

## **A tight lower bound for the split domination number of a regular tournament**

Kim Factor, Marquette University, Larry Langley and Sarah Merz\*, University of the Pacific

In a strongly connected digraph, we consider the problem of finding a set of minimum size that is both dominating and separating. A set of vertices,  $S$ , is dominating provided for all  $v$  in the digraph, either  $v \in S$  or  $(w, v) \in A(D)$  for some  $w \in S$ . In a strongly connected digraph, a set of vertices is separating provided removing this set of vertices results in a digraph that is not strongly connected. Let  $D$  be a strongly connected digraph. Then  $\gamma_s(D)$  denotes the minimum size of a subset of  $V(D)$  that is both dominating and separating. We present a tight lower bound for  $\gamma_s(T)$  where  $T$  is a regular tournament.