PROBLEM OF THE WEEK #2
(Spring 2023)

Suppose $\{a_1, a_2, a_3, \dots\}$ is a sequence of positive numbers with the property that for all $n \geq 2$, $(n+1)^{a_n} = n^{a_{n-1}}$.

For which values of n is $a_n < \dfrac{a_1}{2023}$?

[Please fully explain your answer.]

Email solutions to kwonmi@uwplatt.edu by 2:00pm on Wednesday, February 8, 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/