Pi Mu Epsilon Problem of the Month
February 2022

Consider the following sets:

$\{23,591,48,76\}$, $\{381,479,652\}$, and $\{12,43,56,78,9\}$

Each of them contains all digits 1 through 9 exactly one time. Note two other things: 1) None of these three sets consists of elements that are only prime numbers. 2) The elements of the set can be added (for example, the sum of the elements in the third set is $12+43+56+78+9 = 198$).

Create a set using all digits 1 through 9 exactly one time such that:

- all elements of the set are prime numbers, and
- the sum of the numbers is as small as possible.

Problem of the Month Rules:
- ⌘ Submissions must include a complete mathematical justification along with the answer.
- ⌘ Submissions may only be made by individuals or groups of two and must be dated.
- ⌘ Due date: February 25, 2022 before 5 p.m. to one of Drs. Poplin, Shoenthal, Ledford, or Hoehner.

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