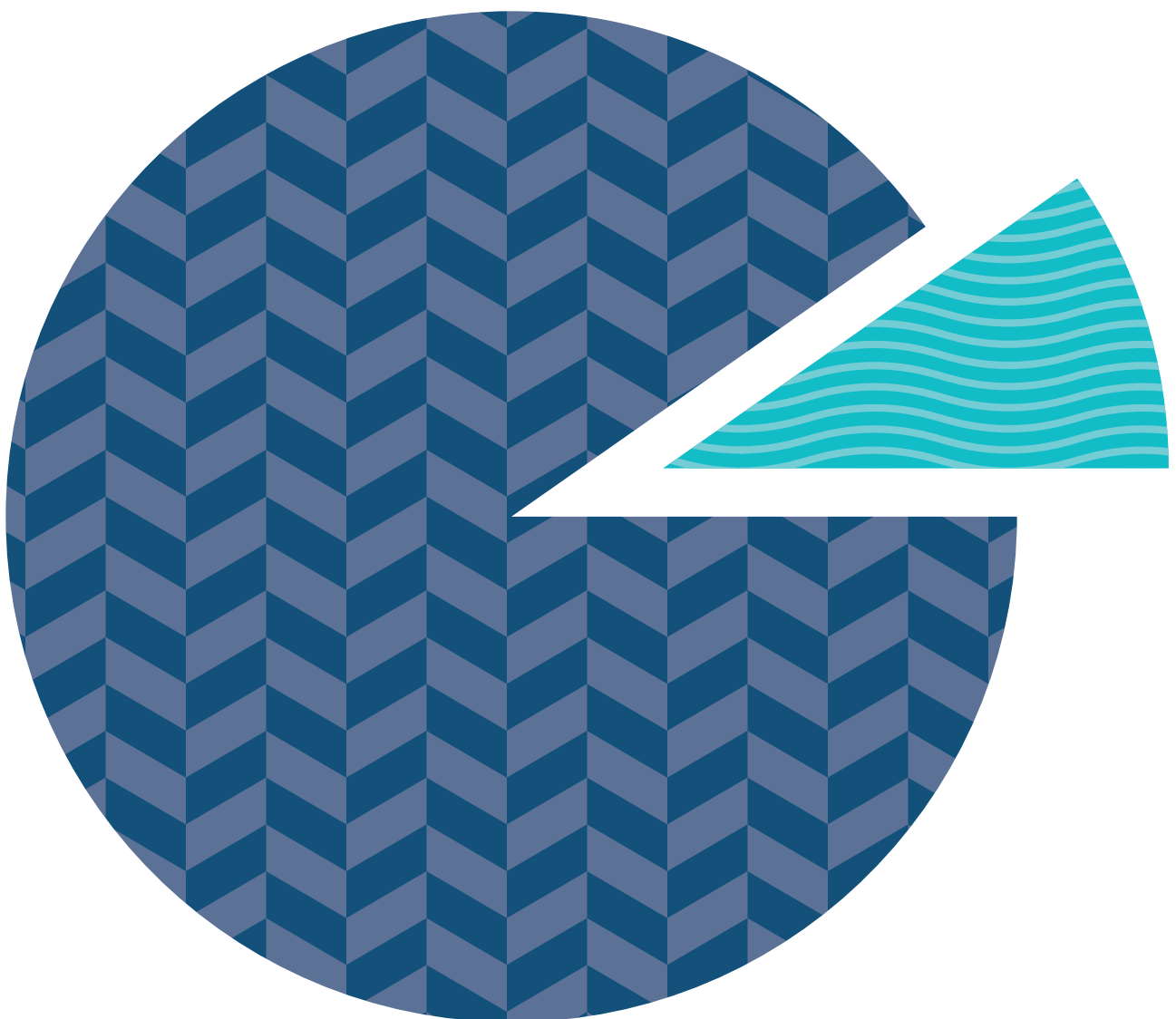


Define circle segment angles with Illustrator



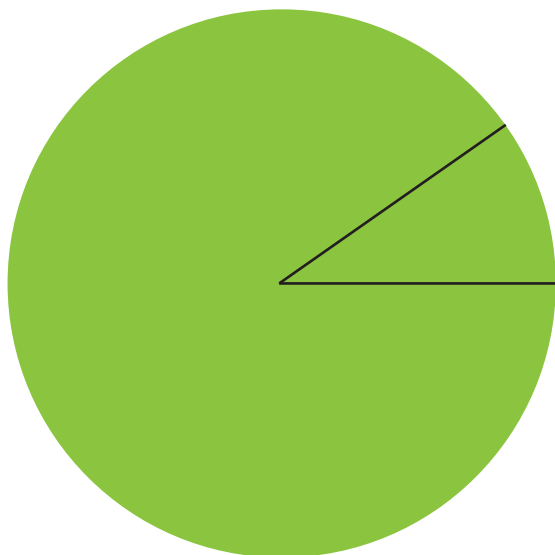
Sometimes you need a circle segment with a defined angle. A problem we have is that a circle in Illustrator is actually an ellipse shaped into a circle with bezier curves so doesn't divide up as a normal circle would.

This doesn't prevent us from defining a circle segment angle and I'm going to show you a couple of ways I use.

Method 1

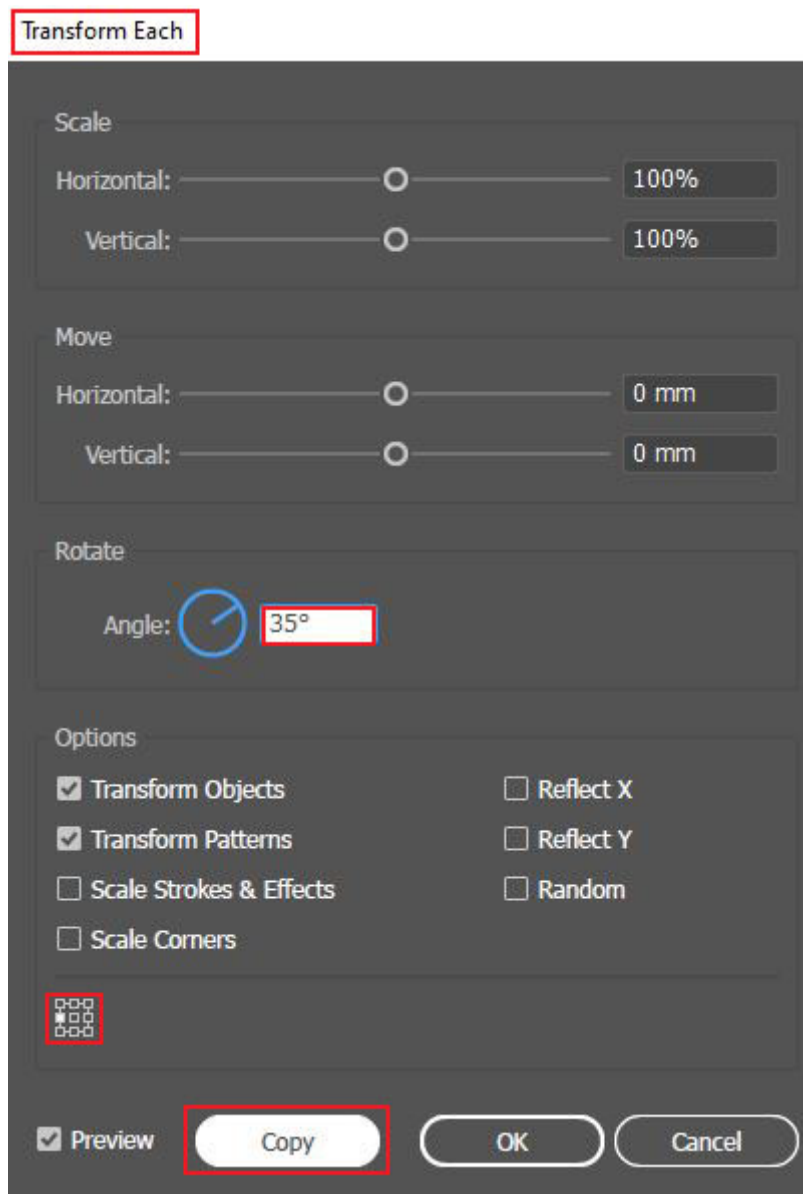
1. Turn on Smart Guides: View>Smart Guides (Ctrl+U).

2. Draw a circle with the Ellipse Tool:



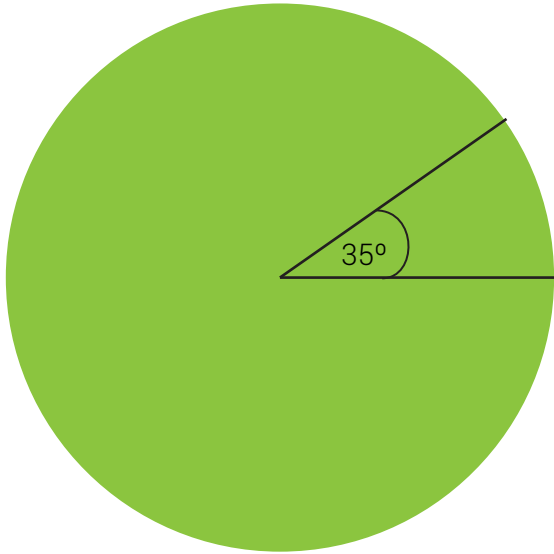
3. Create a line using the line tool, from the centre of the circle to the right-hand edge (the radius). Hold down the Shift key while drawing out the line to constrain it to the horizontal.

4. Go to Object>Transform Each (Alt+Shift+Ctrl+D):



- Set the angle
- Select the middle-left square for the point of origin
- Copy the line
- Click OK

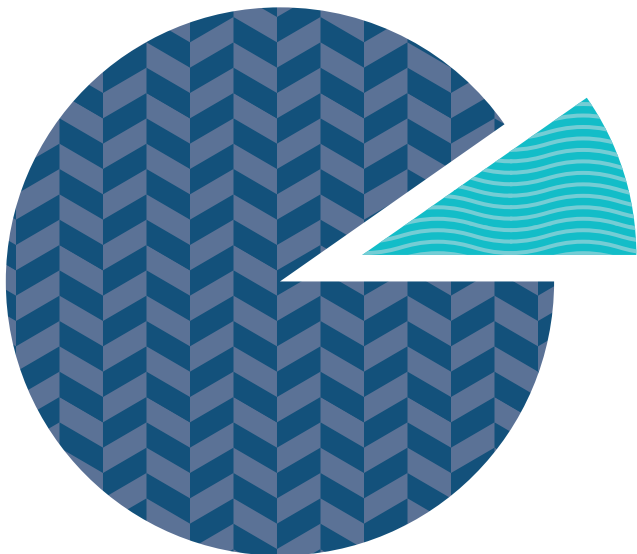
You will have copied the line and set it to the angle you require. The two lines will be aligned perfectly.



You can separate the segment from the circle by selecting the lines and circle by clicking Divide from the Pathfinder options:



This action groups the elements together so go to Object>Ungroup (Shift+Ctrl+G) and you can remove the segment.

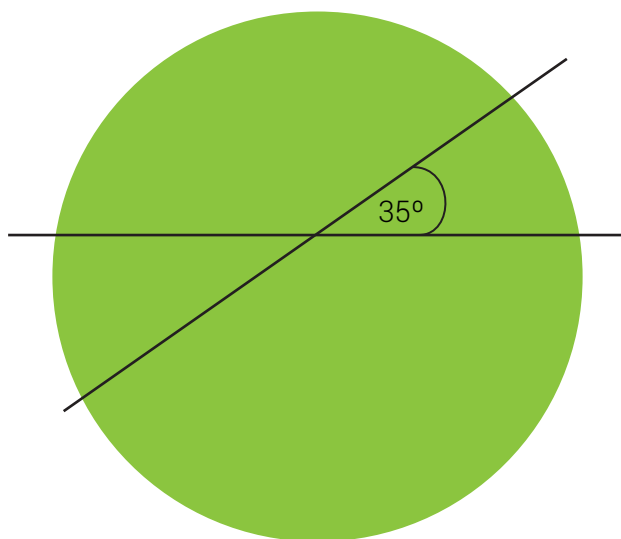


If you want to create more segments, you must always select the original horizontal line and then set the angle of the new line with reference to it in the Transform Each palette.

Method 2

1. Create a horizontal straight line, at least as wide as the diameter of your circle (the full width across the centre of the circle).

2. Copy the line, Ctrl+C, then Paste it in Place, Ctrl+F.



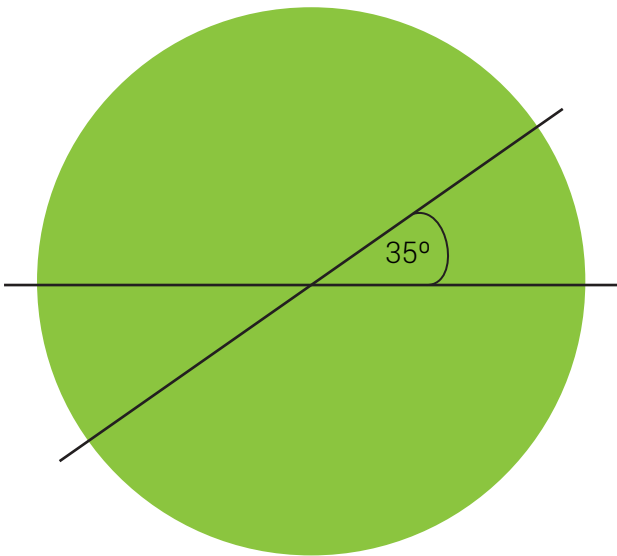
3. Select one of the lines and go to Transform Each (Alt_Shift+Ctrl+D).

4. As for Method 1, set the angle, eg, 35° but this time select the central square as the point of origin:



5. Group the two lines (Ctrl+G).

6. Select the circle and the grouped lines and centre them both vertically and horizontally using the Align tools from the Properties panel:



Again, you can select all, divide and ungroup to separate the segments.



That's all there is to the methods. Not too messy :)