1125-Q5-2179   **Mary L. Garner*** (`mgarner@kennesaw.edu`), 4621 Ivygate Circle, Atlanta, GA 30339, **Virginia Watson** (`vwatson@kennesaw.edu`), 1000 Chastain Road, Kennesaw, GA 30144, and **Beth Rogers** (`mroger47@kennesaw.edu`), 1000 Chastain Road, Kennesaw, GA 30144. *Dancing in Math Circles.*

Contra Dancing is a type of dance much like square dancing, usually performed to jigs or reels. Each contra dance begins with two long lines of dancers, everyone facing a partner. Two pairs of dancers form a square and execute a sequence of 8 figures for 64 beats of music; then each pair of dancers joins a new pair to execute the same sequence. The footwork consists of walking in time with the music, one step for each beat, so it's easy to learn quickly and everyone in a math circle can be dancing within minutes! The dancing provides a very physical way to explore transformations of the plane and symmetries of the square, providing a context for discussing everything from simple rotations and reflections to matrices and group theory. It's also a great way to break the ice in a new math circle! In this presentation, everyone will be dancing. (Received September 19, 2016)