

The $\{x, y, x + y, xy\}$ Question and the Divisible Schur Theorem

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Abstract

The $\{x, y, x + y, xy\}$ question (Must any finite partition of \mathbb{N} have a cell containing such a set? ($x = neqy$)) remains unanswered after more than 20 years. We discuss the relationship between this question and the recently established divisible Schur theorem, and the (false) divisible Van der Waerden question.