

Kumon Mathematics Program

Level G

**Positive and
Negative Numbers
Introduction to Algebra
Linear Equations**

Student Name: _____

Starting Date: _____

Completion Date: Your Goal

Jan	Apr	July	Oct
Feb	May	Aug	Nov
Mar	June	Sep	Dec

The goal is based upon your individual abilities. It takes into account the number of pages you are currently able to complete per day and the number of repetitions necessary to ensure mastery of the worksheets.

Goals of Level G

In Level G, you will learn to add, subtract, multiply and divide positive and negative numbers confidently. You will also learn to work with algebraic expressions and solve basic linear equations.

Contents of Level G

Worksheet Number	Section	Worksheet Number	Section
1 - 20	Review up to F	81 - 100	Four Operations with Positive & Negative Numbers
21 - 60	Addition and Subtraction of Positive & Negative Numbers	101 - 120	Values of Algebraic Expressions
61 - 70	Multiplication of Positive & Negative Numbers	121 - 160	Simplifying Algebraic Expressions
71 - 80	Division of Positive & Negative Numbers	161 - 200	Linear Equations

Features of Level G

G61a KUMON® G 6.1

Multiplication of Positive and Negative Numbers

100% 100% 100% 100%

• Calculate. (You may omit the “+” sign in the answer.)

Ex $(+2) \times (+4) = +8$
 $(+2) \times (-4) = -8$
 $(-2) \times (+4) = -8$
 $(-2) \times (-4) = +8$
 $(-2) \times 0 = 0$

(1) $(+2) \times (+3) =$
(2) $(+2) \times (-3) =$
(3) $(+5) \times (-3) =$
(4) $(-5) \times (+3) =$
(5) $(-4) \times (+6) =$
(6) $(-4) \times (-6) =$
(7) $(-2) \times (-20) =$
(8) $(-6) \times 0 =$

Practice over and over again until you have no trouble calculating positive and negative numbers quickly and accurately. Be careful not to confuse the rules for adding and subtracting positive and negative numbers with the rules for multiplying and dividing these numbers. The examples and associated rules should be carefully studied.

In algebraic substitution, you will learn to replace letters (i.e., symbols) with numbers and then calculate the value of the expression. Solving these problems requires strong skills in arithmetic.

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Linear Equations 1

100% 100% 100% 100%

• Solve the following equations. (Find x .)

Ex $2x + 9 = 14$ $2x - 4 = 14$
(Sd) $2x + 9 = 14$ $\frac{2x - 4 = 14}{2x = 18}$
 $2x = 5$ $x = 9$
 $x = 2.5$

(1) $2x + 6 = 10$ (3) $4x + 3 = -9$
(2) $3x + 7 = -2$ (4) $5x - 4 = 11$

Changing the sign when transferring a term to the other side of the “=” sign is called **transposition**.

You will then learn to simplify algebraic expressions by collecting “like terms,” removing grouping symbols, and removing denominators.

After you have acquired solid skills working with basic algebraic expressions, you will begin solving linear equations and verifying your answers. Using all of the four operation skills and the basic algebra skills you have learned up to now, you will begin learning how to transpose terms in an equation to solve it quickly.

Instructor’s Comments