

Anyone for Twopins?

Scan

pp 2-15 (only)

add to sequences
listed on pages

11, 12 and 14

Total of
 $16 + 2 = 18$ sequences

(Don't need to scan title page)

"Tuppins") is played by
Figure 1. Each column
d so that the bowler may
g columns. If a column of
are not reset before the
he last pin falls and the
or a proper shot, at least
a single column when it
some isolated single pins
remove column *d* only,
unless you remove an adjacent column at the
same time. After removal of *d*, the opponent cannot remove columns *c* and *e*
because these are not neighboring.

Twopins is considered an *impartial* game because in any position, the available options are the same for each of the two players. In contrast, chess is a *partisan* game because, in any position, Black has a different set of available options from White. The theory of impartial games in which the *last* player is declared the winner, is not as widely known as it deserves to be. It was discovered independently by Sprague [21] and Grundy [12] and by various people since. They found that every position in any impartial game has a *nim-value*; that is, the position is equivalent to a *nim-heap*, or a heap of