



Mathematisches Kolloquium

Completing Some Partial Latin Squares

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12.05.2017 | 14:30 Uhr | R220 HeHo 18

A partial latin square can be completed if there is a latin square of the same order containing it.

Let $r, c, s \in \{1, 2, \dots, n\}$ and P be a partial latin square of order n in which each nonempty cell lies in row r , column c , or contains symbol s . We will show that if $n \notin \{3; 4; 5\}$ and row r , column c , and symbol s can be completed in P , then a completion of P exists.

We will also show that it is always possible to complete partial latin squares with two filled rows and two filled columns, except for a few small counterexamples.