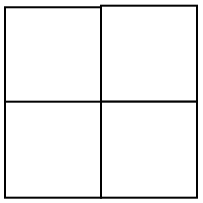
Representing odd and even numbers

We can represent numbers using blocks, or squares. For example:



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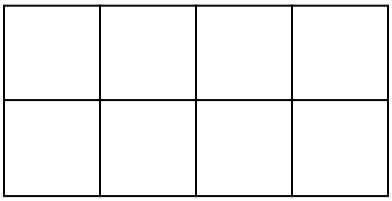

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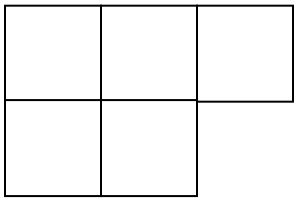

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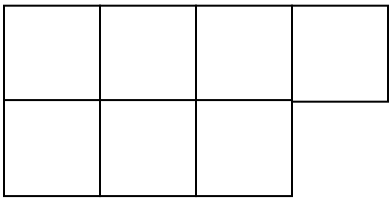

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In even numbers, all the squares are paired, but in odd numbers there is one unpaired square.

Therefore:

- When an even number is added to an even number, the squares remain paired, and therefore an even number results.
- When an odd number is added to an odd number, the two unpaired squares can pair up, so an even number results.
- When an odd number is added to an even number, there is an unpaired square, so an odd number results.
- When an odd number is taken away from an odd number, no unpaired squares remain, so an even number results.
- When an even number is taken away from an even number, the squares remain paired, so an even number results.
- When an odd number is taken away from an even number, an unpaired square will be left, so an odd number results.

- When an even number is taken away from an odd number, an unpaired square remains, so an odd number results.