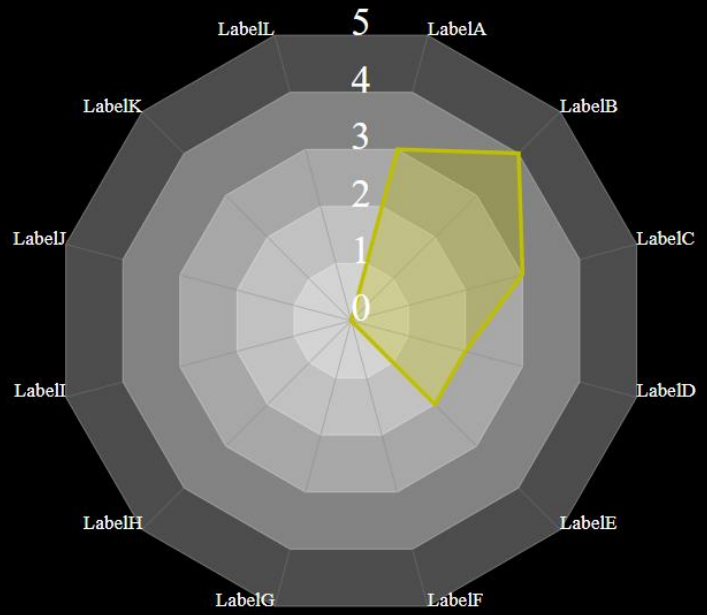
CREATE YOUR OWN RADAR COMPONENT FOR POWERAPPS

BY JORGE LOPEZ



FIRSTCODEGUIDE

OBJECTIVE

- This guide will help you to create a radar graph component to use in any powerapp application.
- The guide apply for any number of sides in the polygon and also any number of levels.
- This guide follows the process of create a 12 side polygon with 5 levels.

THREE MAIN STEPS ...

1. DRAW POLYGONS AND LINES
2. ADD THE MAGIC FORMULA
3. ADD LABELS

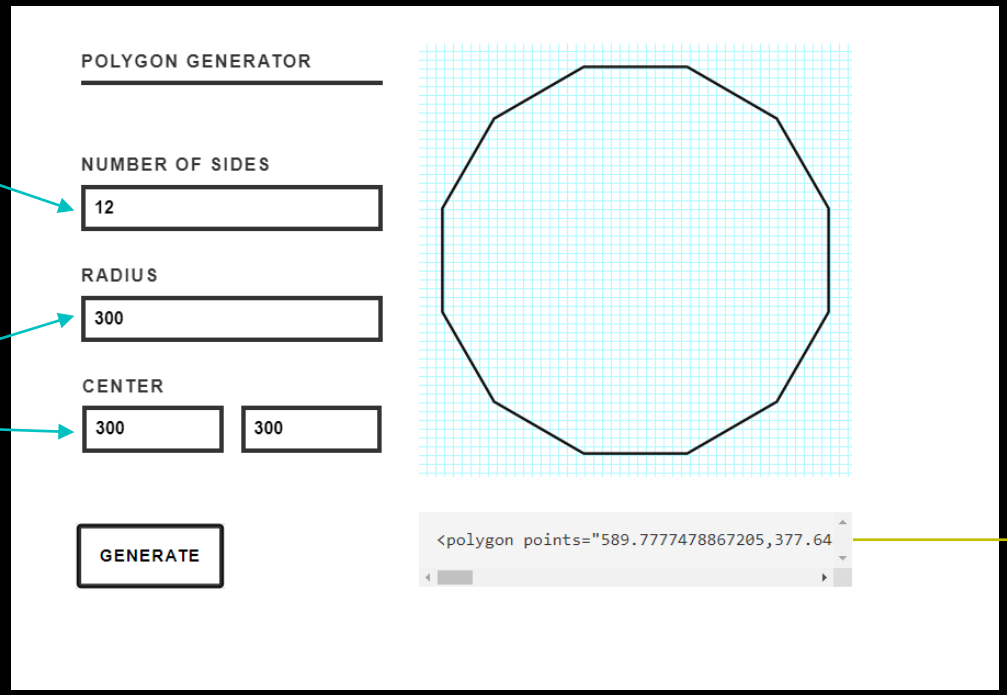
DRAW POLYGONS AND LINES

We will work with a SVG image, so we need to get SVG Polygon code:

- Use https://codepen.io/winkerVSbecks/pen/wrZQQm to get SVG code (you can also use any other SVG Polygon generator)

We will build a 12 side Polygon (of course you can change the # of sides ☺)

Our SVG will be 600 width and 600 height, so Outer polygon will have a radius of 300



Copy these x and y coordinates

DRAW POLYGONS AND LINES

If your Radar will be 5 levels, then get coordinates for 5 Polygons.

Since max radius is 300 your polygons should have radius of 60, 120, 180, 240 and 300. Use the polygon generator to get the x and y coordinates for each Polygon.

In PowerApps add a new component named 12 Side Polygon insert an image in this component and replace image attribute for below code:

```
"data:image/svg+xml , " & EncodeUrl("<svg xmlns='http://www.w3.org/2000/svg' width='600' height='600' viewBox='-100 -100 800 800' preserveAspectRatio='xMinYMin meet' version='1.1’>
```

Then add the polygon coordinates you got...

DRAW POLYGONS AND LINES

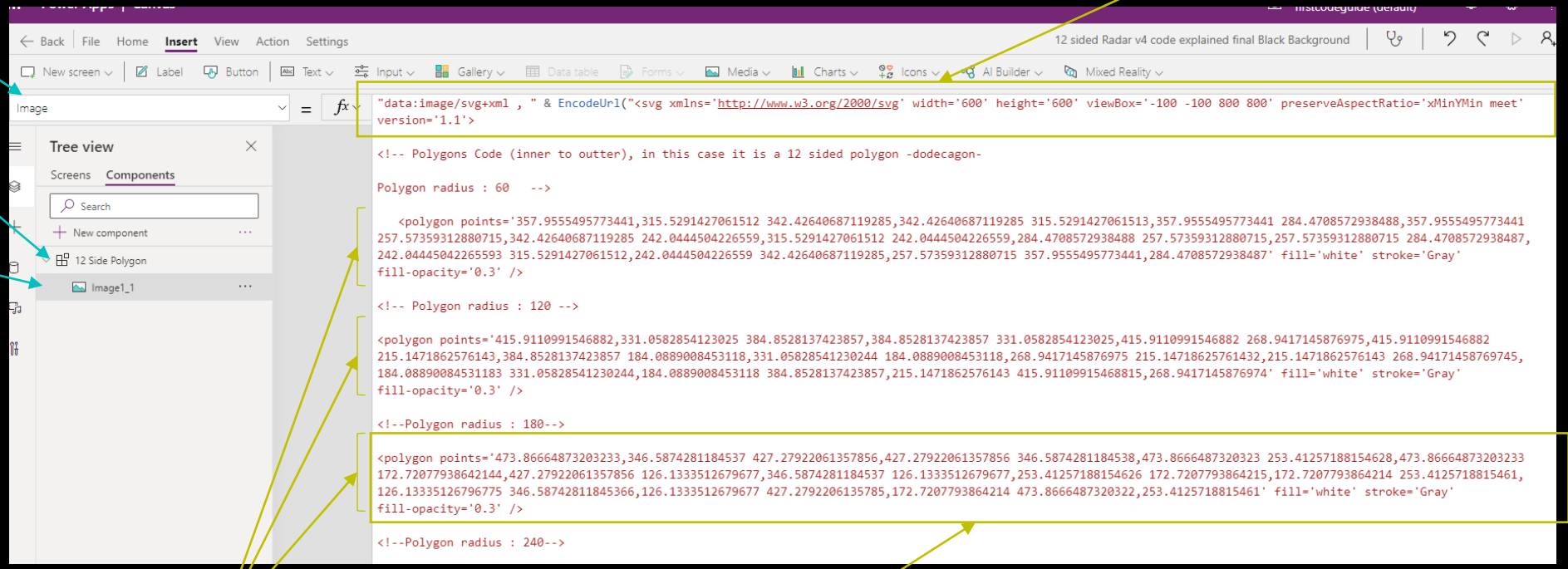
Image property of the inserted image of the new component should look like this:

Image Property

New Component called 12 Side Polygon

Inserted Image

You need this code so PowerApps can process our SVG Image

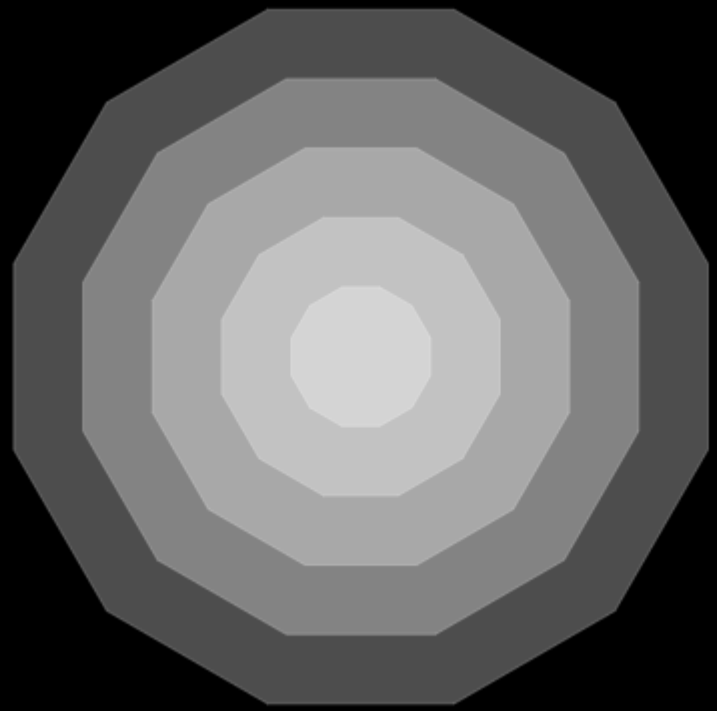


Copy coordinates you got for the 5 Polygons, Radius 60, 120,180, 240 and 300

These are the coordinates we got from Polygon generator, add some attributes for stroke color etc

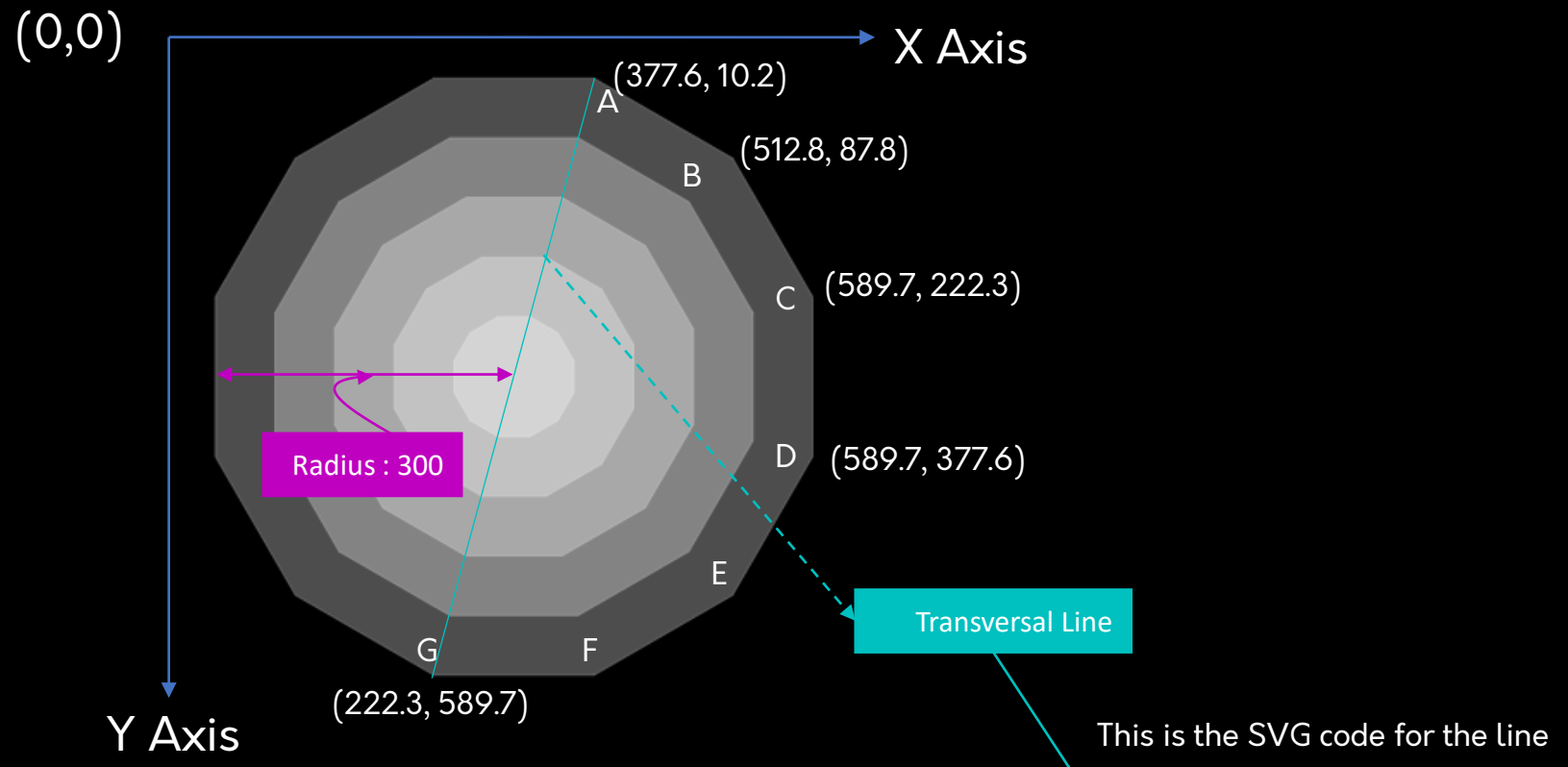
DRAW POLYGONS AND LINES

Your component should look like this :



DRAW POLYGONS AND LINES

Now we will add the transversal lines, you need to identify the x,y coordinates for each vortex of the outer Polygon



This is the SVG code for the line

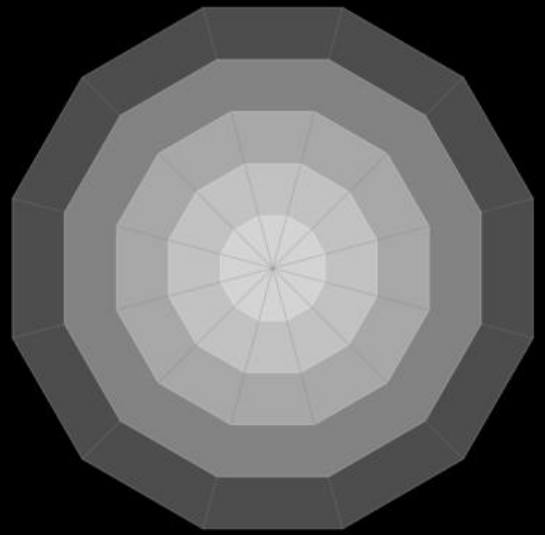
```
line x1='222.35428646924382' y1='589.7777478867205' x2='377.6457135307561' y2='10.222252113279467'
style='stroke:rgb(128,128,128);stroke-width:0.5' />
```

DRAW POLYGONS AND LINES

In PowerApps the code should look like this :

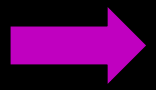
```
<!-- Add lines to represent each axis -->

<line x1='589.7777478867205' y1='377.6457135307562' x2='10.222252113279524' y2='222.35428646924376' style='stroke:rgb(128,128,128);stroke-width:0.5' />
<line x1='512.1320343559643' y1='512.1320343559643' x2='87.86796564403579' y2='87.86796564403579' style='stroke:rgb(128,128,128);stroke-width:0.5' />
<line x1='377.64571353075627' y1='589.77774377' x2='222.35428646924376' y2='10.222252113279524'  style='stroke:rgb(128,128,128);stroke-width:0.5' />
<line x1='222.35428646924382' y1='589.7777478867205' x2='377.6457135307561' y2='10.222252113279467' style='stroke:rgb(128,128,128);stroke-width:0.5' />
<line x1='87.86796564403576' y1='512.1320343559643' x2='512.1320343559642' y2='87.8679656440357' style='stroke:rgb(128,128,128);stroke-width:0.5' />
<line x1='10.222252113279524' y1='377.64571353075615' x2='589.7777478867204' y2='222.35428646924353' style='stroke:rgb(128,128,128);stroke-width:0.5' />
```

And the image should look like this:

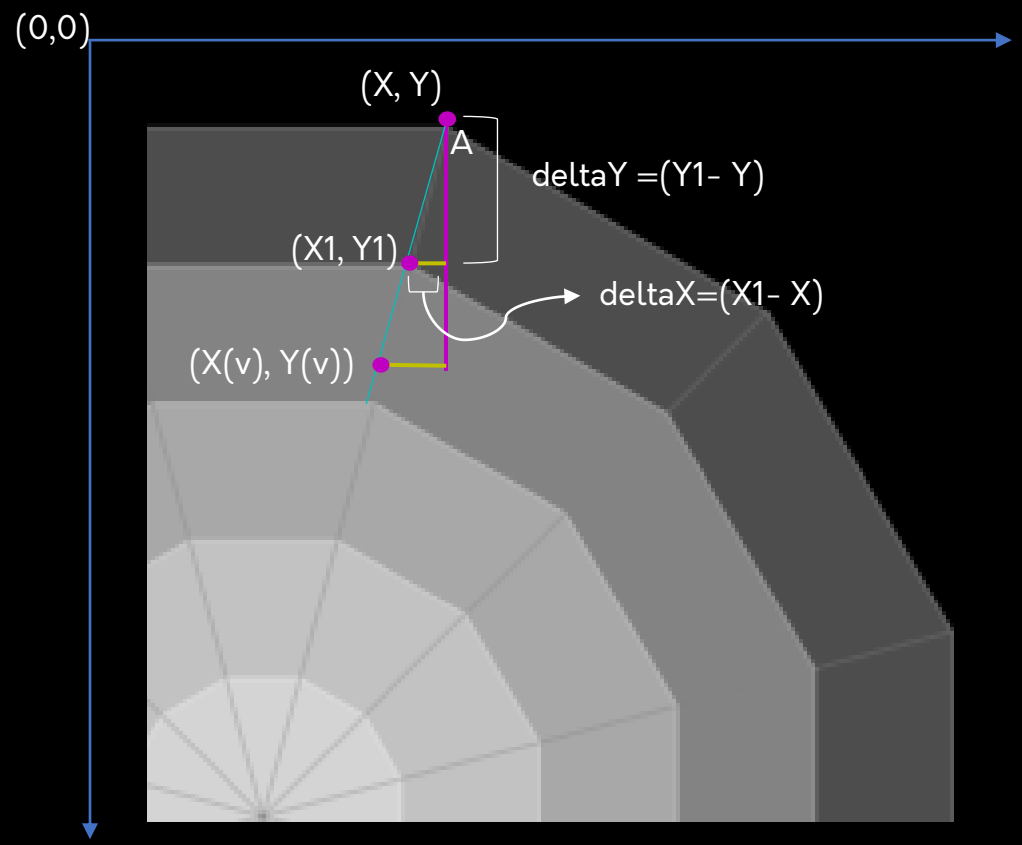


THREE MAIN STEPS ...

1. DRAW POLYGONS AND LINES
2. ADD THE MAGIC FORMULA
3. ADD LABELS



THE MAGIC FORMULA



The objective of the formula is to find out the coordinates x and y for each vortex of the new Polygon according to the value the user wants to represent. We Will call these coordinates (X(v),Y(v)).

Let's asume that Value could be assigned from 0 to 5.

It means that a máximum value of 5 Will be in (X,Y) position. (see graph)

In general, for any value from 0 to 5 the formula for X and Y coordinates in axis A will be :

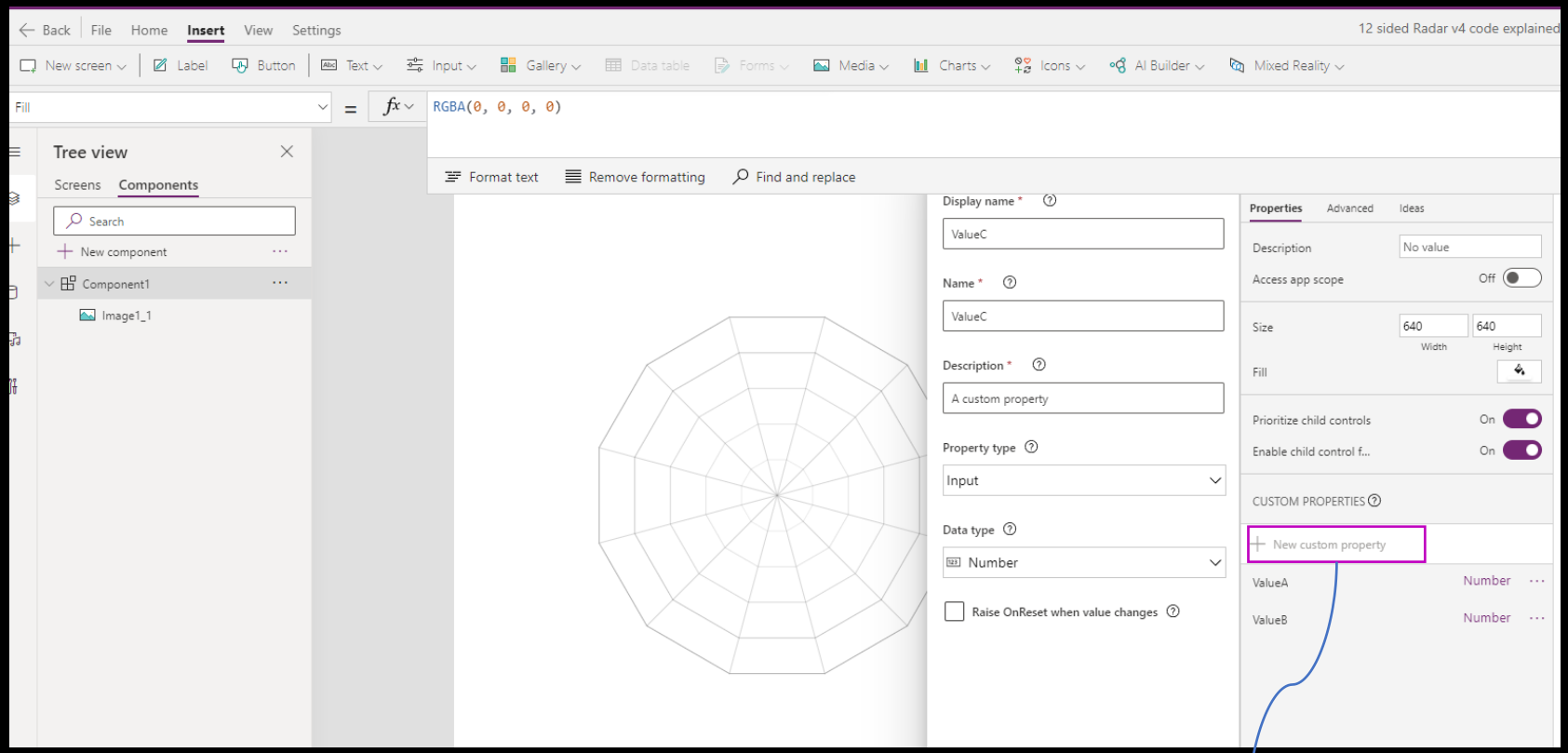
X(v)= X-(deltaX *5-v)

Y(v)= Y+(deltaY*5-v)

THE MAGIC FORMULA

Now it's a Good time to add some custom properties to our component

- 12 Values (for axis A to axis L)
- 12 Labels (for vortex A to L)
- 1 minValue
- 1 maxValue
- 1 Stroke Color, this Will be the color of the new polygon



Click here to add custom properties

THE MAGIC FORMULA

Our Radar allows to set mínimum (minValue) and máximum (maxValue) reference values.

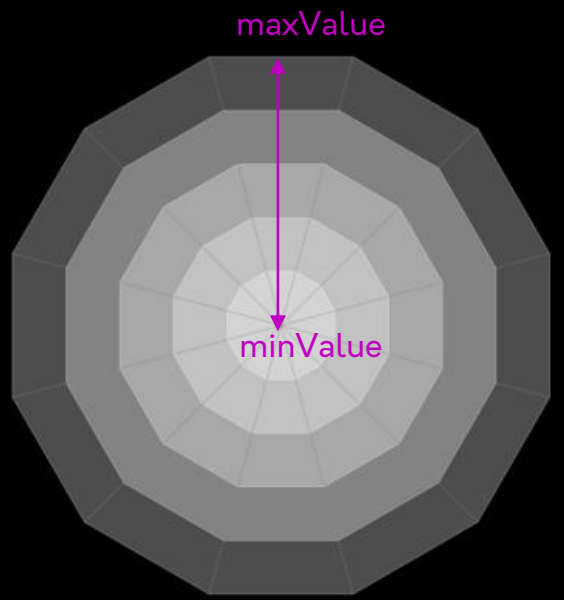
So.. In our formula we did some modifications to allow this.

X(v)= X-(deltaX *(5-5*(v-minValue)/(maxValue-minValue))

Y(v)= Y+(deltaY*(5-5*(v-minValue)/(maxValue-minValue))

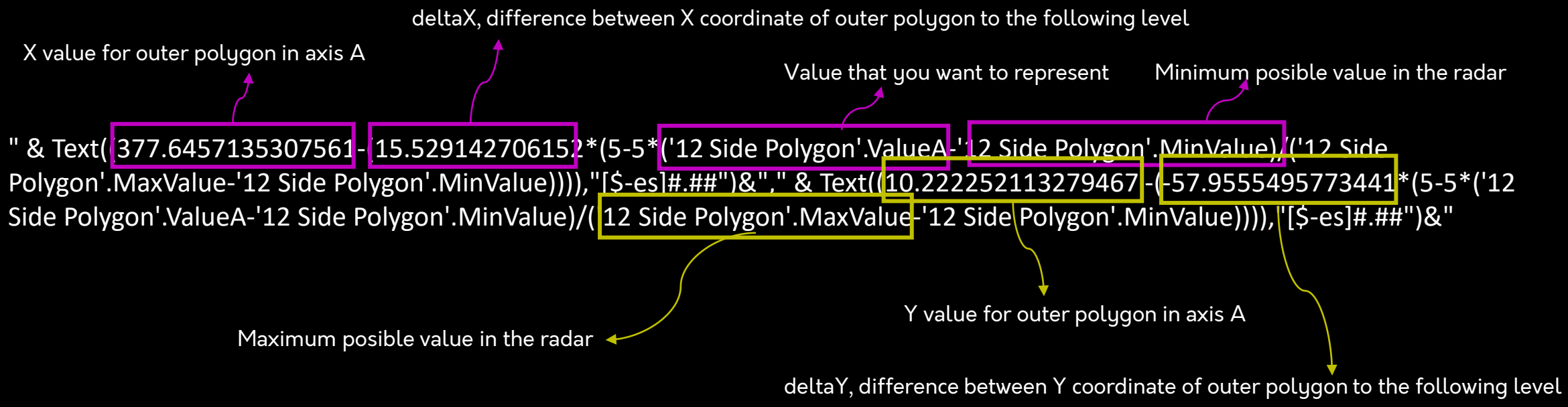
In PowerApps the code looks like this for the new vortex in axis A.

" & Text((377.6457135307561-(15.529142706152*(5-5*('12 Side Polygon'.ValueA-'12 Side Polygon'.MinValue)/('12 Side Polygon'.MaxValue-'12 Side Polygon'.MinValue)))),"[$-es]#.##")&"," & Text((10.222252113279467 -(-57.9555495773441*(5-5*('12 Side Polygon'.ValueA-'12 Side Polygon'.MinValue)/('12 Side Polygon'.MaxValue-'12 Side Polygon'.MinValue)))),"[$-es]#.##")&"



THE MAGIC FORMULA

Let’s check this code :



Now its time to calculate the differences between the outer coordinates of each vortex and the next Polygon below. Add the code in PowerApps following the magic formula for each new vortex.

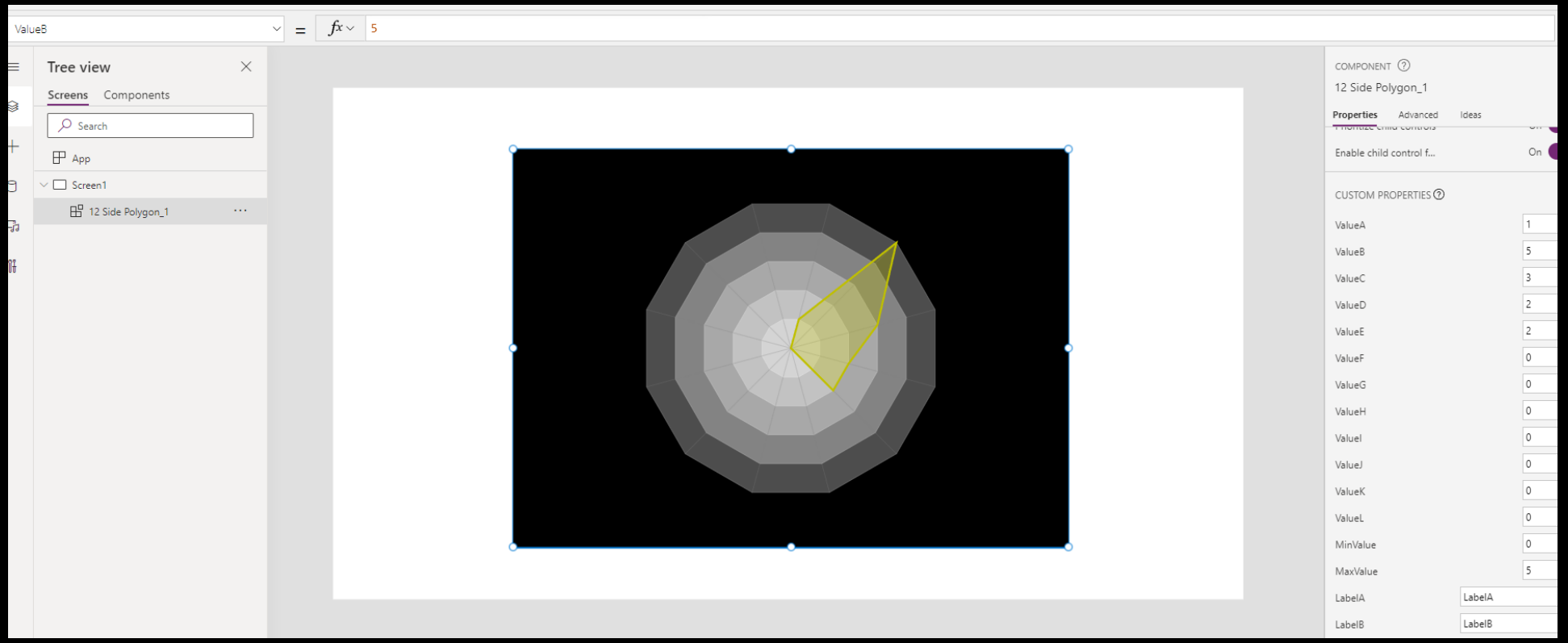
THE MAGIC FORMULA

The code looks like this :

```
<!--Now we will add the formula that will draw the polygon with values assigned to each axis:-->

<polygon points='

" & Text((589.7777478867205-(57.9555495773441 *(5-5*('12 Side Polygon'.ValueD-'12 Side Polygon'.MinValue)/('12 Side Polygon'.MaxValue-'12 Side Polygon'.MinValue)))),"
[$-es]#.##")&"," & Text((377.64571353075615-(15.529142706151 *(5-5*('12 Side Polygon'.ValueD-'12 Side Polygon'.MinValue)/('12 Side Polygon'.MaxValue-'12 Side
Polygon'.MinValue)))),"[$-es]#.##")&"

" & Text((589.7777478867205-(57.9555495773441 *(5-5*('12 Side Polygon'.ValueD-'12 Side Polygon'.MinValue)/('12 Side Polygon'.MaxValue-'12 Side Polygon'.MinValue)))),"
[$-es]#.##")&"," & Text((377.64571353075615-(15.529142706151 *(5-5*('12 Side Polygon'.ValueD-'12 Side Polygon'.MinValue)/('12 Side Polygon'.MaxValue-'12 Side
Polygon'.MinValue)))),"[$-es]#.##")&"

" & Text((512.1320343559643-(42.426406871193*(5-5*('12 Side Polygon'.ValueE-'12 Side Polygon'.MinValue)/('12 Side Polygon'.MaxValue-'12 Side Polygon'.MinValue)))),"[$-es]
#.##")&"," & Text((512.1320343559643 -(42.426406871193*(5-5*('12 Side Polygon'.ValueE-'12 Side Polygon'.MinValue)/('12 Side Polygon'.MaxValue-'12 Side Polygon'.MinValue)))
),"[$-es]#.##")&"

" & Text((377.64571353075627-(15.529142706151*(5-5*('12 Side Polygon'.ValueF-'12 Side Polygon'.MinValue)/('12 Side Polygon'.MaxValue-'12 Side Polygon'.MinValue)))),"[$-es]
#.##")&"," & Text((589.7777478867205 -(57.9555495773441*(5-5*('12 Side Polygon'.ValueF-'12 Side Polygon'.MinValue)/('12 Side Polygon'.MaxValue-'12 Side Polygon'.MinValue)))
)),"[$-es]#.##")&"
```

THE MAGIC FORMULA

At this point you can try assigning values to new custom properties…



THREE MAIN STEPS ...

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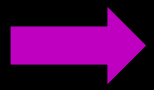


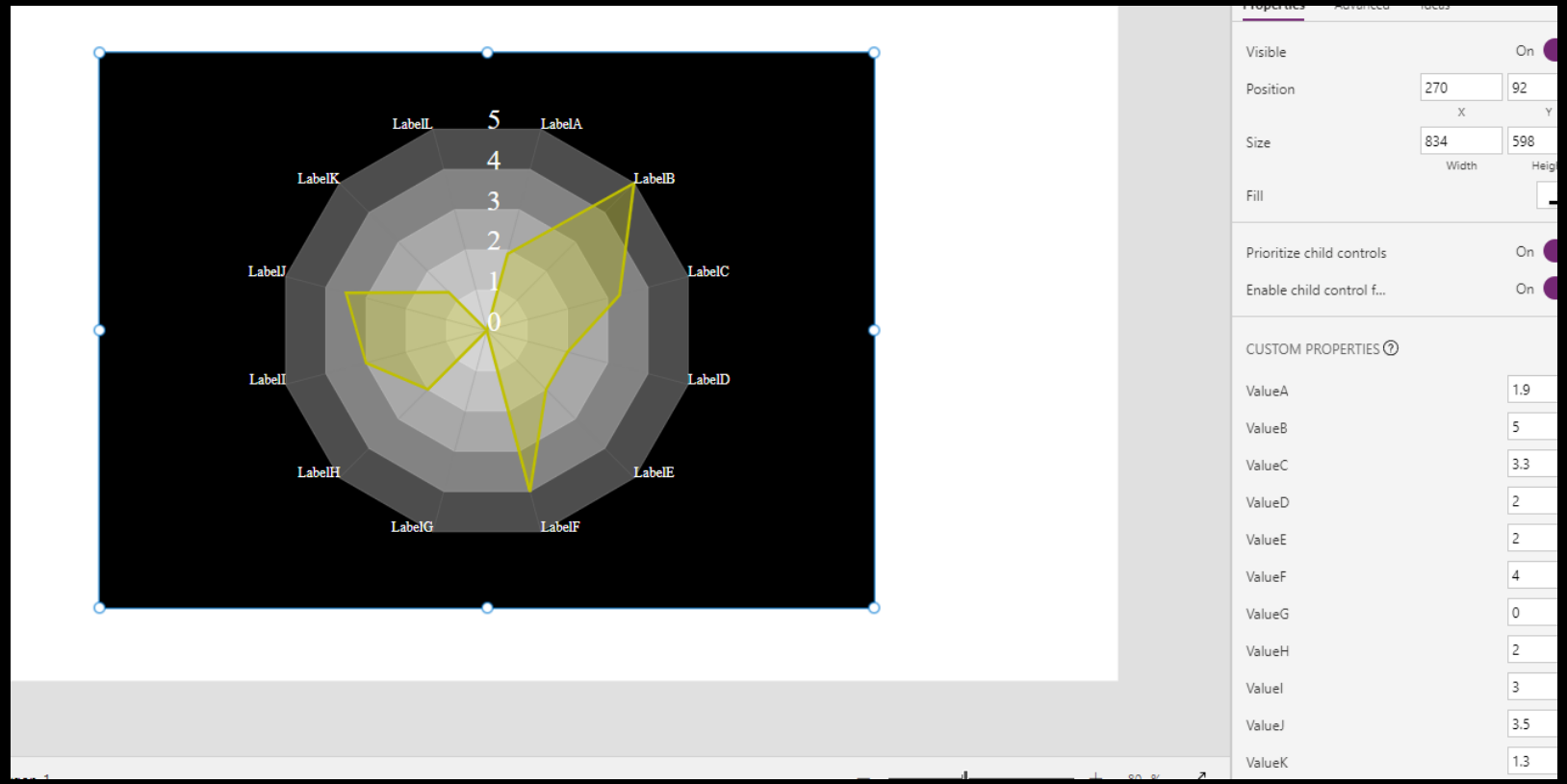
ADD LABELS

Now that we have the magic formula in place it´s time to add some labels for each vortex and also for the reference values.
The code looks like this :

```
<!--Now add labels for each vortex :-->


<text x='589.77774788672' y='377.645713530756' font-size='20'  fill='White'>"&'12 Side Polygon'.LabelD&"</text>
<text x='512.132034355964' y='512.132034355964' font-size='20' fill='White'>"&'12 Side Polygon'.LabelE&"</text>
<text x='377.645713530756' y='589.77774788672' font-size='20' fill='White'>"&'12 Side Polygon'.LabelF&"</text>
<text x='222.354286469243' y='589.77774788672' font-size='20' direction= 'rtl' fill='White'>"&'12 Side Polygon'.LabelG&"</text>
<text x='87.8679656440357' y='512.132034355964' font-size='20' direction= 'rtl' fill='White'>"&'12 Side Polygon'.LabelH&"</text>
<text x='10.2222521132795' y='377.645713530756' font-size='20' direction= 'rtl' fill='White'>"&'12 Side Polygon'.LabelI&"</text>
<text x='10.2222521132795' y='222.354286469243' font-size='20' direction= 'rtl' fill='White'>"&'12 Side Polygon'.LabelJ&"</text>
<text x='87.8679656440357' y='87.8679656440357' font-size='20' direction= 'rtl' fill='White'>"&'12 Side Polygon'.LabelK&"</text>
<text x='222.354286469243' y='10.2222521132795' font-size='20' direction= 'rtl' fill='White'>"&'12 Side Polygon'.LabelL&"</text>
<text x='377.645713530756' y='10.2222521132794' font-size='20' fill='White'>"&'12 Side Polygon'.LabelA&"</text>
<text x='512.132034355964' y='87.8679656440357' font-size='20' fill='White'>"&'12 Side Polygon'.LabelB&"</text>
<text x='589.77774788672' y='222.354286469243' font-size='20' fill='White'>"&'12 Side Polygon'.LabelC&"</text>

<!--Add labels as reference for Y Axis-->

<text x='300' y='10.2222521132794' font-size='40'  fill='White'>"&'12 Side Polygon'.MaxValue&"</text>
<text x='300' y='68.1778016906235' font-size='40'  fill='White'>"&('12 Side Polygon'.MaxValue*4/5)&"</text>
<text x='300' y='126.1333512679677' font-size='40'  fill='White'>"&('12 Side Polygon'.MaxValue*3/5)&"</text>
<text x='300' y='184.0889008453118' font-size='40'  fill='White'>"&('12 Side Polygon'.MaxValue*2/5)&"</text>
<text x='300' y='242.0444504226559' font-size='40'  fill='White'>"&('12 Side Polygon'.MaxValue*1/5)&"</text>
<text x='300' y='300' font-size='40'  fill='White'>"&('12 Side Polygon'.MaxValue*0/5)&"</text>



</svg>")
```

ADD LABELS

Now you can try assigning text to the label custom properties, also assigning min and max values. The result looks like this:



READY TO USE

Yes!!, this component is now ready to use in any canvas Powerapp.
I hope you enjoy it !!
For any comments or feedback you can post a note in :

https://firstcodeguide.com/

Here you can find the radar component file to download and
Also some other components.