



UNIVERSITY OF WISCONSIN
PLATTEVILLE
DEPARTMENT OF MATHEMATICS

PROBLEM OF THE WEEK #5
(Fall 2021)

In a 9630×9630 square grid, each 1×1 square is either blue or orange. Each blue square that isn't on the border has exactly four orange neighbors (either horizontally, vertically, or diagonally), and each orange square that isn't on the border has exactly five blue neighbors. How many squares are orange?

[Please fully explain your answer.]

Email solutions to kwonmi@uwplatt.edu by 2:00pm on Wednesday, October 20, 2021.

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/>