**Bridge to Upper-Level Algebra for**

**Adult Education Students: Polynomials**

**Description:** This curriculum contains a set of lesson plans, guided lessons with explanations, worksheets, and activities for the adult education student at NRS levels 4+. It has five lessons totaling approximately 8-10 hours of classroom teaching and learning. The content focuses on a subset of algebra called *polynomials*, which is considered to be among the highest level of mathematics content for an adult education student in Kentucky. The lesson plans will guide an instructor in teaching these lessons; however, a motivated student with strong reading skills can successfully work through the curriculum independently.

**Objective:** A student that completes this curriculum will be better prepared for the most difficult and rigorous portions of the GED® Test, the COMPASS, and other high-stakes exams. The curriculum moves students through the following:

* understanding the components of polynomials
* adding, subtracting, multiplying, and factoring polynomials (note: no division)
* polynomial applications to geometry
* effective strategies to navigate the typical types of “word problems” found in polynomial-test-question materials
* additional skill development and techniques for solving factorable quadratic equations

Additionally, students that successfully complete this curriculum will be at a stage of mathematical development and preparedness to navigate much of the most significant and challenging content present in the KCTCS mathematics courses *MAT 065* or *MAT 100*.

**Prerequisites:** This curriculum is for students who have already developed their mathematical skills in the following areas: rules and properties of integers; evaluating algebraic expressions when given the value of a variable(s); solving one-step and two-step equations of one variable; the use of the distributive property to remove or create parentheses in an algebraic expression; basic geometry concepts like perimeter and area. Students should also understand the concepts and vocabulary associated with the differences between an “algebraic expression” and an “algebraic equation”, along with the difference between “simplify” and “solve”.

**Recommended Co-requisite or Pre-requisite:** A student who has a beginning to moderate understanding of functions may be better equipped for the level of rigor in these lessons than a student who does not. However, a background in functions is *not* required for these lessons—but is recommended afterwards for students lacking it.