## Pi Mu Epsilon Problem of the Month November 2022

Starting with the number 1, we can create a counterclockwise spiral by inserting the smallest positive integer such that each row, each column, and each diagonal contains distinct (different) numbers.

The first 11 terms of the spiral look like this, starting with the underlined 1:


The number 6 first shows up in the term 9. In what term is the first time that the number 13 shows up?

Problem of the Month Rules:
$\mathscr{H}$ Submissions must include a complete mathematical justification along with the answer.
H Submissions may only be made by individuals or groups of two and must be dated.
$\mathscr{H}$ Due date: November 28, 2022 before 5 p.m. to one of Drs. Poplin, Shoenthal, Ledford, or Hoehner.
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