Tools and Topics

Inspiring Connections Course 1, Chapter 8

Spotlight On: Setting Goals

It is really difficult to get somewhere if you do not know where you want to go. Throughout the year, students have been setting goals for their mathematical journey in their journals. They have probably reached or exceeded some goals, and are still working on others. This is all part of the journey. Now might be a great time to check in and ask your student what their goals are for the rest of this school year!

The Big Picture

Growing From
Order of Operations;
Exponents

Working On
Algebraic expressions;
Writing equations and inequalities;
Distributive Property

Growing To
Solving equations and inequalities

Need Help?

Methods & Meanings boxes are included in the Mathematician's Notebook as reference.

8.1.1: Fraction Division
8.1.3: Algebra Tiles
8.1.4: Distributive Property with Variables
8.1.6: Combining Like Terms
8.2.3: Using Variables to Generalize
8.3.1: Evaluating Algebraic Expressions

Try This at Home!

Throughout this course, students have solved many Dakabibi puzzles, like the one shown. Ask your student how a Dakabibi works, and make one up to solve together. One possible solution for the Dakabibi shown is $7 + 9 \cdot 3 = 34$.

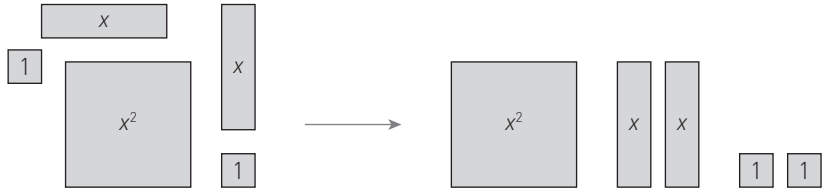
$\square + \square \cdot \square = 34$

Current Topics

In Chapter 1, students worked with numerical expressions to represent a variety of situations, such as oranges in a lunchbox and groups of pennies and dice. Since then, they have worked with numbers in all sorts of forms: whole numbers, decimals, percents, fractions, and mixed numbers. This chapter takes everything students know about numbers and puts it into the context of expressions. Variables are added to the mix to represent unknown numbers, and the journey towards algebra continues to build.

Algebra Tiles (Section 8.1)

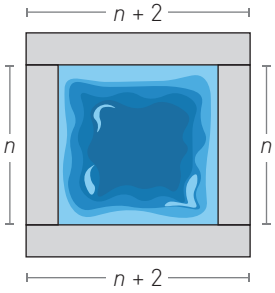
This section introduces students to algebra tiles, which will be used throughout CPM courses. Algebra tiles serve as a bridge between concrete experiences students have had with numbers and the abstract world of algebra. Algebra tiles are engaging and accessible, allowing students to represent algebraic expressions with a visual, hands-on model. Each tile represents a term, such as x, 1, or x^2, and when tiles are grouped, students can form equivalent expressions or rewrite an expression by combining like terms.



$1 + x^2 + x + 1 + x$ $\qquad$ $x^2 + 2x + 2$

Expressions (Section 8.2)

In this section, students use expressions, both numeric (those with only numbers) and algebraic (those with both numbers and variables), to solve problems involving patterns in a variety of contexts, such as tiles around a pool.



Equations and Inequalities (Section 8.3)

The chapter uses patterns familiar from earlier in the course to preview equations and inequalities. For example, students work with patterns made from game pieces, as shown. This will prepare students for the work they will do solving equations in Chapter 9.