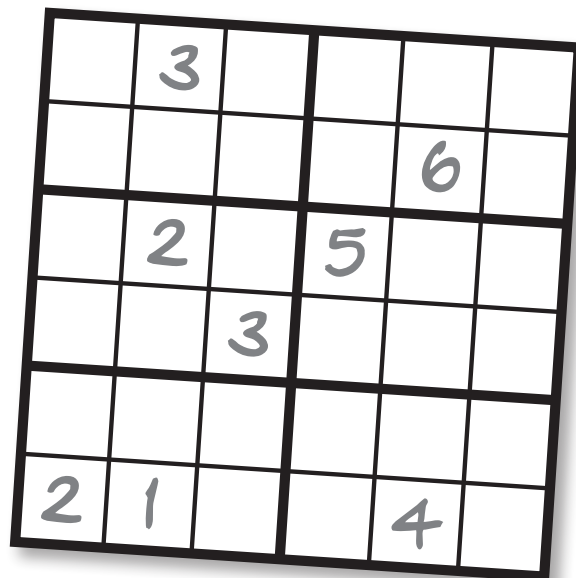*Dedicated to my parents, Jean and Grady, who are retired math teachers, and to my wife Sharon and our triplets TLC (Tony, Leah, and Christina)*

Also, to my brilliant Uncle Charles, and my siblings, Cheryl and Bruce, two committed math educators

TABLE OF CONTENTS

This book is divided into three units, with each unit divided into various content areas. For each Sudoku puzzle, there is a specific content area that often includes a mini-lesson that describes the concept and provides an example(s).

The Basics
For each lesson, students must first complete the assigned algebra problems. They will then be asked to either place their answers directly into the Sudoku puzzle, or match their answers and place the corresponding numbers in the Sudoku puzzle. From their efforts, students will be given enough numbers to begin working on the Sudoku puzzle. It is then up to the students to solve the remaining cells of the puzzle.

A system has been devised to easily identify specific cells of a puzzle, using alphabets horizontally across the top and numbers vertically along the left side. Here are some examples:

Solutions are provided for each Sudoku puzzle. Whenever possible, classroom discussion should be held to address any remaining questions and to provide further clarification.

Negative Numbers
It is important to note that the cells in these Sudoku puzzles may have negative numbers. Answers with incorrect signs are considered wrong. However, for the purpose of completing the entire grid, a negative number represents a positive number in the counting sequence. For example, a "-2" represents "2". In other words, it is okay to have a sequence such as "-1, 2, -3, 4 -5, 6, -7, -8, 9", provided that these numbers are the correct solutions to the problems presented in the lesson.

ADDING LIKE AND UNLIKE SIGNS

When adding like signs, simply add the absolute values, and keep the sign for your sum.

Examples: A) *7 + 10 = 17*   B) *-7 + (-10) = -17*

When adding unlike signs, subtract the absolute values of the numbers, and use the sign of the number with greatest absolute value in your answer.

Examples: A) *-7 + 16 = 9*   B) *7 + (-16) = -9*

Directions: Add, and place the sums in the appropriate cells of the Sudoku grid. Then solve the puzzle.

(A1) -3 + (-4) =	**(C8)** $\frac{1}{2}$ + (-6 $\frac{1}{2}$) =	**(H2)** - 4 $\frac{3}{5}$ + (-2 $\frac{2}{5}$) =
(A4) 2.7 + 2.3 =	**(D3)** 17 + (-14) =	**(H3)** 100 + (-98) =
(A9) -1 + 0 =	**(D6)** -3.929 + -0.071 =	**(H6)** -5.72 + 10.72 =
(B1) -8 $\frac{7}{8}$ + $\frac{7}{8}$ =	**(D9)** -19 + 10 =	**(H9)** 0 + (-6) =
(B4) -4.28 + 5.28 =	**(F1)** -4 $\frac{1}{5}$ + (-$\frac{4}{5}$) =	**(I1)** -9 $\frac{3}{4}$ + 5 $\frac{3}{4}$ =
(B7) -2 + 7 =	**(F4)** 30 + (-23) =	**(I3)** 51 + (-50) =
(B8) 4.2 + (-0.2) =	**(G2)** 6.2 + (-1.2) =	**(I5)** -13.3 + 4.3 =
(B9) -20 + 13 =	**(G3)** 17 + (-8) =	**(I6)** -9.7 +11.7 =
(C4) 4.35 + 4.65 =	**(G6)** 0.55 + 0.45 =	**(I8)** -1.68 + (-1.32) =
(C7) 21 + (-23) =	**(H1)** 34 + (-37) =	**(I9)** 33 + (-38) =

	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
1									
2									
3									
4									
5									
6									
7									
8									
9									

STANDARD FORM: Ax + By = C

The standard form of a line is another way of writing the equation of a line: $Ax + By = C$

Standard form has the following criteria: (1) *A*, *B*, and *C* are integers (positive or negative whole numbers); (2) there are no fractions or decimals in standard form; and (3) the *Ax* term is positive.

For example, here is how to convert $\frac{1}{2} y = -2x + 1$ *to standard form:*

First multiply by 2 (LCM) to cancel out the fraction: $y = -4x + 2$
Then add 4x to both sides, leaving: $4x + y = 2$
Notice that the Ax term (4x) is positive.

Directions: Write the following linear equations in standard form. Place the numbers for A, B, and C in the appropriate cells of the Sudoku grid, and then solve the puzzle.

$3x + 6y = 4$ $\qquad\qquad$ $\frac{1}{2} x = y + 1$ $\qquad\qquad$ $-2y = -\frac{2}{3} x - \frac{4}{3}$

(A1)$x +$ **(A4)**$y =$ **(B1)** $\qquad$ **(C2)**$x +$ **(C4)**$y =$ **(D5)** $\qquad$ **(D4)**$x +$ **(E6)**$y =$ **(F3)**

	A	B	C	D	E	F
1						
2						
3						
4						
5						
6						5