

10/20 Working Space

MAT 2571, Prof. Reitz

Hi everyone! This is a working document for all groups to use in sharing their work in the In-Class Assignment on 10/20/20.

GROUP 1: Jack, Jodel, Denyese

Denyese: “Starting on the inside of the given shape, and going around the perimeter of the shape, is the best way to complete the walking tour.”

Jodel: “By coloring or tracing the side while going around the shape makes it easier to understand if the trajectory is possible.”

Jack: “If the difference between the amount of edges and vertices is less than the number of vertices, then the walking tour is possible.”

Group Conjecture: “If one half times the number of edges on the outside (edges that are part of perimeter) of the shape is less than the number of edges on the inside, then the walking tour is impossible.”

GROUP 2: Allison, Nina, Matt, Erica

Allison Conjecture: If there are 0 or 2 odd numbered nodes, then the puzzle can be solved. An odd numbered node is a point where an odd number of paths converge. If the map has 1 or greater than 3 odd numbered nodes then there is no solution. Furthermore, if there are exactly 2 odd numbered nodes, then the path must start and end at an odd node.

Matt : “ for a shape to be walkable without retracement it must have at least one ‘endpoint’. If it has more than one ‘endpoint’, the points need to be connected in such a way that each has only one ‘out’ and one ‘in’. Here an ‘endpoint’ refers to the point with the least amount of connections, and the graph with points having all the same connections is the trivial graph.”

Group Conjecture : See Allison’s Conjecture

GROUP 3: Jared, Amy, Irina

Jared: A shape with n (natural number n) sides where n is greater or equal to 3 it is possible to make a pathway.

Amy: Not all the pathways need to connect to each other when making the pathways

Irina: The assignment was given to get the class to think differently about mathematics in general as opposed to how it was thought of in the lower level course

Group Conjecture: A shape with n (natural number n) sides where n is greater or equal to 3 it is possible to make a pathway.

GROUP 4:Chris, Ihn, Luis

Conjecture:(Ihn): Not every point to start can complete the puzzles.

(Iuis): Does the puzzle work because a square can be divided into triangles?

(Chris)If the puzzle is symmetrical, would the point opposite to a solution point also be a solution?"

Group conjecture: Not every starting point leads to the completion of the puzzle.