

NMU Math & CS Department
Problem of the Month
September 2023

Consider the process of “rotating the digits” of a positive integer, i.e. we move the digit that is farthest to the left, all the way over to the rightmost digit.

Here’s some examples:

$$486 \rightarrow 864$$

$$1325 \rightarrow 3251$$

$$3323 \rightarrow 3233$$

$$49864 \rightarrow 98644$$

Show that this process can *never* double a positive integer.