

Department of Mathematics and Statistics Colloquium

Cylindrical Cayley Graphs

Dr. Carl Droms

JMU

Abstract: One way to think of a group is as a description of the ways in which something (such as a geometric object) is symmetric, and you can get insight into the structure of the group by examining the object. But given a group, is there always such an object? The answer is yes: the *Cayley graph* of the group.

A Cayley graph is most helpful in understanding a group when it is *planar*—that is, when it can be drawn in the plane without any extraneous edge-crossings. But even if a Cayley graph can be drawn in the plane, it might not be possible to do so in a way that makes its symmetry apparent.

In this talk, I will discuss Cayley graphs that cannot be drawn symmetrically in the plane, but which can be so drawn on an infinite cylinder. For those who don't care that much about the math, there will be pictures.

**Monday, November 2 at 3:45 in Roop 103,
tea at 3:30**