



UNIVERSITY OF WISCONSIN
PLATTEVILLE
DEPARTMENT OF MATHEMATICS

PROBLEM OF THE WEEK #10
(Spring 2023)

Claudine has seven playing cards marked 1, 2, 3, 4, 5, 6, 7. She shuffles the cards and deals three of them to Anne-Marie and three to Barb, keeping the remaining card for herself. All three people know the rules, and each can see the cards that they hold, but no others. Anne-Marie has never met or communicated with Barb before, so they have not agreed on a code or plan.

Explain how Anne-Marie can make one true public statement that will tell Barb exactly which cards Anne-Marie has, without letting Claudine learn the location of any card other than the one she holds herself.

[Please fully explain your answer.]

Email solutions to kwonmi@uwplatt.edu by 2:00pm on Wednesday, April 12, 2023.

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/>