Students’ lack of perseverance is a primary factor contributing to low success rates in mathematics gateway courses. Perseverance in mathematics is a multifaceted construct involving students’ interests and proclivities, their will and skill. Often perseverance is portrayed as a kind of trait that a student possesses—a kind of generalized intellectual toughness—rather than a behavior that emerges from a variety of subjective constructions and appraisals students make in the context of particular situations. In this presentation, I integrate a number of related lines of inquiry in the field of mathematics motivation to propose a model for the development of perseverance in mathematics. Specifically, I redefine perseverance as a self-regulatory strategy involving a dynamic interplay between mathematical tasks, mathematics as an intellectual pursuit, and the goals, interests, and resources students bring to the learning environment. The model of perseverance I describe includes four central aspects: interests and identity, establishing goals, utilizing resources, and anticipating consequences. For each of these aspects, I offer specific suggestions for how instructors can improve students’ perseverance in mathematics gateway courses. (Received September 11, 2017)