

Learning Project ③

Algebra/Variables



Introduction

The activities in this Learning Project introduce the algebraic concept of using variables. The first two Inquiry Activities (3-1 and 3-2) force the students to generalize about the arithmetic idea of rates by using variables. Since these are multi-step problems similar to those that they have just studied, they should help to develop a clearer understanding of the previous project as well. These two items are set-up items where the answer choices are equations that describe processes rather than final numerical answers. The last item (3-3) using variables in a geometric formula, provides an opportunity for the two disciplines, algebra and geometry, to enhance the understanding of each other.

Throughout this activity and the next, you may encounter student anxiety about the idea of algebra. While students should be able to discuss their fears openly, they should not contaminate the class with negativity. The elements of algebra that are needed for the GED test involve some abstraction but focus on the practical uses of being able to use symbols in problem solving. As a result, your anxious students should be pleasantly surprised to find themselves working easily with variables.

Algebra's bad reputation with most students seems to arise from what they see as isolated rules that make no sense. While there are rules involving notation and symbol manipulation that they will see in these projects, solid reasoning stands behind them. Take the time to build a solid, sense-making foundation during this project so that your students can progress without additional anxiety.