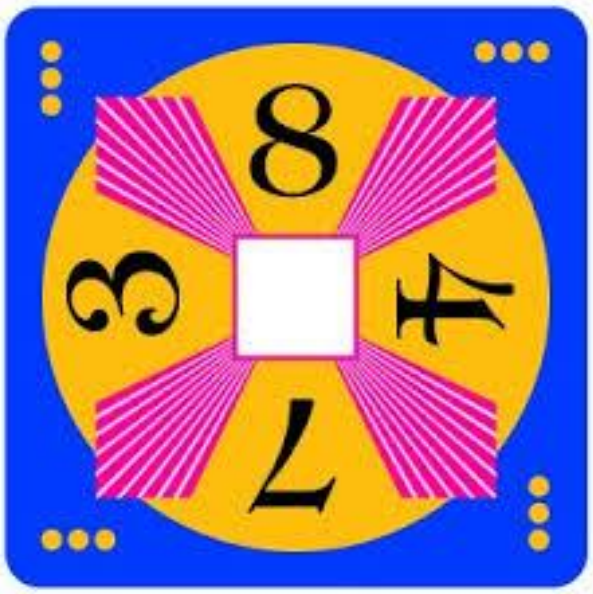
Icebreaker

Using each of the numbers below exactly once and any of the four basic operations, make the number 24.



Credit: Josh Taton, PhD Candidate UPenn GSE (jtaton@upenn.edu)
Amy Myers, PhD, Bryn Mawr College
Michael Nakamaye, PhD, University of New Mexico (for the 1,2,3,4 problem)
and the Philadelphia Area Math Teachers' Circle (PAMTC, philamtc@gmail.com)

Main activity

Using the numbers 1, 2, 3, and 4 *no more than once*—and any of the operations of addition, subtraction, and multiplication, what is the largest number that you can obtain under these restrictions?

Extension questions for the same setup as above:

- What is the smallest positive number you **cannot** get?
- What is the smallest negative number you can get?

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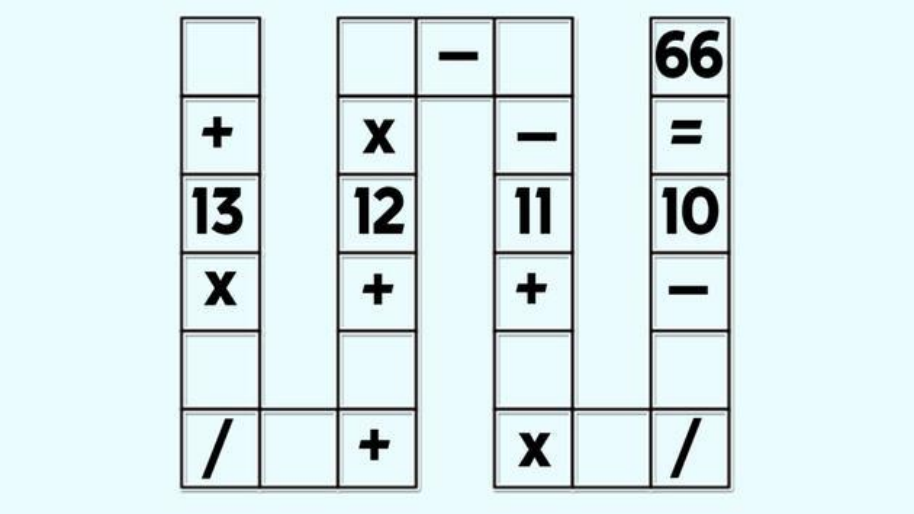
Additional problems

1. What other interesting questions can you ask about the setup in the main activity? [Email us at matt.sequin@rutgers.edu and tenis@rci.rutgers.edu]

2. Fill-in the boxes with 1, 2, 3, … 9 to make a true statement



3. What is 2^{3^2}?

4. Using each of the numbers below exactly once and any of the four basic operations, make the number 24. [Hint: one of the solutions involves fractions!]

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