

# Table of Contents

<b>Introduction</b> . . . . .	<b>4</b>		
		<b>NCTM</b>	
		<b>Standards:</b>	
Real Number Line . . . . .	5	1, 2, 10	
Adding Integers (Real Numbers) . . . . .	6	1, 2, 9	
Subtracting Integers . . . . .	7	1, 2, 9	
Time for an Operation . . . . .	8	1, 2	
Multiplying Integers . . . . .	9	1, 2	
Dividing Integers. . . . .	10	1, 2, 9	
Absolute Values. . . . .	11	1, 2	
Exponents . . . . .	12	1, 2	
Homework Help . . . . .	13	1, 2, 8	
Order of Operations . . . . .	14	1, 2	
Algebra Awareness (Real Numbers) . . . . .	15	1, 2	
Always Treat the Substitute Properly . . . . .	16	1, 2	
Combining Like Terms . . . . .	17	1, 2	
Equations with Addition and Subtraction . . . . .	18	1, 2	
Equations with Multiplication and Division . . . . .	19	1, 2	
Solving Multi-Step Equations . . . . .	20	1, 2	
An “Old” Question . . . . .	21	1, 2, 9	
The Distributive Property . . . . .	22	1, 2	
Variables on Both Sides . . . . .	23	1, 2	
Translating Word Problems . . . . .	24	1, 2, 6	
What’s the Word with Equations? . . . . .	25	1, 2, 6	
Consecutive Integers . . . . .	26	1, 2, 6	
Un-Doing Equations . . . . .	27	1, 2, 7	
Exponents and Variables . . . . .	28	1, 2	
Volume Challenge . . . . .	29	1, 2, 3	
Algebra Awareness (Equations) . . . . .	30	1, 2	
Add and Subtract Polynomials . . . . .	31	1, 2	
Perimeter and Polynomials . . . . .	32	1, 2, 3	
Multiplying Polynomials by Monomials . . . . .	33	1, 2	
Multiplying Polynomials . . . . .	34	1, 2	
Distance, Rate, and Time . . . . .	35	1, 2, 6	
Homework Help . . . . .	36	1, 2, 8	
Area and Polynomials . . . . .	37	1, 2, 3	
Area and Perimeter Challenge . . . . .	38	1, 2, 3	
FOILED . . . . .	39	1, 2, 7	
Squaring Binomials . . . . .	40	1, 2	
Polynomial Equations . . . . .	41	1, 2	
What’s the Word with Rectangles? . . . . .	42	1, 2, 6	
Algebra Awareness (Polynomials) . . . . .	43	1, 2	
What’s the Word with More Equations? . . . . .	44	1, 2, 6	
Common Factors . . . . .	45	1, 2	
Greatest Monomial Factor . . . . .	46	1, 2	
Prime Time . . . . .	47	1, 2, 9	
Difference of Squares . . . . .	48	1, 2	
Circular Spaces . . . . .	49	1, 2, 3	
Factoring Perfect Square Trinomials . . . . .	50	1, 2	
Factoring Pattern for $x^2 + bx + c$ . . . . .	51	1, 2	
Factoring Pattern for $x^2 + bx - c$ . . . . .	52	1, 2	
Factoring Pattern for $ax^2 + bx + c$ . . . . .	53	1, 2	
Factoring by Grouping . . . . .	54	1, 2, 7	
Factoring Checklist . . . . .	55	1, 2, 7	
Solving Equations by Factoring . . . . .	56	1, 2	
Algebra Awareness (Factoring) . . . . .	57	1, 2	
Simplifying Algebraic Fractions . . . . .	58	1, 2	
Dividing Polynomials by Monomials . . . . .	59	1, 2	
More Algebraic Fractions . . . . .	60	1, 2	
Multiplying Fractions . . . . .	61	1, 2	
Area with Fractions . . . . .	62	1, 2, 3	
Dividing Fractions . . . . .	63	1, 2	
Mix It Up! . . . . .	64	1, 2	
Homework Help . . . . .	65	1, 2, 8	

Least Common Denominators . . . . .	66	1, 2	Puzzle Problems . . . . .	94	1, 2, 6, 9
Adding and Subtracting Fractions with Like Denominators . . . . .	67	1, 2	Homework Help . . . . .	95	1, 2, 8
Fill in the Blanket . . . . .	68	1, 2	Inequalities . . . . .	96	1, 2, 10
Adding and Subtracting Fractions with Unlike Denominators . . . . .	69	1, 2	Solving Inequalities . . . . .	97	1, 2, 10
Perimeter and Fractions . . . . .	70	1, 2, 3	Combined Inequalities . . . . .	98	1, 2, 10
Mixed Expressions . . . . .	71	1, 2	Absolute Value and Open Sentences . . .	99	1, 2, 10
Algebra Awareness (Fractions) . . . . .	72	1, 2	Graphing Linear Inequalities . . . . .	100	1, 2, 3, 10
What's the Word with Age? . . . . .	73	1, 2, 6	Systems of Linear Inequalities . . . . .	101	1, 2, 3, 10
Ratios . . . . .	74	1, 2, 4	Algebra Awareness (Inequalities) . . . . .	102	1, 2, 3, 10
What's the Word with Ratios? . . . . .	75	1, 2, 6	Radicals . . . . .	103	1, 2
Proportions . . . . .	76	1, 2	Is That Rational? . . . . .	104	1, 2, 9
What's the Word with Percents? . . . . .	77	1, 2, 6	Square Roots with Variables . . . . .	105	1, 2
Equations with Fractional Coefficients . . .	78	1, 2	Multiplying Radicals . . . . .	106	1, 2
Fractional Equations . . . . .	79	1, 2	Dividing Radicals . . . . .	107	1, 2
Mixture Problems . . . . .	80	1, 2, 6	Adding and Subtracting Radicals . . . . .	108	1, 2
Homework Help . . . . .	81	1, 2, 8	The Pythagorean Theorem . . . . .	109	1, 2, 3, 9
Equations in Two Variables . . . . .	82	1, 2	Homework Help . . . . .	110	1, 2
Graphing Coordinates . . . . .	83	1, 2	Quadratic Equations . . . . .	111	1, 2
Slope of a Line . . . . .	84	1, 2, 3	The Quadratic Formula . . . . .	112	1, 2
Slope Sleuth . . . . .	85	1, 2, 9, 10	More Practice with the Quadratic Formula . . . . .	113	1, 2
The Slope-Intercept Form . . . . .	86	1, 2, 3	Algebra Awareness (Quadratic Equations) . . . . .	114	1, 2
More Practice with the Slope-Intercept Form . . . . .	87	1, 2, 3	<b>Answer Key</b> . . . . .	115	
Algebra Awareness (Graphing) . . . . .	88	1, 2, 10			
Translating Word Problems with Multiple Unknowns . . . . .	89	1, 2, 6			
Systems of Linear Equations: The Graphing Method . . . . .	90	1, 2, 3, 10			
Systems of Equations: The Substitution Method . . . . .	91	1, 2			
Systems of Equations: The + or - Method . . . . .	92	1, 2			
Systems of Equations: Multiplication with the + or - Method . . . . .	93	1, 2			

# Introduction

Each book in the *Power Practice*<sup>™</sup> series contains over 100 ready-to-use activity pages to provide students with skill practice. The fun activities can be used to supplement and enhance what you are teaching in your classroom. Give an activity page to students as independent class work, or send the pages home as homework to reinforce skills taught in class. An answer key is provided for quick reference.

Each activity in *Algebra* has been tied to the NCTM standards as outlined below. The numbers of the related standards are listed next to each activity in the Table of Contents.

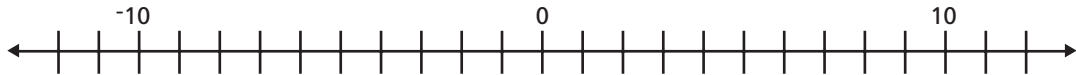
- 1. Number and Operations:** Understand numbers, ways of representing numbers, relationships among numbers, and number systems.
- 2. Algebra:** Understand patterns, relations, and functions. Represent and analyze mathematical situations and structures using algebraic symbols.
- 3. Geometry:** Analyze characteristics and properties of two- and three-dimensional geometric shapes. Use visualization, spatial reasoning, and geometric modeling to solve problems.
- 4. Measurement:** Understand measurable attributes of objects and the units, systems, and processes of measurement.
- 5. Data Analysis and Probability:** Select and use appropriate statistical methods to analyze data. Develop and evaluate inferences and predictions that are based on data. Understand and apply basic concepts of probability.
- 6. Problem Solving:** Solve problems that arise in mathematics and in other contexts. Apply and adapt a variety of appropriate strategies to solve problems.
- 7. Reasoning and Proof:** Make and investigate mathematical conjectures. Develop and evaluate mathematical arguments and proofs.
- 8. Communication:** Organize and consolidate mathematical thinking through communication. Use the language of mathematics to express mathematical ideas precisely.
- 9. Connections:** Understand how mathematical ideas interconnect and build on one another to produce a coherent whole.
- 10. Representation:** Create and use representations to organize, record, and communicate mathematical ideas.

Use these ready-to-go activities to “recharge” skill review and give students the power to succeed!

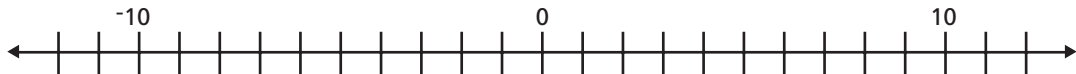
# Real Number Line

The opposite of positive is negative. For example, 8 and -8 are opposites. Opposites are the same distance from the origin, 0. Use the number lines below to locate the integers.

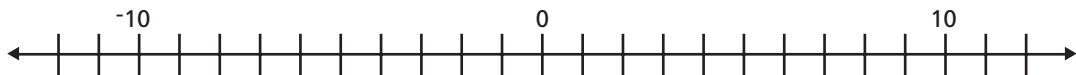
- 1 Plot 5 and its opposite.



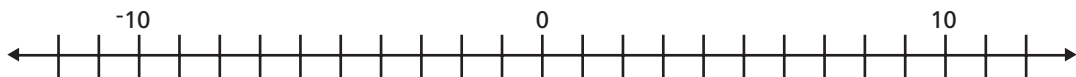
- 2 Plot -11 and its opposite.



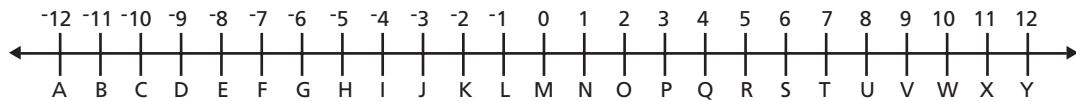
- 3 Plot 2.5 and its opposite.



- 4 Plot  $-\frac{1}{2}$  and its opposite.



- 5 Match the given point on the number line with its corresponding letter to reveal a message.



\_\_\_\_\_

-12   -1   -6   -8   -11   5   -12   -4   6   -7   8   1

# Adding Integers (Real Numbers)

$$7 + (-3) = 4$$

$$-1.5 + 19 = 17.5$$

$$\textcircled{1} \quad 3 + (-8) =$$

$$\textcircled{9} \quad 15 + (-2.5) =$$

$$\textcircled{2} \quad 9 + (-9) =$$

$$\textcircled{10} \quad -5 + 34 =$$

$$\textcircled{3} \quad 12 + (-23) =$$

$$\textcircled{11} \quad -6 + 32.3 =$$

$$\textcircled{4} \quad 0 + (-42) =$$

$$\textcircled{12} \quad -17 + (-102) =$$

$$\textcircled{5} \quad -8 + (-7) =$$

$$\textcircled{13} \quad 187 + 121 =$$

$$\textcircled{6} \quad 15 + (-6) =$$

$$\textcircled{14} \quad 231 + (-45) =$$

$$\textcircled{7} \quad 4 + (-2) + (-8) =$$

$$\textcircled{15} \quad -78 + 3.6 =$$

$$\textcircled{8} \quad -13 + (-5) + 9 =$$

$$\textcircled{16} \quad 23 + (-3.1) + 0.8 =$$

Fill in the blank with **positive** or **negative**.

$\textcircled{17}$  When a positive number and a negative number are added together, the sum is \_\_\_\_\_ if the positive number has a greater absolute value.

$\textcircled{18}$  If the negative number has a greater or absolute value, the answer is \_\_\_\_\_.

# Subtracting Integers

$$^{-}7 - 5 = ^{-}12$$

$$10.3 - (^{-}4) = 14.3$$

$$\textcircled{1} \quad 4 - 7 =$$

$$\textcircled{9} \quad ^{-}21 - 42 =$$

$$\textcircled{2} \quad 15 - 8 =$$

$$\textcircled{10} \quad 7 - 19 =$$

$$\textcircled{3} \quad ^{-}13 - 8 =$$

$$\textcircled{11} \quad 6.3 - (^{-}8.3) =$$

$$\textcircled{4} \quad 9 - (^{-}17) =$$

$$\textcircled{12} \quad ^{-}17 - 102 =$$

$$\textcircled{5} \quad ^{-}6.7 - (^{-}1.5) =$$

$$\textcircled{13} \quad ^{-}3 - 24 =$$

$$\textcircled{6} \quad 34 - (^{-}23) - 11 =$$

$$\textcircled{14} \quad ^{-}138 - 0 =$$

$$\textcircled{7} \quad ^{-}2 - 2 - (^{-}2) =$$

$$\textcircled{15} \quad 0 - 132 =$$

$$\textcircled{8} \quad 10 - (^{-}1.5) - 5 =$$

$$\textcircled{16} \quad 0 - (^{-}132) =$$

Fill in the blank with **positive** or **negative**.

$$\textcircled{17} \quad \text{Adding a negative is like subtracting a } \underline{\hspace{2cm}}.$$

$$\textcircled{18} \quad \text{Subtracting a negative is like adding a } \underline{\hspace{2cm}}.$$

# Time for an Operation

Other than multiplication, which operation is commutative and associative? Here's how to find out: Shade in only those boxes with the correct answer.

$5 + (-3) = -2$	$-5 + -3 = 8$	$-4 - (-7) = 2$	$3 - (-3) = 0$
$11 - 7 = -4$	$2 - (-9) = 11$	$-3 + (-2) = 5$	$6 - (-2) = -8$
$10 - (-3) = 13$	$-4 + 23 = 19$	$6 + (-12) = -6$	$-5 + (-2) = 7$
$-15 + 8 = 7$	$-2 - (-1) = -1$	$20 - 32 = 12$	$0 - 15 = 15$
$22 - (-1) = 21$	$8 - 31 = 23$	$-9 + 24 + -15$	$-2 - (-7) = -5$

# Multiplying Integers

$$^{-}5 \times 4 = ^{-}20$$

$$^{-}8 \times (^{-}2) = 16$$

$$\textcircled{1} 6 \times (^{-}3) =$$

$$\textcircled{8} ^{-}2.5 (16) =$$

$$\textcircled{2} ^{-}10 (4) =$$

$$\textcircled{9} ^{-}3 (15) (^{-}4) =$$

$$\textcircled{3} (^{-}13) (6) =$$

$$\textcircled{10} ^{-}22 \times 22 =$$

$$\textcircled{4} 15 \times 3 (^{-}2) =$$

$$\textcircled{11} ^{-}106 \times 0 =$$

$$\textcircled{5} ^{-}4 \times (^{-}3) \times ^{-}7 =$$

$$\textcircled{12} ^{-}40 \times 0.1 =$$

$$\textcircled{6} (^{-}12) \left( \frac{1}{2} \right) (^{-}3) =$$

$$\textcircled{13} (^{-}5) (4) (^{-}2) (0) =$$

$$\textcircled{7} (^{-}0.5) (18) =$$

$$\textcircled{14} ^{-}8 (7) =$$

Fill in the blank with **positive** or **negative**.

$$\textcircled{15} \text{ A positive times a positive is a } \underline{\hspace{2cm}}.$$

$$\textcircled{16} \text{ A positive times a negative is a } \underline{\hspace{2cm}}.$$

$$\textcircled{17} \text{ A negative times a positive is a } \underline{\hspace{2cm}}.$$

$$\textcircled{18} \text{ A negative times a negative is a } \underline{\hspace{2cm}}.$$

# Dividing Integers

$$12 \div (-4) = -3$$

$$-8 \div (-16) = \frac{1}{2}$$

**1**  $10 \div (-5) =$

**8**  $-\frac{3}{4} \div 4 =$

**2**  $-16 \div (-4) =$

**9**  $-30 \div (-6) =$

**3**  $-24 \div (-2) =$

**10**  $1.2 \div 4 =$

**4**  $0 \div (-13) =$

**11**  $-69.3 \div 3.3 =$

**5**  $3.5 \div (-2) =$

**12**  $-51 \div (-3) =$

**6**  $75 \div (-15) =$

**13**  $-186 \div 3 =$

**7**  $-54 \div 18 =$

**14**  $4\frac{1}{3} \div 3\frac{1}{2} =$

Multiplication and division are "inverse operations." What other operations are inverse operations?

**15** \_\_\_\_\_ and \_\_\_\_\_ are inverse operations.

**16** An equation with an odd number of negative factors is \_\_\_\_\_.

**17** An equation with an even number of negative factors is \_\_\_\_\_.