

1056-Z1-1601      **Tom McMillan** (tcmcmillan@ualr.edu), Department of Mathematics & Statistics, UALR, 2801 South University Ave, Little Rock, AR 72204-1099, and **Jim Fulmer\*** (jrfulmer@ualr.edu), Dept. of Mathematics & Statistics, UALR, 2801 South University Ave, Little Rock, AR 72204-1099. *Using Proofs without Words to Explore Rules of Differentiation.*

This talk will describe our experience using geometric proofs without words for the rules of differentiation as a means for getting students to think about the differentiation rules and for coming up with proofs in their own words. We distributed to our students a variety of picture proofs and let them work with partners in developing a written proof that explained the picture proof. Our talk will describe the insights and innovations that students came up with as they used the pictures as a guide for proving the differentiation formulas. This was a required activity of the course, and students presented their results as part of the course portfolio. We felt that this experience helped students develop the confidence to create their own proofs. (Received September 22, 2009)