Weekly Challenge

Solve the challenge, share your solution and summit the ranks of our Community!

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IDEAS WANTED

We're actively looking for ideas on how to improve Weekly Challenges and would love to hear what you think!

SUBMIT FEEDBACK

Weekly Challenge

Challenge #161: Triangles, Triangles, Triangles

JoeM
Alteryx Alumni (Retired)

The idea of the challenge is simple, but it could be a little trick to execute!

Provided are a set of coordinates. With this set of triangles, you must create triangles. Each triangular spatial object must have exactly 3 non-collinear points. With this data set, you should create 516 unique triangles! How many of the 516 can you get?

This week's challenge was contributed by @CharlieS !

challenge_161_start_file.yxmd

challenge_161_solution.yxmd

Data Preparation | Intermediate | Join | Preparation | Spatial Analysis

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patrick_digan
17 - Castor

Fun challenge @CharlieS

Spoiler

challenge_161_start_file.yxmd

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T_Willins
14 - Magnetar

Fun challenge! Last filter needed to match solution, but shouldn't tiny triangles still count? Investigation of original data indicates these are non-linear points (Thank you Mr. Coss - High School Geometry Teacher)

Spoiler

challenge_161_solution.yxmd

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I'm delighted that I could contribute to the awesome-ness that is the Weekly Challenges! I originally designed this with several sub-challenges if you want more:

- Draw a triangle using Spatial tools
- Draw a triangle without using Spatial tools
- Draw multiple triangles using only a single tool
- Draw multiple triangles using an iterative macro
- Draw all 516 unique triangles

A note on the "valid" solutions: due to how the points were drawn, it is possible to produce some very thin triangles that would be collinear if a grid was drawn on a Cartesian plane. Rather than adjusting the points, I was curious to see different approaches to handing these scenarios.

Challenge_0161-CharlieS_Solution.yxzp

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Thableaus
17 - Castor

Challenge #161, done.

▷ Spoiler

Cheers,

Challenge_161.yxmd

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TerryT
Alteryx Community Team

Fun challenge! Thanks @CharlieS

▷ Spoiler

challenge_161_TTT.yxmd

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cplewis90
13 - Pulsar

Fun challenge! I had to look up (as I couldn't remember back to high school trigonometry how to determine if 3 points were collinear.

▷ Spoiler

challenge_161_CL.yxmd

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Ladarthure
14 - Magnetar

Fun challenge, I had troubles for the final filter :)

challenge_161_start_file.yxmd

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RolandSchubert
16 - Nebula

Interesting. Final filter was a challenge

Spoiler

challenge_161_solution_rsc.yxmd

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NicoleJohnson
15 - Aurora

OK so I got a bit hung up on the definition of "Non-Collinear", so my workflow actually has 2 solutions - one that gets 516 unique triangles (not the most efficient solution compared to others, but logically it got me there, and I feel like my high school math teacher wouldn't have been mortified, so I'm okay with it)... and then an alternate solution that I feel better matches the intention that all triangles be "non-collinear", which I defined to mean that there could be no point in the triangle that was at the same latitude or longitude plane as any other point in that triangle. Results in far fewer triangles (essentially, any triangle with a straight vertical or horizontal side is eliminated by this method).

Either way, super fun challenge @CharlieS!

Spoiler

Cheers,
NJ

challenge_161_NicoleJohnson.yxmd

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