

## Ramsey Numbers for Trees with Large Maximum Degree

Sami Austin, Josias Gomez, Bill Linderman\*, King University

The *ramsey number* of a graph  $G$  is the smallest integer  $t$  such that every 2-coloring of the edges of  $K_t$  in red and blue contains either a red copy of  $G$  or a blue copy of  $G$ . For  $n \geq 8$ , we determine the ramsey number for each of the three trees with  $n$  vertices and maximum degree  $n - 3$ . One family of trees is obtained by identifying the end of a path with 4 vertices with the central vertex of a star with  $n - 4$  edges (brooms), one family is obtained by joining the middle vertex of a path with three vertices to the central vertex of a star with  $n - 4$  edges by an edge (double stars), and one family consists of a star with two subdivided edges. Our approach is different from techniques previously used to find ramsey numbers for brooms and double stars.

Keywords: Ramsey number, tree, star.