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James Henderson* (jrh66@psu.edu). *When Physicists Teach Mathematics.*

The teaching of mathematics is one of the field's most straightforward applications. Because the math lessons 10-year-olds absorb are of a very different sort than those mathematicians-in-training endure while studying functions of a complex variable in graduate school, it is not surprising that the material varies quite a bit in many settings in which math is taught, but the presentation of the material does, too, depending on the professor, the audience, and the purpose of the class. Further, it's not just mathematicians who teach math. Sometimes, for instance, physicists teach math to physics majors explicitly for use in physics courses. This was most famously done in 1961 and 1962 by Richard Feynman at Caltech. (Math was not all he taught, but algebra did warrant a chapter in his celebrated *The Feynman Lectures on Physics* [1963].) How does the presentation differ when a mathematician teaches math to math students and a physicist teaches math to physics students? What are the primitive terms and rules of inference in each case? How do these differences define the process of teaching? To answer these questions, I will rely on Feynman's lecture on algebra, input from a physicist friend, and my own experiences as a graduate student in a mathematics program. (Received August 28, 2017)