

We study two impartial games introduced by Anderson and Harary and further developed by Barnes. Both games are played by two players who alternately select previously unselected elements of a given finite group. The first player who builds a generating set from the jointly selected elements wins the achievement game. The first player who cannot select an element without building a generating set loses the avoidance game. After a review of the Sprague–Grundy theory of impartial games, we determine the nim-numbers of these games for some finite group families.