

Lesson 2 Supplemental Assignment

In these problems, we will model situations using algebra pieces. These pieces are the unit piece and the variable piece (sometimes referred to as a “stick”).



Unit



Variable piece

Take care in these problems to *show how to use your model* to determine the answers. We are not interested in translating directly to algebraic equations!

For each situation, sketch an algebra-piece model to represent the problem. Then solve each problem using your model, and explain how you used your model to arrive at your conclusion. All of your work should be done neatly on a separate page or pages.

1. The second side of a triangle is twice the length of the first side. The third side of the triangle is 6 units longer than the second side. The perimeter of the triangle is 66 units. Find the length of each side of the triangle.
2. There are three boys on the school playground for every girl on the playground. Altogether there are 76 children. How many are boys? (Hint: Let one variable piece represent the number of girls on the playground.)
3. Andrea has a collection of nickels, and Greg has a collection of dimes. The number of nickels Andrea has is four times the number of dimes that Greg has. Andrea has 80 cents more than Greg. How much money does Greg have? (Hint: Let one variable piece represent the number of dimes Greg has.)
4. Three-fifths of the students in a class are women. If the number of men in the class was doubled and the number of women was increased by 9, there would be an equal number of men and women. How many students are there? (Hint: Represent the number of women by three variable pieces and the number of men by two variable pieces.)