The Mathematical Education of Teachers II recommends that courses and professional development experiences for mathematics teachers should develop the habits of mind of a mathematical thinker and problem-solver, such as reasoning and explaining, modeling, seeing structure, and generalizing. Courses should also use the flexible, interactive styles of teaching that will enable teachers to develop these habits of mind in their students. At the University of Nebraska-Lincoln, the mathematical education of elementary teachers is viewed as an interdisciplinary partnership that involves mathematicians, mathematics educators, and master teachers. We want elementary teachers to believe that mathematics is something you think about – that mathematical situations can be reasoned about on the basis of a few basic principles. Our goal is to present mathematics as a coherent body of knowledge that helps teachers develop the ability to reason about elementary mathematics. (Received September 13, 2014)