



Joyfulmathswithruth

FREE  
all ages  
interactive  
Maths lesson

Maths In Motion

ART

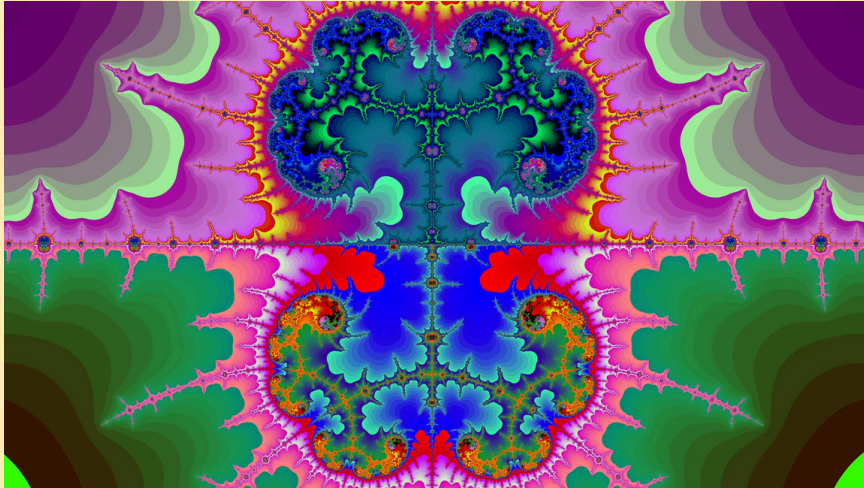
Fractals

To join please bring:

PVA glue, paper plate or a plate and some grease proof paper/cling film to cover, 2 or 3 food colourings, cotton bud/toothpick or dropper, washing up liquid

# Something to think about:

What do you see?



Space to answer, note  
your thoughts, or just  
have a doodle!



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# Distance around the UK vs the area of the UK

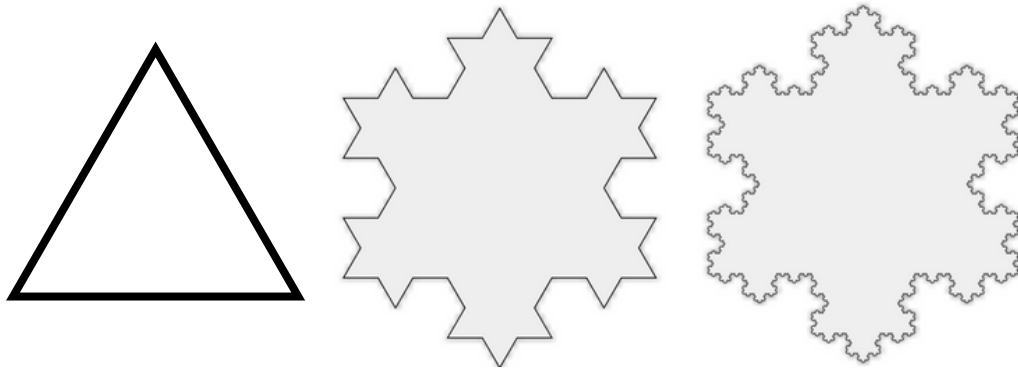


As we zoom into the coast line

What happens to the distance around the coast of the UK?

What happens to the area land in the UK?

# The Koch snowflakes



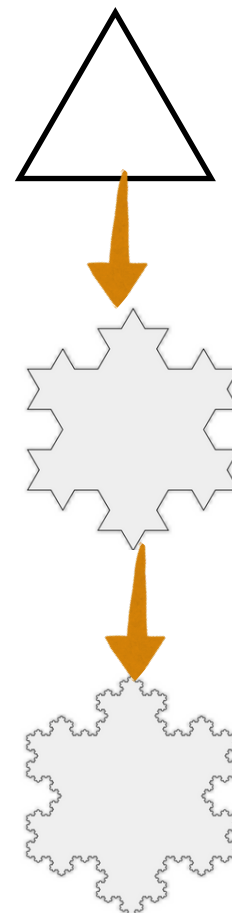
It is made by breaking up each side length into smaller and smaller pieces

The perimeter  
keeps getting

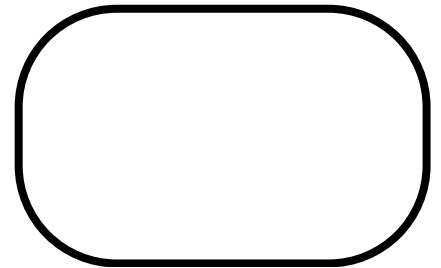
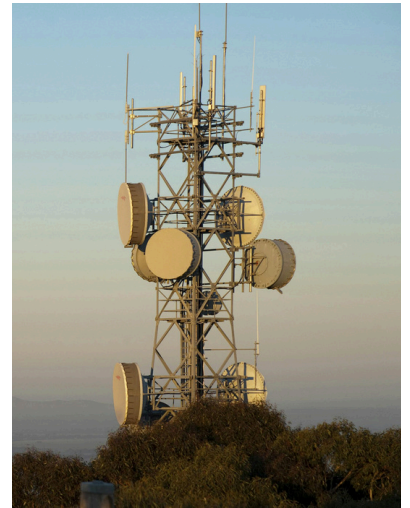
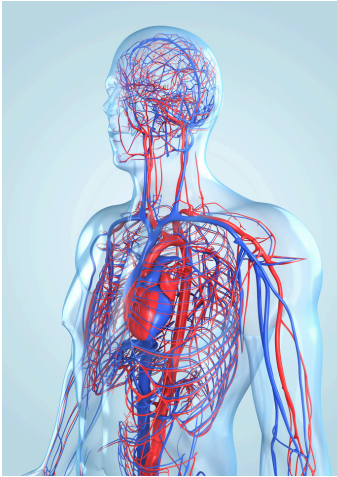
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The area has a

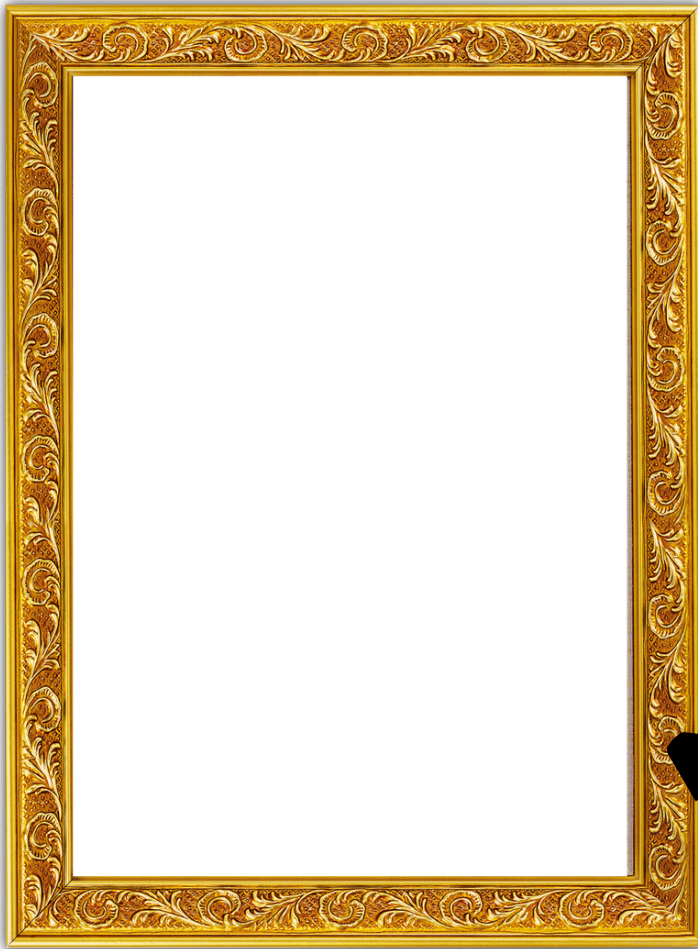
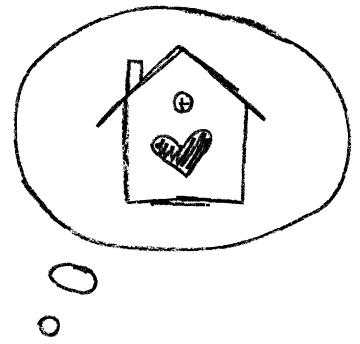
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# What do we use fractals for in maths?



# Explore at home:



## Artist to explore:

Julius Horsthuis

<https://www.julius-horsthuis.com/>

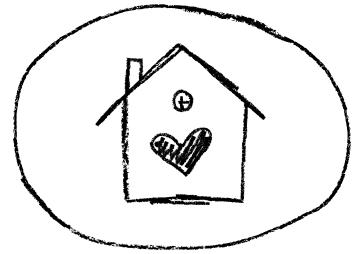
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A picture of him or some of his work that shows symmetry



Space for your notes, drawings or a collage

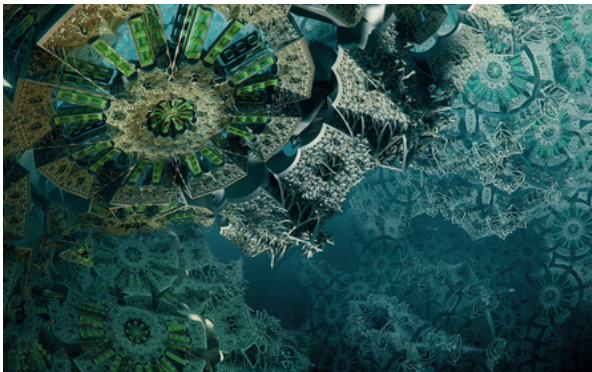




## Explore at home:

These are amazing fractal shorts videos by Julius Horsthuis you will enjoy watching:

<https://www.julius-horsthuis.com/shorts>



## Try it yourself!

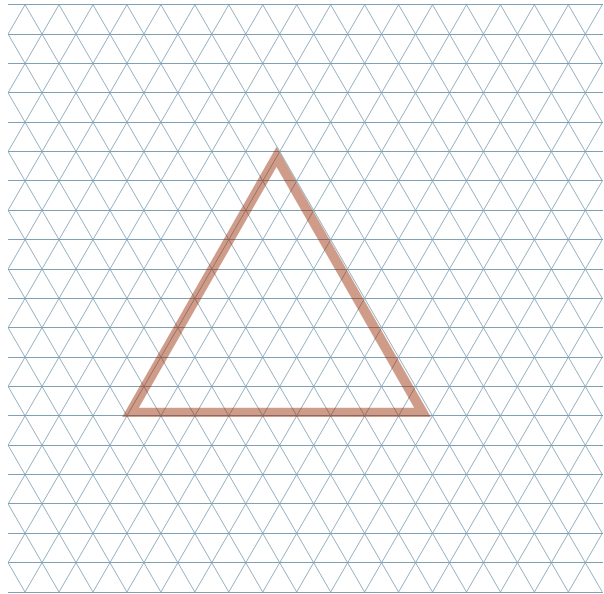
Here you can download your own software to explore fractals at home:

<https://fractalfoundation.org/resources/fractal-software/>

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# Create your own Koch Snowflake

Step 1: Start with  
an equilateral  
triangle

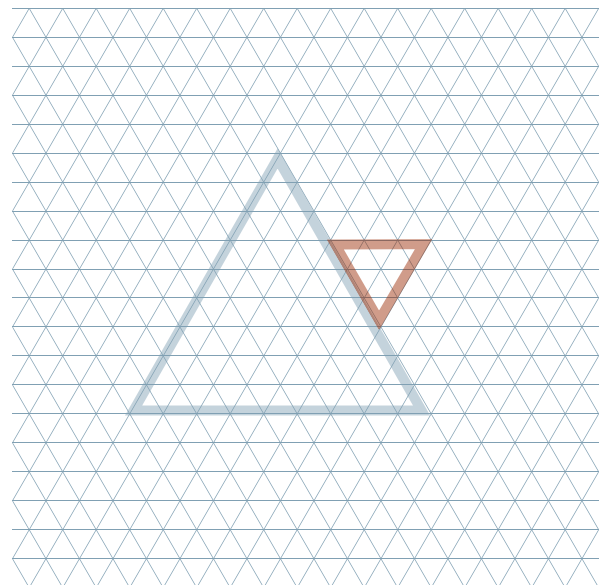


Step 2:

Split the side length in 3

In the middle, draw an  
equilateral triangle  
using the smaller length  
for each side.

Repeat this on all 3  
sides.



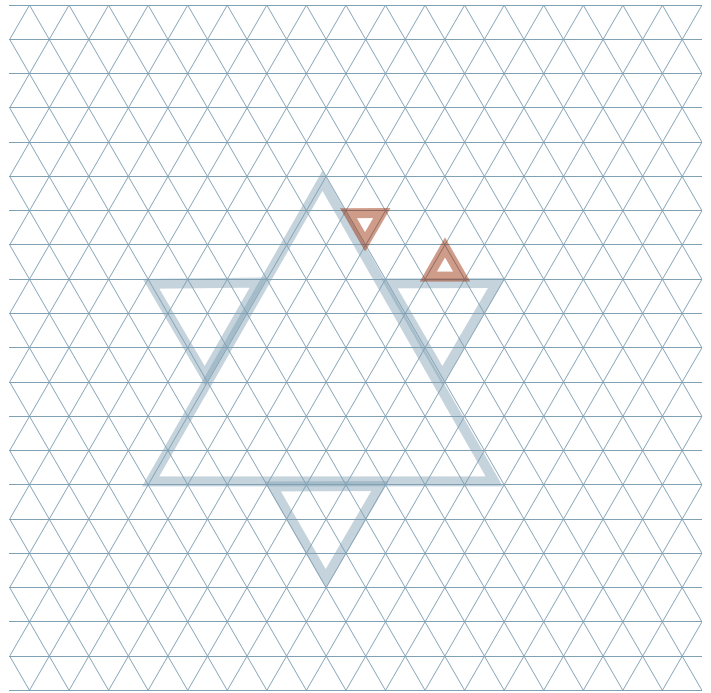
# Create your own Koch Snowflake

## Step 4:

Split one of the sides of the new triangle in 3

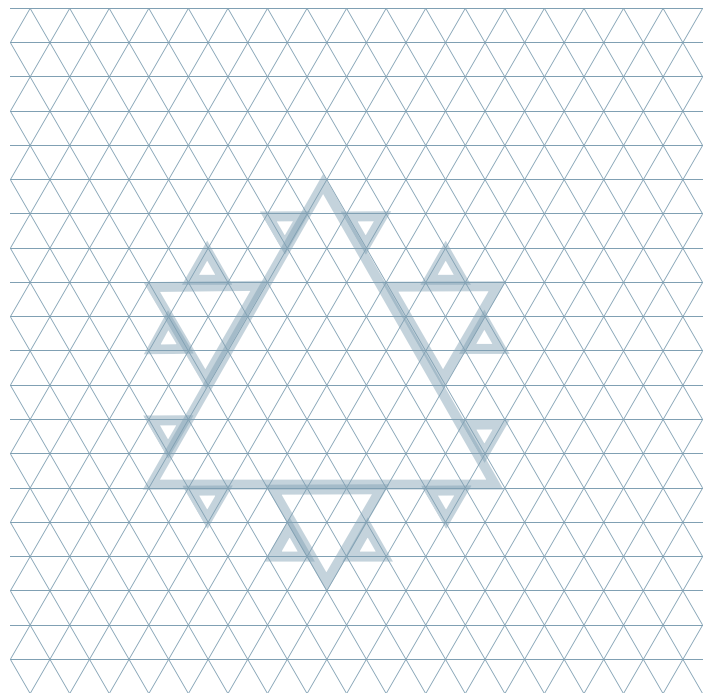
In the middle, draw an equilateral triangle using the smaller length for each side

Repeat on every new shorter side.

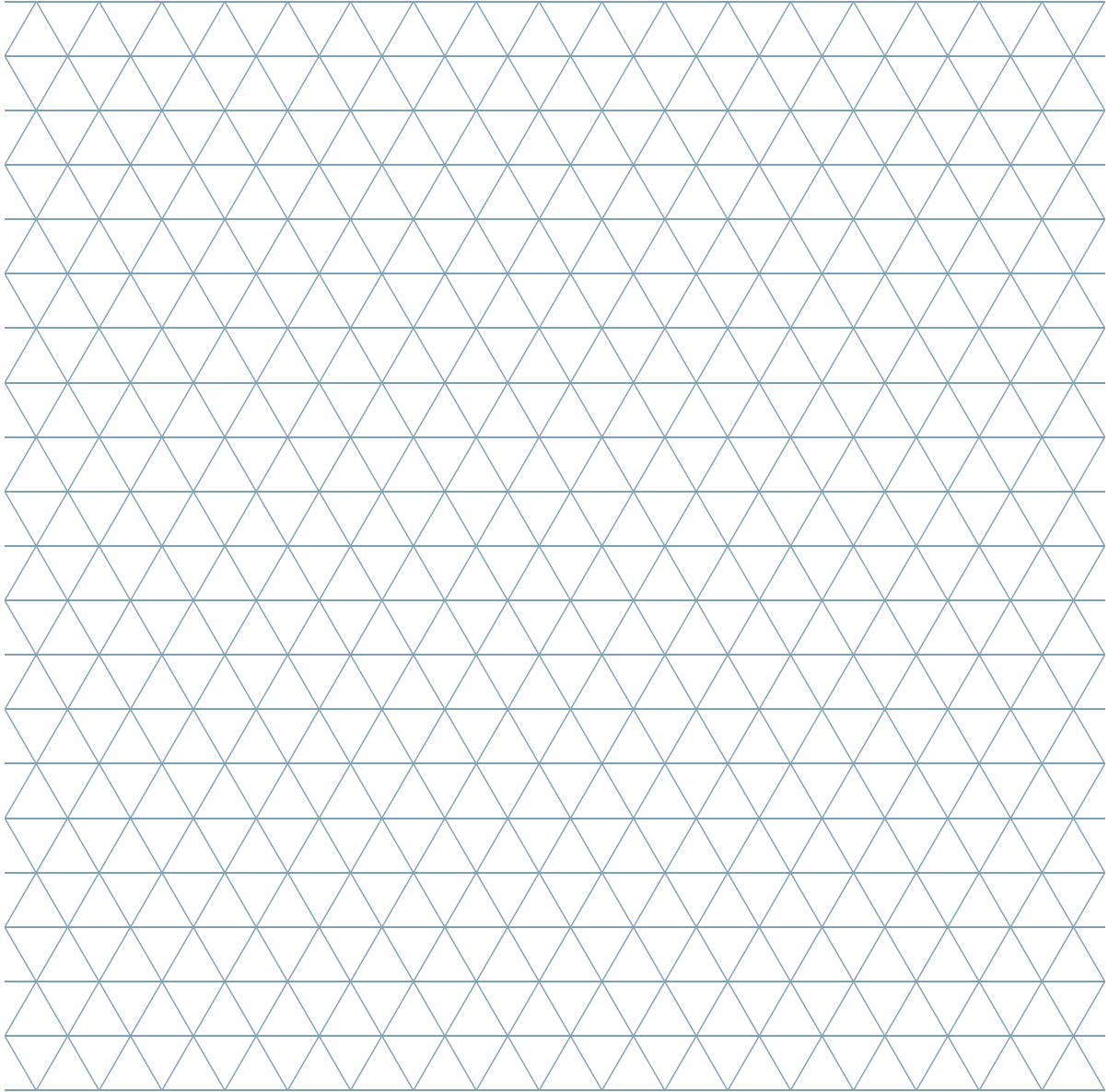


## Step 5:

Go around the edge in a dark pen and rub out the extra bits



# Create your own Koch Snowflake

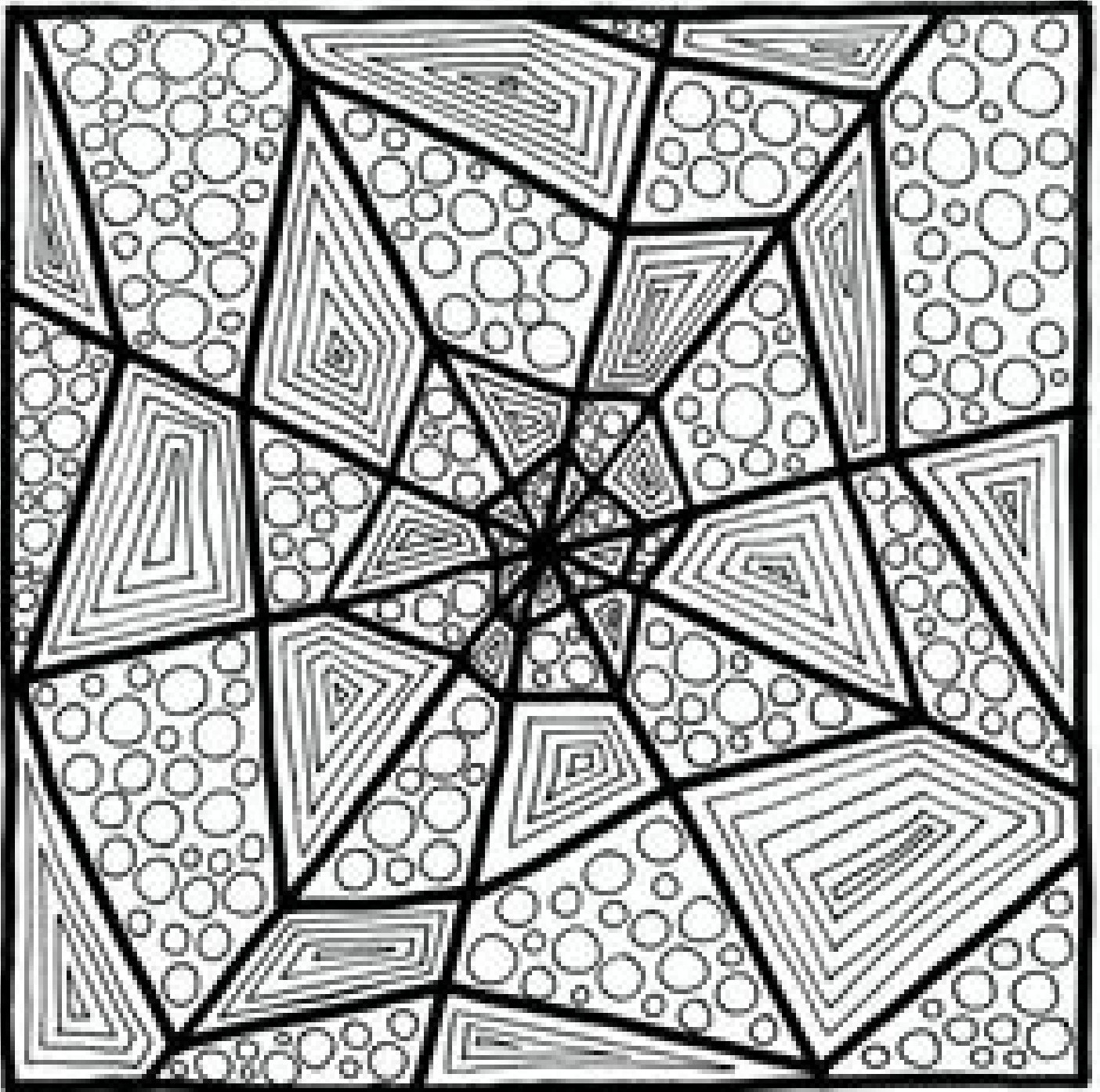


# Mindful moment colouring



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