

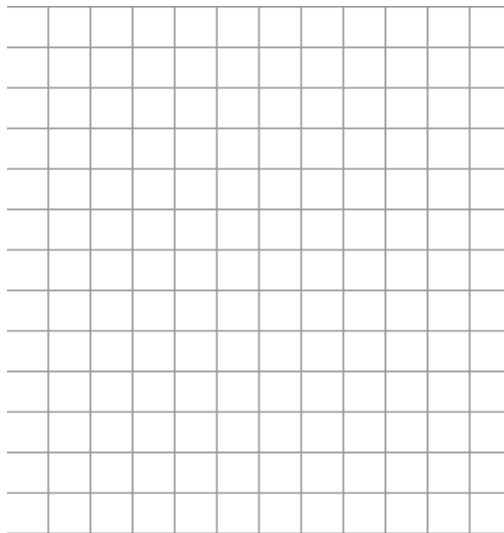
Community Service, Sequences, and Functions Task

Name: _____ Date: _____

Larry, Moe, and Curly spend their free time doing community service projects. They would like to get more people involved. They began by observing the number of people who show up to the town cleanup activities each day. The data from their observations is recorded in the table below for the Great Seven Day Cleanup.

X	Y
1	5
2	27
3	49
4	71

1. Give a verbal description of what the **domain** and **range** presented in the table represents.
2. Sketch the data on the grid below. Should the dots be connected?



3. Determine the type of function modeled in the graph above.
4. Using the same data gathered during the Great Four Day Cleanup, write an **explicit** formula using function notation.
5. Using the explicit formula from above, predict the number of people who would help on the 7th day of the cleanup.

Excited about the growing number of people participating in community service, Larry, Curly, and Moe decide to have a fundraiser to plant flowers and trees in the parks that were cleaned during the Great Four Day cleanup. It will cost them \$5,000 to plant the trees and flowers. They decided to sell some of the delicious pies that Moe bakes with his sisters. For every 100 pies sold, it costs Moe and his sisters \$20.00 for supplies and ingredients to bake the pies. They decided to sell the pies for \$5.00 each.

7. Complete the following table to find the total number of pies sold and the amount of money the trio collects for their next community service project. Assume there was a total of 10 customers on Day 1.

- a. On the first day of selling pies, each customer buys the same number of pies as his customer number. Complete the table.

Customer Number	Number of Pies Sold	Cost of Pie(s)
1	1	5
2	2	10
3	3	15
4		
5		
6		
7		
8		
9		
10		
Total		

- b. Write an explicit formula for the pies sold on day one

- c. Write an explicit formula for the cost of the pies each day.

d. On the second day of selling pies the first customer buys 1 pie, the second customer buys 2 pies, the third customer buys 4 pies, the fourth customer buys 8 pies, and so on. Complete the table based on the pattern established.

Customer Number	Number of Pies Sold	Cost of Pie(s)
1	1	5
2	2	10
3	4	20
4	8	40
5		
6		
7		
8		
9		
10		
total		

- d. Write an explicit formula for the pies sold on day two

- e. Write an explicit formula for the cost of the pies each day.

8. Compare the pies sold and the amount earned from the pies on day one to that of day two. Explain why the number of pies sold on day two is so much greater than those sold on day one?

9. Compare the amount of money earned from the pies sold on day one to that of day two. Explain why the amount of money on day two is so much greater than the amount on day one?