

## Mathletes Problem of the Week #3

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### Difference Game



The numbers 1 through 4 are written on the board. To play the game, you erase two numbers and then write their difference on the board. You do this repeatedly until there is only one number left on the board.

- Is the final number even or odd?
- What if you played the game starting with the numbers 1 through 5 written on the board? Is the final number then even or odd?
- Can you find a pattern to help you predict the outcome for larger sets of starting numbers?

**Solutions & Explanations:** (Try one or try them all! Record your solutions and explanations below and on the back.)

Name \_\_\_\_\_ Class \_\_\_\_\_

(First and last name, please!)

Solutions due: October 18<sup>th</sup>