In-service mathematics teachers often receive frequent professional development opportunities in developing and enhancing content and pedagogical knowledge. However, mathematical knowledge for teaching encompasses much more, including the advancement and augmentation of problem solving techniques, reasoning, and connections. The Central Virginia Math Teachers’ Circle is designed to help teachers deepen their mathematical knowledge for teaching through intensifying their problem solving skills. We will describe the nature of this professional development and how it differs from other professional development programs offered to our population of secondary mathematics teachers. (Received September 20, 2015)