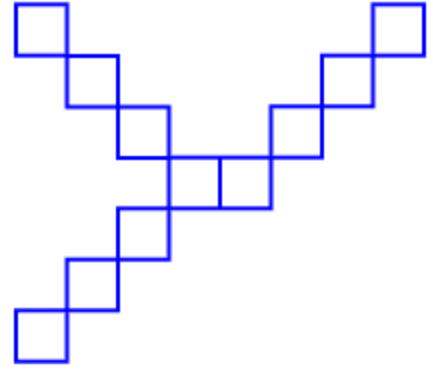
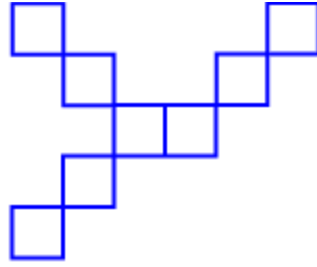
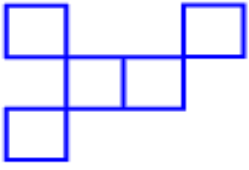


Reuben's Problem



Reuben learned in art class that a mosaic is made by arranging small pieces of colored material such as glass or tile to create a design. Reuben created a mosaic using tiles. Then he decided on a growing pattern and created the second and third mosaics. He counted the number of tiles in each mosaic and then represented this data in multiple ways. He thinks he sees a relationship between the mosaic number and the total number of tiles in the mosaic.

- Represent Reuben's data from the mosaics problem in at least three different ways: a table with data, a graph created from your table, and a general function rule.
- How many tiles would be in the tenth mosaic? Show how you determined your answer.
- Would there be a mosaic in his set that uses exactly 57 tiles? Explain your reasoning.
- In Reuben's mosaic, there were 2 tiles in the middle. How would the function rule change if the middle of the mosaic contained 4 tiles instead? Explain your reasoning using a new table and a new graph.