## Puzzle in Place 2020

# **July 20: Breaking Quarantine**

OBU was thoroughly prepared for students to return to campus, even going so far as to build a fancy new facility to be used to quarantine students as necessary. Alas, they did not fully comprehend the students' tenacious need to socialize with their friends. A group of motivated students have acquired the floor plans for the facility (and its oddly shaped rooms) and have now set themselves the task of digging short tunnels to connect each room to each of its neighbors...

### The Rules

Connect each room with all of its neighboring rooms using exactly one tunnel each.

- A tunnel connects two horizontally or vertically adjacent cells from different rooms.
- Two tunnels cannot share a hole.
- The numbers outside the grid indicate the number of holes in that row or column.

### An Example

Consider the floor plan below. We can place an x in each cell of the second row to indicate the lack of holes. We can then indicate holes in each of the remaining cells in the fifth column. These holes must connect via tunnel to an adjacent cell in a different room, which allows us to complete the fourth column.



There is now only one way to connect the top left room with the top center room, which completes the first row and the first column. There is then only one way to complete the third column, and the puzzle.



### Send solutions to mathcschair@obu.edu by August 3

## Puzzle in Place 2020

# **July 20: Breaking Quarantine**

### **The Rules**

Connect each room with all of its neighboring rooms using exactly one tunnel each.

- A tunnel connects two orthogonally adjacent cells from different rooms.
- Two tunnels cannot share a hole.
- The numbers outside the grid indicate the number of holes in that row or column.



Puzzle 4







Send solutions to mathcschair@obu.edu by August 3