



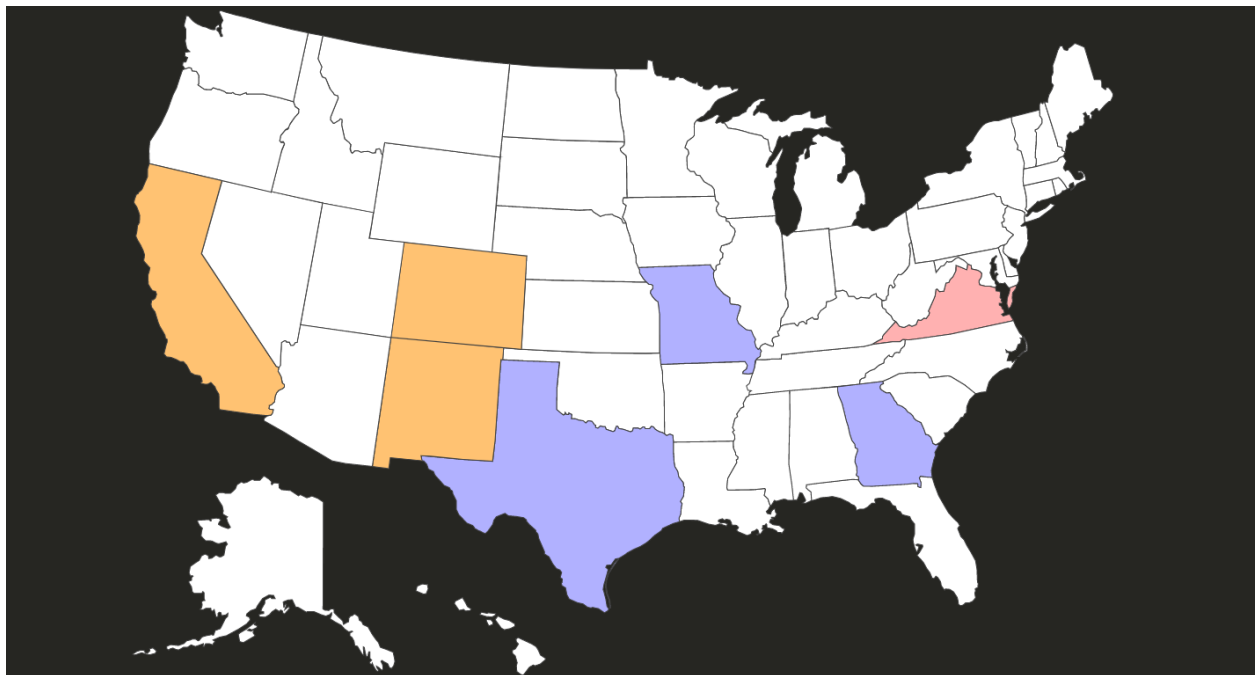
UNIVERSITY OF WISCONSIN
PLATTEVILLE
DEPARTMENT OF MATHEMATICS

PROBLEM OF THE WEEK #1
(Fall 2022)

This week, across the United States, the 48 contiguous states are choosing sides for a very big game of capture-the-flag. To make things work right, we need 24 states on the orange team and 24 on the blue team, and each team has to be contiguous — the 24 states have to form a single connected region.

It's time for the orange team to make its fourth pick: so far, they've chosen California, Colorado, and New Mexico, while the blue team has Florida, Missouri, and Texas. The orange team wants to select Virginia. Is that legal? In other words, can the draft then be completed so that both teams comprise 24 contiguous states?

Note: Michigan is a little complicated, because it's not all one piece. Let's agree to count Michigan as a single piece anyway, with Wisconsin, Indiana, and Ohio as its neighbors.



[Please fully explain your answer.]

Email solutions to kwonmi@uwplatt.edu by 4:00pm on Wednesday, September 21, 2022.

Every week, the best solution submitted earns a \$10 Platteville gift certificate; the top scorer each semester also wins a cash award. Good luck!

You can always see the Problem of the Week (and complete rules) online at:

<http://uwpmath.weebly.com/>