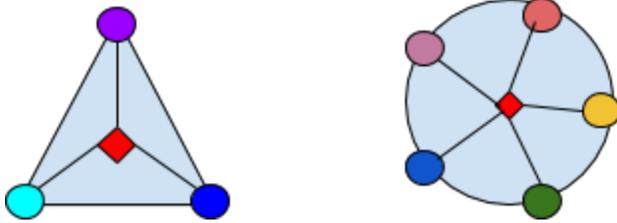


Equally Wet

Problem Statement: In this POW, we want to figure out different scenarios where three, four, five, and so on points can be placed and have equidistant lengths to another point. Not only are you trying to figure out solutions to where it works, but you want to incorporate other ideas that are impossible to work and explain why.

Visual Representation:



Process: When I began this problem, I immediately had to draw out the situation and try out different locations and see if each flower would have an equal distance to the sprinkler. I tried this process with three flowers, four flowers, five flowers, and so on. I tried thinking of formulas, such as the pythagorean theorem and see if I find equidistant lengths, but it didn't work out. Overall, I came up with scenarios for three flowers that would work and not work and came up with a solution for four flowers, five flowers, and so on.

Solution: In conclusion, I found one possible way for three flowers to have equal distances from the sprinkler, and that's if the flowers are in an equilateral triangle formation and you have the sprinkler exactly in the middle. Two ways that are impossible for the flowers to be equidistant from the sprinkler, is when they are in a straight line, because no matter where the location of the sprinkler is, it will never have an equal distance to each flower. The other impossible option is scalene triangles, because they all have different lengths and angles so it's impossible to find a location where the sprinkler will be equidistant to the flowers. One solution I found that works for as many flowers you want, is when they are in a circle and the sprinkler is located exactly in the middle. This scenario works, because the radius from the border will be the same throughout the circle.

Evaluation: All in all, I think this POW enabled a lot of different thinking of how you would approach this problem, and it allowed you to come up with as many answers as you want. I really like this process, because you can keep it simple or dive into complex situations involving equations and different shapes.

Self-Assessment: I feel like I deserve an A- because I believe I answered the question correctly and put a lot of thought and consideration into my answers. Although, my visual representation is not the best, at least you have an idea of what I was trying to communicate through it.