



# YALE NATIONAL INITIATIVE

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Curriculum Units by Fellows of the National Initiative

2007 Volume VI: Keeping the Meaning in Mathematics: The Craft of Word Problems

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## **Word Problems: Looking for the Similarities in Problems to Help Categorize and Solve Them**

Guide for Curriculum Unit 07.06.09, published September 2007

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This unit is written for freshman, ages 13/14. The purpose of this unit is to supply students with the basic tools and ideas they will need to begin their study of linear equations. I will help students go from simple to more complex problems by having them recognize the similarities and differences between problems. I believe that once a student can recognize and categorize the given problems, they will then feel confident enough to attempt to solve these and the more complex problems we will study later in the year. This is just another way of saying we are going to categorize or group problems. It is important for students to recognize what red flags there are in each problem that categorizes a problem as such, by identifying the subtle differences or similarities. I will also spend some time going over the language of word problems. I believe that there is a tendency of teachers not to explain key conventions and assumptions. I have found that going over the language is beneficial for two reasons. The first reason is that it clarifies the meaning of the terms. The second reason is that it sends a message to the students that it is OK to ask if they don't understand. How can they answer the question if they don't know what they are being asked? This unit is designed to help my students recognize various problems and use several different tools to derive an answer that makes sense. In addition, I hope to add some fun to their math experience.

(Developed for Algebra I, grade 9; recommended for Algebra I, grade 9)

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