Create a Mandala with SVG Circles

1. Copy and Paste the 600x600 grid from:
   http://steamcoded.org/lessons/grid600x600.svg.txt

2. Add style attributes to the group element with opacity:0.5;
   fill:none;stroke:navy;

3. Add a circle element as a child of the group in step 2
   center: (300,150) radius: 150 rotate 0 degrees about (300,300)
   hint: transform="rotate(0,300,300)"

4. Copy the circle element so there are 24 elements and rotate
   each circle by 15 degrees (360/24=15) about the center of the image (300,300)

Create a Colored Mandala - Save as new file if you want to keep the uncolored version

5. Copy the first 13 circles (rotated 0 through 180 degrees) and
   color each by adding a style attribute with the fill color below
   Note: colors are defined with a hexadecimal number indicated by the # sign with
   2 hexadecimal digits for red, green, and blue. 2 hexadecimal digits can count 0-255
   1 - style="fill:#29ABE2;"
   2 - style="fill:#0071BC;"
   3 - style="fill:#2E3192;"
   4 - style="fill:#1B1464;"
   5 - style="fill:#662D91;"
   6 - style="fill:#FF0000;"
   7 - style="fill:#FFFF00;"
   8 - style="fill:#00FF00;"
   9 - style="fill:#00FFFF;"
   10 - style="fill:#0000FF;"
   11 - style="fill:#FF00FF;"
   12 - style="fill:#C1272D;"
   13 - style="fill:#ED1C24;"

6. Create a group element and give it a style="fill:none;", then
   add the remaining circles as child elements of the group

7. Color the first 2 circles (first circle should be rotated 195 degrees)
   1 - style="fill:#F15A24;
   2 - style="fill:#F7931E"
   Note the fill color starts to overwrite the first circle

8. Create a <def> element - remember the ending element </defs>

9. Add a <mask> element as a child of the <defs> element and give it attribute id="m1"

10. Add 2 elements as child elements of the mask element in step 10
    a rectangle width: 600, height: 600, style="fill:white"
    a circle centered at (300,150), radius: 150 style="fill:black" and
    rotate it 0 degrees about (300,300)
    Note: the mask will show everything colored in the white area and
          hide everything in the black area

11. Add a style to the group element created in step 6
    style: mask:url(#m1); and note that the circles are now masked where they overlap and
    make the circle appear to go behind the others.

12. Color the remaining 9 circles starting with the one rotated 225 degrees
    1 - style="fill:#FBB03B"
    2 - style="fill:#FCEE21"
    3 - style="fill:#D9E021"
    4 - style="fill:#8CC63F"
    5 - style="fill:#39B54A"
    6 - style="fill:#009245"
    7 - style="fill:#006837"
    8 - style="fill:#22B573"
    9 - style="fill:#00A99D"

Animating the Mandala – Save as new file if you wish to keep it without animation

13. Add a <clipPath> element as a child of the <defs> element and give it attribute id="cp1"

14. Add a <circle> element as a child of the <clipPath> element
    center: (300,150), radius: 150 and rotate it 165 degrees about (300,300)

15. Change the rotation angle of the circle element that is a child of the mask element
    to 165 degrees

16. Add the style: clip-path:url(#cp1); to all the colored circles

17. Change the 2 circle elements in the <defs> section to rotate at 135 degrees, then 120,
    then 105 – continue to 0 degrees and see the effect – set back to 165 degrees when done

18. Add a <animateTransform> element as a child of the circle element that is a child of
    the clipPath element and give it attributes:
    attributeName="transform"
    attributeType="XML"
    type="rotate"
    values="165,300,300;0,300,300;0,300,300;165,300,300;165,300,300"
    dur="5s"
    repeatCount="indefinite"

19. Copy the animateTransform element and add it as a child of the circle element that is
    a child of the mask element.