

# The 135-Exhibit

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## Material

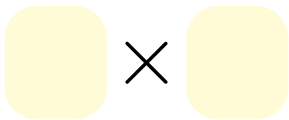
- ▶ One needs five numbers 1, five numbers 3, five numbers 5. These numbers should be handled as objects, they can be for example wooden numbers.
- ▶ One needs the two boards which are provided later in this file (they can simply be printed out).

## Description

- ▶ Each board contains a formula with several placeholders.
- ▶ The numbers 1,3,5 (possibly repeated) should be placed in the formula.
- ▶ The expression displayed by each formula should be the number 135.



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## SOLUTIONS

$$135 = 1 + (3 \times 3) + (5 \times 5 \times 5)$$

$$135 = (1 + 3 + 5) \times (1 \times 3 \times 5)$$

**FURTHER EXPRESSIONS:** In a similar way, one can use the numbers 3 and 5 to convey expressions for the numbers 35 and 53.

$$35 = (3 \times 5) + (3 \times 5) + 5$$

$$35 = (5 \times 3 \times 3) - (5 + 5)$$

$$53 = (5 \times 5) + (5 \times 5) + 3$$

$$53 = (5 \times 3 \times 3) + (5 + 3)$$

**FURTHER GAMES:** This way of handling numbers as objects in formulas with placeholders can be easily applied to many mathematical formulas and brainteasers with numbers. With a bunch of wooden numbers one can then easily produce a series of mathematical exhibits.