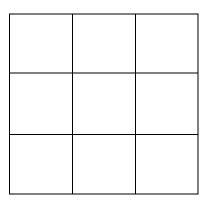
Pi Mu Epsilon Problem of the Month October 2018

Consider a three-by-three grid. What is the total number of ways to place four coins on the grid so that the following conditions hold?

- a) Every row of the grid contains at least one coin.
- b) Every column of the grid contains at least one coin.
- c) No square in the grid contains multiple coins.



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.
- **H** Due date: October 26, 2018 before 5 p.m.; they may be given to Dr. Phillip Poplin or Dr. David Shoenthal.

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