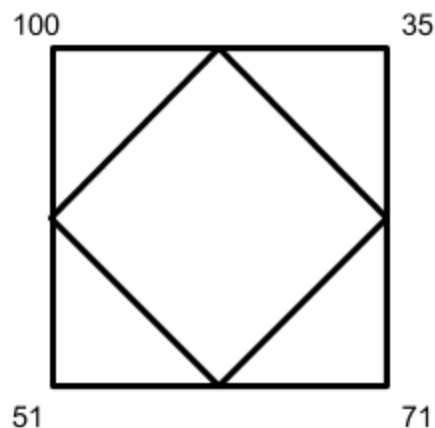# The Four Numbers Game
Boise Math Circle

How to Play the Four Numbers Game

- Start with 4 numbers in a square (see drawing)
- Calculate the absolute (nonnegative) difference between each pair of nearby numbers. These make a new square.
- Repeat the process...

1. Record the numbers at each stage of the game:

Iteration Number	Number 1	Number 2	Number 3	Number 4
(initial)	100	35	71	51
1				
2				

2. Explore the game using the following example initial values. Create new examples too!
- 100, 35, 51, 71
- 9, 5, 1, 7
- 3, 3, 10, 51
- 66, 8, 2, 157
- 13, 7, 4, 2
- 200, 25146, 2, 1150
- 44, 24, 13, 7
- 200, 170, 90, 50
- 310, 170, 90, 50
- 17231105, 61203, 5371211, 222

Write down things that you notice, especially patterns you're seeing across examples.