Mathematical Zendo

Corey Pooler
Phil DeOrsey
Westfield State University

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Zendo is a logic game. Players deduce a secret rule.

Rules pertain to structures built out of prisms.
Structures are marked according to whether or not they satisfy the hidden rule.
Can you deduce the secret rule?
Can you deduce the secret rule?

The structure must contain exactly one blue piece.
Mathematical Zendo is a game based off of Zendo
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- Modified the game to include common mathematical topics
Mathematical Zendo is a game based off of Zendo

- Modified the game to include common mathematical topics
- Mathematical objects replace prisms
Think about possible hidden rules for this situation:

<table>
<thead>
<tr>
<th>Satisfies</th>
<th>Does Not Satisfy</th>
</tr>
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<tbody>
<tr>
<td>3 17</td>
<td>-8  -14</td>
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The rule is that the number must be positive!
Think about possible hidden rules for this situation:

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The rule is that the number must be positive!
Student engagement and active learning
■ Student engagement and active learning

■ Community building
Why Mathematical Zendo?

- Student engagement and active learning
- Community building
- Students practice procedural skills in a fun setting
Why Mathematical Zendo?

- Student engagement and active learning
- Community building
- Students practice procedural skills in a fun setting
- Easily aligns with content standards
On your turn you should:

1. Choose a number.

2. Quiz or Tell.

3. Guess the rule!

If you guess wrong I will provide a counterexample.
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The number must be odd!
Satisfies: 3

Does Not Satisfy: 92 4

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The number must be prime!
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The number must be prime!
EXAMPLE OF LINEAR FUNCTION ZENDO

Satisfies

$y = 2x - 4$

Does Not Satisfy

$y = -x - 1$

The rule is that the function must have a positive slope!
EXAMPLE OF LINEAR FUNCTION ZENDO

Satisfies

\[ y = 2x - 4 \]

The rule is that the function must have a positive slope!

Does Not Satisfy

\[ y = -x - 1 \]
Full teacher guide

- Numbers and Linear Functions
- How to play and example games
- Tips for teachers and for students
- Rule cards
- One page summary sheets
- Suggested Openers
Expand topics

» Systems of equations

» Functions

» Matrices

» Groups

» Graphs

» Other fields
Satisfies

Blue Whale
Gorilla

Does Not Satisfy

Rattle Snake
Bald Eagle
Satisfies

Blue Whale
Gorilla

Does Not Satisfy

Rattle Snake
Bald Eagle

The rule is that the organism must be a mammal!
■ Corey Pooler: cpooler6698@westfield.ma.edu
■ Phil DeOrsey: pdeorsey@westfield.ma.edu