



UNIVERSITY OF WISCONSIN  
**PLATTEVILLE**  
DEPARTMENT OF MATHEMATICS

PROBLEM OF THE WEEK #6  
(Spring 2023)

For each positive integer  $n$ , let  $D_n$  be the greatest odd divisor of  $n$ . (For example,  $D_{168} = 21$ .)  
Find  $D_1 + D_2 + D_3 + \cdots + D_{2048}$ .

[Please fully explain your answer.]

Email solutions to [kwonmi@uwplatt.edu](mailto:kwonmi@uwplatt.edu) by 2:00pm on Wednesday, March 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/>