# APSU Math Problem of the Week
Problem #3: Naked Sudoku

Submission Deadline: 9/17/2021 by 12pm to
Dr. Brad Fox in **MMCS 109** or by email to **foxb@apsu.edu**

Naked Sudoku is a variation of standard sudoku with the noticeable feature that no numbers are provided to you. This particular puzzle can be solved solely by using the clues that indicate relationships between the cells. In addition to the usual rules of 1 through 9 being in each row, column, and 3×3 square exactly once, any numbers x and y in adjacent cells within a 3×3 square in which x is a factor of y are marked by $x \subset y$ between their cells. As examples, 3 is a factor of 6 since $3 \cdot 2 = 6$ but 3 is not a factor of 8, and the number 1 is a factor of all the numbers 2 to 9 since $1 \cdot n = n$. Additionally, a few neighboring cells are separated by an inequality sign to show $x < y$.
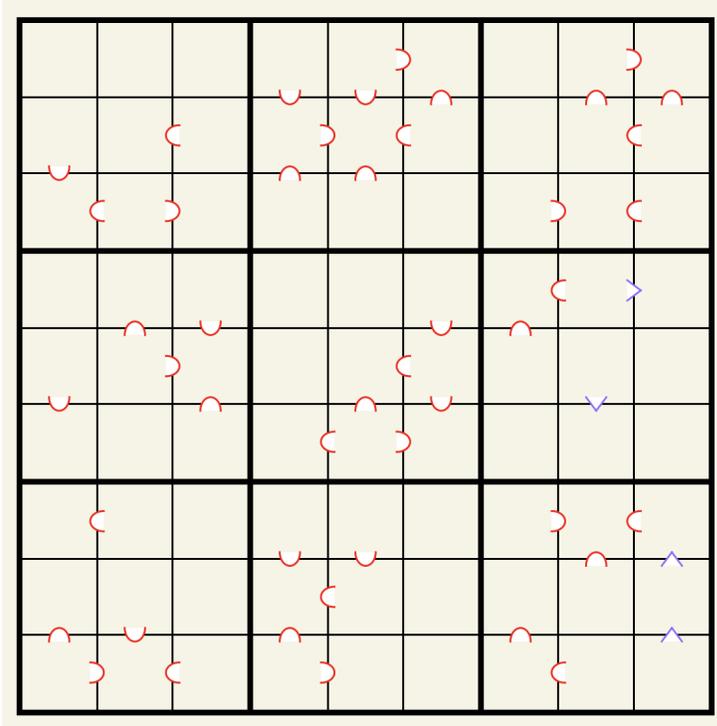
Feel free to take this printout, or find each Problem of the Week by scanning this:

Complete the problem each week for a chance to win a prize
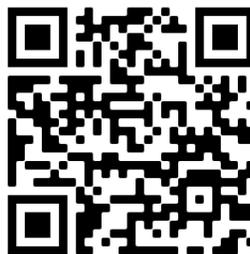
Rules:
1. Any APSU student can submit a solution individually, or work can be done in a small group of 2 or 3 students.
2. Solutions must be justified when appropriate to be considered correct (but not for this puzzle).
3. Submissions can be made to Dr. Brad Fox (MMCS 109) or electronically to foxb@apsu.edu
4. Problems will be posted each Friday afternoon with submissions due by the following Friday at 12pm. Solutions and the weekly winner will be posted once the deadline has passed.
5. One correct submission (whether submitted individually or as a group) will be randomly chosen to win a prize such as gift cards, Galois Math Club t-shirts, and APSU CoSTEM swag, in addition to receiving the glory of having their success published on this webpage.
6. Faculty and other non-students can submit solutions, but are not eligible for prizes.