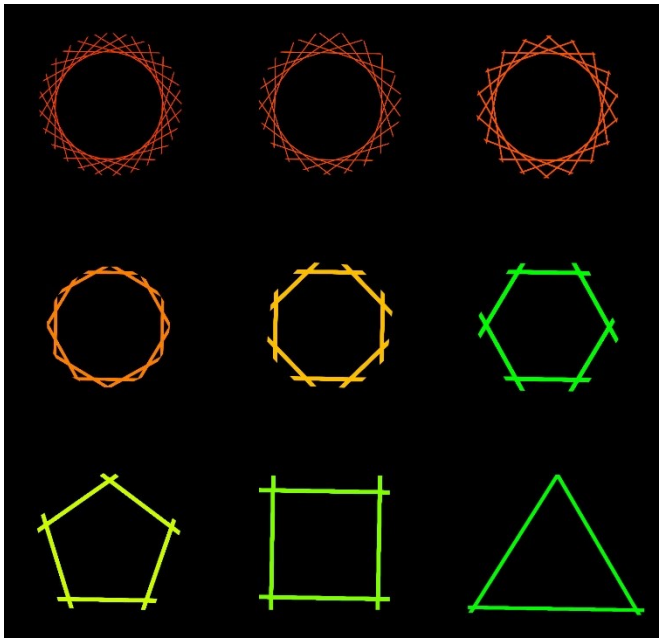
USD STEAM Conference

Geometry Lesson



A lesson using MathArt

by

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Speaker, Artist, Programmer

WELCOME

Your presenter is Paul Phillips

My Son and I created MathArt so you can make art patterns using math transformations and simple shapes.

To be ready for this lesson:

1. Click the link in your Chat Window.
2. Shrink the size of the browser to include the Instruction window. So it looks like my shared screen.
3. Figure how to switch between your browser and Zoom window.

Setup Demonstration

Demonstration.

1. Show/Hide ArtData button.
2. Triple Click on Data line.
3. Quick Navigate to Help/Reset.
4. Click the Reset button.
5. Quick Navigate to ArtObjects.
6. Click the Paste Art Data.
7. Paste in the empty field.
8. Click OK.

Setup for Lesson

ArtData:

1_0_100000_360_1_5_0_0_0_0_1_100_100_1_0_1_360_#basement_false_false_false_false_false_false_false_false_false_false_false

Copy This ArtData String

1. **Paste in using the Paste ArtData button**

SVG Object

<polygon _ngcontent-c1="" points="
-1000,100 1000,100 0,100"></polygon>

1. **Copy This SVG Code String**
2. **Paste in using the Paste SVG Object button.**

The Interior Angles of Polygons

Demonstration:

Rotate = 15 makes a Icositetragon with 24 sides.
Rotate = 18 makes a Icosagon with 20 sides.
Rotate = 20 makes a Octadecagon with 18 sides.
Rotate = 24 makes a Pentadecagon with 15 sides.
Rotate = 30 makes a Dodecagon with ?? sides.
Rotate = 36 makes a Decagon with ?? sides.
Rotate = 40 makes a ?????????? with 9 sides.
Rotate = 45 makes a ?????????? with ?? sides.
Rotate = 60 makes a ?????????? with ?? sides.
Rotate = 72 makes a ?????????? with ?? sides.
Rotate = 90 makes a ?????????? with ?? sides.
Rotate = 120 makes a ?????????? with ?? sides.

What is the Relationship?

Sides times Interior Angle = ?

The Interior Angles of Polygons

Demonstration:

Rotate = 1 Circle

Rotate = 15 makes a Icositetragon with 24 sides.

Rotate = 18 makes a Icosagon with 20 sides.

Rotate = 20 makes a Octadecagon with 18 sides.

Rotate = 24 makes a Pentadecagon with 15 sides.

Rotate = 30 makes a Dodecagon with 12 sides.

Rotate = 36 makes a Decagon with 10 sides.

Rotate = 40 makes a Nonagon with 9 sides.

Rotate = 45 makes a Octogon with 8 sides.

Rotate = 60 makes a Hexigon with 6 sides.

Rotate = 72 makes a Pentagon with 5 sides.

Rotate = 90 makes a Square with 4 sides.

Rotate = 120 makes a Triangle with 3 sides.

What is the Relationship?

Sides times Interior Angle = 360

the degrees in a circle