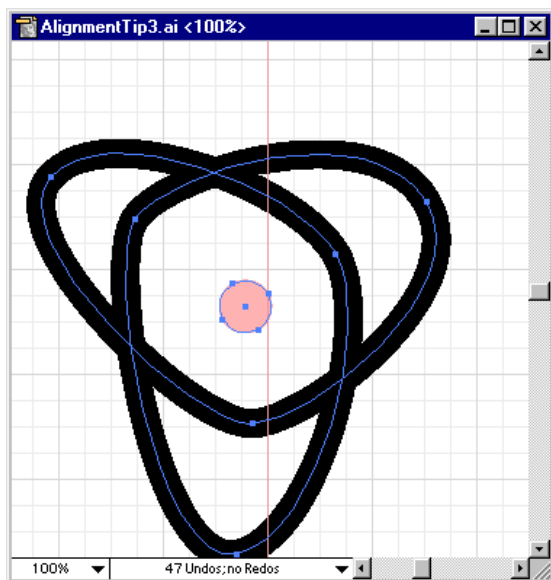
Now that we've got two points aligned, how do we do the same for the rest? Rotation! First, select both the line and the circle:



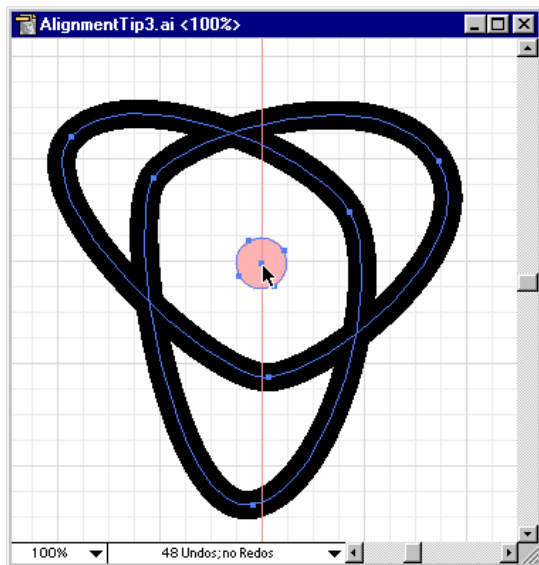
Now use Object/Transform/Rotate and enter the amount you want to rotate. Since we're drawing a figure with three-fold rotational symmetry, we'll enter  $360/3 = 120$  in the Angle box.



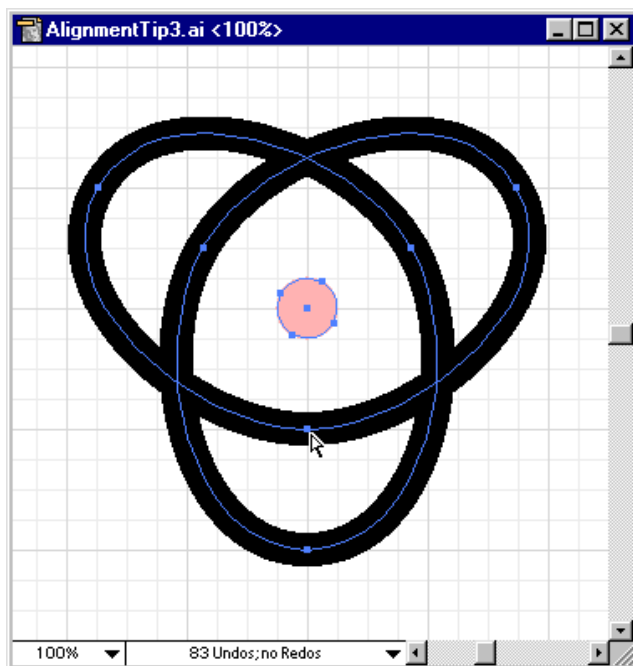
And here's the result.



Ick! This looks awful. It's really not that bad, though; it's just out of place. To put it back where it was, drag the circle's center control point back to the intersection of the two heavy grid lines. The line will follow with it.



Now it's just a matter of repeating the process. Using the direct selection tool, align the points nearest the guide line. When they're in place, select the line and the circle and rotate again. Keep doing that until the shape looks okay.



And there you go: a drawing with perfect rotational symmetry. This can be useful when making [knotwork](#).

Of course, this technique applies to more than line drawings. When it comes to aligning any shape with rotational symmetry, it's almost always handy to create an "alignment dot" in the shape's center. I find it comes in handy when working with stars with an odd number of points.