



PROBLEM OF THE WEEK #6  
(Fall 2020)

Given a real number  $x$ , find all  $n$ -tuples  $(y_1, \dots, y_n)$  that solve the real equation

$$\sum_{k=1}^n \sqrt{x - y_k} = n + \sqrt{(1-x)n + \sum_{k=1}^n y_k}.$$

[Please fully explain your answer.]

Email your solution to [kwonmi@uwplatt.edu](mailto:kwonmi@uwplatt.edu) by 4:00 P.M. on Wednesday, October 28, 2020.

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/>