

***A Comprehensive Approach to
Balanced Mathematics***

***MATHEMATICS PLANNING FOR SEVENTH GRADE
2007 Edition***

7



**Department of
Education**

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COURSE 2 PRE-TEST
AUXILIARY SUPPORT MATERIALS CORRELATION

QUESTIONS	TOPIC	REFRESHER WORKSHEET	HOT WORDS HOT TOPICS	SECTION	PAGE
1–4	Prime factorization	1	Factors and multiples	1.4	86
5–8	Least common multiple Greatest common factor	1	Factors and multiples	1.4	87
9–12	Ordering decimals and fractions	3	Comparing fractions Naming and ordering decimals	2.2 2.5	110–112 128
13–24	Operations on fractions and decimals	2 4 5	Addition, subtraction of fractions Multiplication, division of fractions Decimal operations	2.3 2.4 2.6	114–115 120–122 132–135
25–26	Mean, median, mode	7	Statistics	4.4	210–213
27–28	Probability	13	Probability	4.6	224–226
29	Bar graph, pie chart, line plot	11 12	Displaying data	4.2	196–201
30–31	Perimeter of polygon	8	Perimeter Circles	7.4 7.8	350–351 373–374
32	Drawing angles	10	Angles and triangles	7.1	328–329
33	Plotting points	14	Graphing on the coordinate plane	6.7	300–302
34–35	Writing algebraic expressions for situations and completing tables given a rule	15			
36–39	Solving equations	16	Solving linear equations	6.4	280–288

Teaching with *Impact Mathematics*

As you move through this document and the *Impact* materials, you will note many recurring themes and underlying programmatic structures that will support your classroom teaching:

- A. The Grades 6 through 8 program is a comprehensive curriculum that completes a full year of algebra by the end of Grade 8.
- B. *Impact Mathematics* is a standards-based, integrated curriculum that includes strands on number and operations, proportional reasoning, geometry, probability and data, with a focus on the development of algebraic thinking.
- C. There is a balance of basic skills and conceptual understanding; students build new mathematical ideas and at the same time practice needed procedures.
- D. The curriculum is centered around problem sets that students work on individually or in groups. Many of the problems are open-ended, allowing students to choose or develop solution strategies.
- E. Students are asked to make conjectures based on patterns they observe and to develop convincing mathematical arguments.
- F. *Impact Mathematics* provides opportunities for students to reflect upon, critique and communicate their ideas.
- G. The concepts in each chapter connect to and build on concepts developed in earlier chapters and courses.
- H. There is an emphasis on a variety of mathematical representations, as well as modeling.
- I. Informal to formal development of concepts makes mathematics accessible and appropriate for middle grades students.
- J. There is strong content progress from grade to grade with minimal reteaching of topics. Important topics are revisited in greater depth and formality.
- K. The contexts used for developing concepts and practicing skills include real-world applications, as well as mathematical settings.
- L. To maintain students' ongoing interest in all areas of mathematics, *Impact Mathematics* uses narrative and realistic contexts, personalization in the form of cartoons in which middle grades students explain how they approach problems, and opportunities for students to choose or create their own problems.
- M. Manipulatives and calculators are used to support the content learning only when appropriate. Students need and gain experiences with pencil and paper along with graphing technology.
- N. The teaching process is designed around a three-step instructional cycle: Introduce, Develop, and Assign & Assess.
- O. The curriculum balances structured learning, direct instruction, and creative problem-solving. Student discovery plays as significant a role in the learning process as teacher-directed instruction.
- P. Assessment tools are broad, encompassing the processes of problem solving, reasoning, communication, connections, concepts, applications, representational strategies and procedures.
- Q. All suggested lessons should be taught. Those lessons identified as RECOMMENDED may be taught as introductory in approach. Those lessons identified as SUGGESTED may be taught as enrichment lessons if time permits.

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
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CHAPTER 1: UNDERSTANDING EXPRESSIONS

Algebraic Representations: *Tables and Graphs—Develop*

Algebraic Reasoning: *Patterns and Numeric Forms—Develop; Properties and Rules—Develop*

Functions and Relations: *Linear Expressions & Equations—Develop*

Algorithms and Operations: *Fractions—Review and Extend*

WEEK 1	<p>Administer <u>Course 2 Pretest</u>.</p> <p>1.1 Variables and Expressions</p> <p>To match expressions and situations.</p> <p>To understand the order of operations.</p> <p>To use formulas and evaluate expressions.</p> <p><i>Suggested Per Period Pacing:</i></p> <ol style="list-style-type: none"> T&D, p. 4; Investigation 1 (All). Investigation 2 (All). Investigation 3: T&D, pp. 14–15; PS E, p. 15; PS F, p. 16. PS G, p. 17; S&S, p. 18; Investigation 4: PS H, p. 19; PS I, p. 20. PS J, p. 21; S&S, p. 21; IYOW, p. 27; QQ, p. 31. <p style="text-align: right;"><i>(continued)</i></p>	<p><i>For students who have difficulty with Course 2 Pretest:</i></p> <p>Refer to Course 2 Pretest Auxiliary Support Materials, found on page 2 of this book.</p> <p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics</p> <p>1.3: Order of Operations, p. 80.</p> <p>6.1: Writing Expressions and Equations, pp. 260–265.</p> <p>6.3: Evaluating Expressions and Formulas, p. 276.</p> <p>6.4: Solving Linear Equations, p. 280.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will build new mathematical knowledge through problem solving.</i></p> <p>7.PS.3 Understand and demonstrate how written symbols represent mathematical ideas.</p> <p><i>Students will solve problems that arise in mathematics and in other contexts.</i></p> <p>7.PS.6 Represent problem situations verbally, numerically, algebraically, and graphically.</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i></p> <p>7.PS.9 Work backwards from a solution.</p> <p>NUMBER SENSE AND OPERATIONS STRAND</p> <p><i>Students will understand meanings of operations and procedures, and how they relate to one another.</i></p> <p>7.N.11 Simplify expressions using order of operations.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>1.2: Following rules, PS C, pp. 17-18.</p> <p>1.3: Writing Rules for Patterns, Investigation 1, pp. 29-31.</p> <p>7.1: Patterns and Variables, pp. 411-421</p> <p>7.2: Rules in Real Life, Investigation 2, T&D, p. 436; E, p. 436; PS B, p. 437; PS C, p. 438.</p> <p>8.3: Areas and Squares, Investigation 2, pp. 498-503.</p> <p>9.2: Backtracking, Investigation 1, pp. 571-573; Investigation 2, pp. 573-576.</p>
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WEEK 1 (continued)	<p>Note: The recommended pacing is based on the mandated 375 minutes or seven to eight 45–60 minute periods per week.</p> <p>Note: Quick Quizzes and Pre-chapter Assessments can be found in Impact Assessment Resources, Volumes A and B.</p>		<p>Note: Expressions may include absolute value and/or integral exponents greater than 0.</p> <p>ALGEBRA STRAND</p> <p><i>Students will represent and analyze algebraically a wide variety of problem solving situations.</i></p> <p>7.A.1 Translate two-step verbal expressions into algebraic expressions.</p>	

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WEEK 2	<p>1.2 Expressions and Formulas</p> <p>To use variables to write expressions and solve problems.</p> <p>To develop and use formulas to find specific quantities.</p> <p>To solve equations by backtracking.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>6. T&D, pp. 32–33; Investigation 1: PS A, pp. 34–35; E, p. 35; PS B, pp. 35–36 (#1–4).</p> <p>7. PS B, p. 36 (#5–11); S&S, p. 36; Investigation 2: PS C, pp. 38–39.</p> <p>8. Investigation 2: PS C,#1-3, 4*,5*, pp. 38-39; PS D, pp. 40-41; S&S, p. 42; IYOW, p. 48; QQ, p. 51; {Suggested: Lab Investigation, pp. 42–45}</p> <p>* Calculator use is suggested</p> <p>Note: Computer with spreadsheet software is suggested for the Lab Investigation.</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics</p> <p>6.1: Writing Expressions and Equations, pp. 260–265.</p> <p>6.3: Evaluating Expressions and Formulas, p. 276.</p> <p>9.4: Spreadsheets, pp. 436–440.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i></p> <p>7.PS.9 Work backwards from a solution.</p> <p>REPRESENTATION STRAND</p> <p><i>Students will use representations to model and interpret physical, social, and mathematical phenomena.</i></p> <p>7.R.9 Use mathematics to show and understand physical phenomena (e.g., make and interpret scale drawings of figures or scale models of objects).</p> <p>NUMBER SENSE AND OPERATIONS STRAND</p> <p><i>Students will understand the meanings of operations and how they relate to one another.</i></p> <p>7.N.12 Add, subtract, multiply, and divide integers.</p> <p>ALGEBRA STRAND</p> <p><i>Students will represent and analyze algebraically a wide variety of problem solving situations.</i></p> <p>7.A.1 Translate two-step verbal expressions into algebraic expressions.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>7.2: Rules in Real Life: Investigation 2, pp. 436-438.</p> <p>9.2: Backtracking, Investigation 2, pp. 547-576; Investigation 3, pp. 576-578.</p>

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WEEK 2 (continued)			<p><i>Students will recognize, use, and represent algebraically patterns, relations, and functions.</i></p> <p>7.A.7 Draw the graphic representation of a pattern from an equation or from a table of data (POST MARCH IN GRADE 7).</p> <p>7.A.8 Create algebraic patterns using charts/tables, graphs, equations, and expressions (POST MARCH IN GRADE 7).</p> <p>MEASUREMENT STRAND</p> <p><i>Students will determine what can be measured and how, using appropriate methods and formulas.</i></p> <p>8.M.1 Solve equations/proportions to convert to equivalent measurements within metric and customary measurement systems.</p> <p>Note: Also allow Fahrenheit to Celsius, and vice versa. This concept is introduced in Grade 7 to prepare students for later mastery.</p>	

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WEEKS 2–3	<p>1.3 The Distributive Property</p> <p>To understand and apply the distributive property.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>9. T&D, p. 52; Investigation 1: #1, 2, 3, pp. 54-55; S&S, p. 55.</p> <p>10. Investigation 2: E, p. 57; PS B, p. 57; PS C, p. 58 1, {Suggested, #2, 3}.</p> <p>11. PS C, p. 58 (# 4–5); S&S, p. 58; Investigations 3; PS D, p. 60.</p> <p>12. T&D, p. 61; E, p. 61; PS E, p. 62; PS F, p.63; S&S, p. 63.</p> <p>13. Investigation 4: PS G, 1, 2, 3, 6...24, pp. 64–65.</p> <p>14. E, p. 65; E, p. 66; PS H, p. 67; S&S, p. 67; IYOW, p. 71; QQ, p. 73 TE.</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics</p> <p>1.2: Properties, pp. 77–78.</p> <p>6.2: Simplifying Expressions, p. 270.</p> <p><i>Standardized test review:</i></p> <p>Hot Words, Hot Topics</p> <p>1.4: Factors and Multiples, pp. 82–83.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will monitor and reflect on the process of mathematical problem solving.</i></p> <p>7.PS.17 Evaluate the efficiency of different representations of a problem.</p> <p>NUMBER SENSE AND OPERATIONS STRAND</p> <p><i>Students will understand numbers, multiple ways of representing numbers, relationships among numbers, and number systems.</i></p> <p>7.N.8 Find the common factors and greatest common factor of two or more numbers.</p> <p><i>Students will use representations to model and interpret physical, social, and mathematical phenomena.</i></p> <p>7.N.9 Determine multiples and least common multiple of two or more numbers.</p> <p>ALGEBRA STRAND</p> <p><i>Students will represent and analyze algebraically a wide variety of problem solving situations.</i></p> <p>7.A.1 Translate two-step verbal expressions into algebraic expressions.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>7.3: Explaining Number Relationships, p. T453; T&D, p. 453; PS B, p. 454; S&S, p. 454.</p> <p>9.2: Backtracking: Investigation 1, pp. 571-573.</p> <p>N: Game: What’s My Rule</p>

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WEEKS 2–3			<p><i>Students will perform algebraic procedures accurately.</i></p> <p>7.A.4 Solve multi-step equations by combining like terms, using the distributive property, or moving variables to one side of the equation (POST MARCH IN GRADE 7).</p> <p>7.A.6 Evaluate formulas for given input values (surface area, rate, and density problems).</p> <p><i>Students will recognize, use and represent algebraically patterns, relations, and functions.</i></p> <p>7.A.10 Write an equation to represent a function from a table of values (POST MARCH in Grade 7).</p>	
	<p>Review and Self-Assessment <i>Suggested Per Period Pacing:</i></p> <p>15. Review and Self-Assessment, pp. 74–75. 16. Continue Review and Self-Assessment; Chapter 1 Test.</p>			

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CHAPTER 2: GEOMETRY IN THREE DIMENSIONS

Algebraic Reasoning: *Patterns and Numeric Forms—Develop*
 Three-Dimensional Figures: *Spatial Visualization—Develop; 3-D Solids—Develop*
 Measurement: *Perimeter and Area—Apply; Surface Area and Volume—Develop*
 Number and Number Sense: *Exponents and Roots—Develop*
 Data Analysis: *Modeling and Analysis—Develop*

WEEK 4	2.1 Block Patterns To continue a block pattern given the first three stages. To describe block patterns visually and numerically. To describe block patterns with algebraic expressions. <i>Suggested Per Period Pacing:</i> 17. Explore, p. 78; Investigation 1: PS A, pp. 79–80; S&S, p. 80. 18. Investigation 2: PS B, p. 81; T&D, p. 81; PS C, p. 82; S&S, p. 82. 19. Investigation 3: T&D, p. 82; PS D, p. 83; S&S, p. 83; IYOW p. 89; QQ, p. 90.	<i>Standardized test review:</i> Hot Words, Hot Topics 7.2: Polyhedrons, pp. 340–341. Skills Intervention for Pre-Algebra Workbook Skill 63: Nets and Solids, pp. 125–126.	PROBLEM SOLVING STRAND <i>Students will build new mathematical knowledge through problem solving.</i> 7.PS.2 Construct appropriate extensions to problem situations. COMMUNICATION STRAND <i>Students will communicate their mathematical thinking coherently and clearly to peers, teachers, and others.</i> 7.CM.4 Share organized mathematical ideas through the manipulation of objects, numerical tables, drawings, pictures, charts, graphs, tables, diagrams, models, and symbols in written and verbal form. ALGEBRA STRAND <i>Students will recognize, use, and represent algebraically patterns, relations, and functions.</i> 7.A.7 Draw the graphic representation of a pattern from an equation or from a table of data (POST MARCH IN GRADE 7). 7.A.8 Create algebraic patterns using charts/tables, graphs, equations, and expressions (POST MARCH IN GRADE 7).	LP: Course 1 1.4: Patterns in Geometry, Lab Investigation, pp. 58–60. N: Game: What’s My Rule
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WEEK 5	<p>2.2 Visualizing and Measuring Block Structures</p> <p>To draw front, top, and side views of block structures.</p> <p>To represent three-dimensional structures.</p> <p>To understand volume as the number of blocks that make up a structure.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>20. Explore, p. 91; Investigation 1: PS A, p. 92; PS B, p. 93; S&S, p. 93.</p> <p>21. Investigation 4: (All); IYOW, p. 106.</p>		<p>COMMUNICATION STRAND</p> <p><i>Students will communicate their mathematical thinking through communication.</i></p> <p>7.CM.4 Share organized mathematical ideas through the manipulation of objects, numerical tables, drawings, pictures, charts, graphs, tables, diagrams, models, and symbols in written and verbal form.</p> <p>REPRESENTATION STRAND</p> <p>7.R.9 Use mathematics to show and understand physical phenomena (e.g., make and interpret scale drawings of figures or scale models of objects).</p> <p>GEOMETRY STRAND</p> <p>7.G.3 Identify the two-dimensional shapes that make up the faces and bases of three-dimensional shapes (prisms, cylinders, cones, and pyramids).</p> <p>7.G.4 Determine the surface area of prisms and cylinders, using a calculator and a variety of methods.</p>	<p>LC:</p> <p>“The Blind Men and the Elephant,” John Godfrey Saxe’s version of the Indian legend.</p>

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WEEK 5-6	<p>2.3 Surface Area and Volume</p> <p>To find the volume of any prism as area of base times height.</p> <p>To understand that for a given volume of any prism, the cube is the rectangular prism with the minimum surface area.</p> <p>To find the surface area of a solid.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>22. T&D, p. 109; Investigation 1: PS A, p. 110.</p> <p>23. PS B, p. 111; S&S, p. 112.</p> <p>24. Investigation 2: PS C, pp. 112–114; T&D, p. 114.</p> <p>25. PS D, p. 115; S&S, p. 116; Investigation 3: PS E, p. 117.</p> <p>26. PS E p. 117; PS F, pp. 118–119; S&S, p. 119.</p> <p>27. {Suggested: Lab Investigation, pp. 119–121}; IYOW, p. 125; QQ, p. 128 TE.</p> <p>Note: Volume of sphere and cone is optional, p. 121.</p> <p>Note: Students should know that π is an irrational number and, unless otherwise specified, the π key and the full display of the calculator should be used in computations. π is not equal to 3.1416, 3.14 nor 22/7. When working without a calculator, students should leave their answers in terms of π for greatest accuracy.</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics,</p> <p>7.6: Surface Area, pp. 362–365.</p> <p>7.7: Volume, pp. 366–368.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems</i></p> <p>7.PS.8 Understand how to break a complex problem into simpler parts or use a similar problem type to solve a problem.</p> <p><i>Students will monitor and reflect on the process of mathematical problem solving.</i></p> <p>7.PS.12 Interpret solutions within the given constraints of a problem.</p> <p>COMMUNICATION STRAND</p> <p><i>Students will communicate their mathematical thinking coherently and clearly to peers, teachers, and others.</i></p> <p>7.CM.4 Share organized mathematical ideas through the manipulation of objects, numerical tables, drawings, pictures, charts, graphs, tables, diagrams, models, and symbols in written and verbal form.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>1.4: Patterns in Geometry, Lab Investigation, pp. 58–60.</p> <p>8.3: Areas and Squares: E, p. 494, Investigation 1, pp. 495–497.</p> <p>8.4: Calculating Areas, pp. 515–524; p. 528.</p>

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WEEK 5-6 (continued)			<p>GEOMETRY STRAND</p> <p><i>Students will use visualization and spatial reasoning to analyze characteristics and properties of geometric shapes.</i></p> <p>7.G.2 Calculate the volume of prisms and cylinders, using a given formula and a calculator.</p> <p>7.G.3 Identify the two-dimensional shapes that make up the faces and bases of three-dimensional shapes (prisms, cylinders, cones, and pyramids).</p> <p>7.G.4 Determine the surface area of prisms and cylinders, using a calculator and a variety of methods.</p> <p>MEASUREMENT STRAND</p> <p><i>Students will determine what can be measured and how, using appropriate methods and formulas.</i></p> <p>7.M.2 Convert capacities and volumes within a given system.</p> <p><i>Students will develop strategies for estimating.</i></p> <p>7.M.11 Estimate surface area.</p>	

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WEEK 6	<p>2.4 Nets and Solids To find surface area of a solid.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>28. Explore, p. 129; Investigation 1: (All).</p> <p>29. Investigation 2: PS B, #1, 2; S&S, p. 134.</p> <p>30. Investigation 3: PS C, pp. 134–135; PS D, p. 135, S&S, p. 135; QQ, p.140 (TE).</p>	<p><i>For additional practice or homework:</i></p> <p>Skills Intervention for Pre-Algebra Skill 63: pp. 125–126.</p> <p><i>Standardized test review:</i></p> <p>Hot Words, Hot Topics 7.8: Circles, pp. 372–376.</p>	<p>PROBLEM SOLVING STRAND</p> <p>7.PS.8 Understand how to break a complex problem into simpler parts or use a similar problem type to solve a problem.</p> <p>COMMUNICATION STRAND</p> <p>7.CM.4 Share organized mathematical ideas through the manipulation of objects, numerical tables, drawings, pictures, charts, graphs, tables, diagrams, models, and symbols in written and verbal form.</p> <p>GEOMETRY STRAND</p> <p>7.G.1 Calculate the radius or diameter, given the circumference or area of a circle.</p> <p>7.G.2 Calculate the volume of prisms and cylinders, using a given formula and a calculator.</p> <p>7.G.3 Identify the two-dimensional shapes that make up the faces and bases of three-dimensional shapes (prisms, cylinders, cones, and pyramids).</p> <p>7.G.4 Determine the surface area of prisms and cylinders, using a calculator and a variety of methods.</p>	<p>LP: Course 1</p> <p>8.3: Areas and Squares: E, p. 494, Investigation 1, pp. 495-497.</p> <p>8.4: Calculating Areas, pp. 515-524; p. 528.</p>
<p>Review and Self-Assessment <i>Suggested Per Period Pacing:</i></p> <p>31. Review and Self-Assessment, pp. 141–143.</p> <p>32. Continue Review and Self-Assessment; Chapter 2 Test.</p>				

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CHAPTER 3: EXPLORING EXPONENTS

Algebraic Representations: *Coordinate Graphs—Develop; Tables and Graphs—Develop*

Algebraic Reasoning: *Patterns and Numeric Forms—Develop; Properties and Rules—Develop*

Functions and Relations: *Exponential Expressions, Equations—Develop*

Coordinate Geometry: *Coordinate Representations—Develop*

Number and Number Sense: *Whole Numbers—Develop; Exponents and Roots—Develop*

WEEK 7-8	<p>3.1 Stretching and Shrinking Machines</p> <p>To model the behavior of exponents using stretching and shrinking machines.</p> <p>To understand and apply the product law of exponents.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>33. T&D, p. 146, Investigation 1: (All).</p> <p>34. Investigation 2: (All).</p> <p>35. Investigation 3: (All).</p> <p>36. Investigation 4: PS G, pp. 156–157; E, pp. 157–158; PS H p. 158: IYOW, p. 162.</p> <p>37. PS I, p. 159; S&S, p. 159; QQ, p. 163 TE.</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics,</p> <p>3.1: Powers and Exponents, pp. 166–170.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will build new mathematical knowledge through problem solving.</i></p> <p>7.PS.3 Understand and demonstrate how written symbols represent mathematical ideas.</p> <p>REASONING AND PROOF STRAND</p> <p><i>Students will select and use various types of reasoning and methods of proof.</i></p> <p>7.RP.6 Support an argument by using a systematic approach to test more than one case.</p> <p>REPRESENTATION STRAND</p> <p><i>Students will use representations to model and interpret physical, social, and mathematical phenomena.</i></p> <p>7.R.11 Use mathematics to show and understand mathematical phenomena (e.g., use tables, graphs, and equations to show the pattern underlying a function).</p> <p>NUMBER SENSE AND OPERATIONS STRAND</p> <p><i>Students will understand numbers, multiple ways of representing numbers, relationships among numbers, and number systems.</i></p> <p>7.N.4 Develop the laws of exponents for multiplication and division.</p>	<p>LP: Course 1</p> <p>1.3: Writing rules for Patterns, p.30.</p> <p>2.1: Factors of a number, pp. 76-79</p> <p>Prime Factorization, pp. 79-81.</p> <p>8.3: Areas and Squares, pp. 498-503.</p>
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PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
WEEK 8-9	<p>3.2 Shrinking and Super Machines</p> <p>To model the behavior of exponents using stretching and shrinking machines.</p> <p>To understand and apply the quotient laws of exponents.</p> <p>To understand and apply the power of a power law of exponents.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>38. T&D, p. 164; Investigation 1: (All).</p> <p>39. Investigation 2: (All).</p> <p>40. [Recommended Investigation 3: T&D, p. 168; PS D, p. 169 (#1, 3, 5, 7); PS E, p. 171 (odd numbers); S&S, p. 171.]</p> <p>41. IYOW, p. 175; QQ, p. 175 (TE).</p> <p>Note: Be sure to draw out the material from 7.N.10 from the TE. It is not in the SE.</p>	<p><i>Standardized test review:</i></p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 8: Prime Factorization, pp. 15–16.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will build new mathematical knowledge through problem solving.</i></p> <p>7.PS.3 Understand and demonstrate how written symbols represent mathematical ideas.</p> <p>REASONING AND PROOF STRAND</p> <p><i>Students will select and use various types of reasoning and methods of proof.</i></p> <p>7.RP.6 Support an argument by using a systematic approach to test more than one case.</p> <p>NUMBER SENSE AND OPERATIONS STRAND</p> <p><i>Students will understand numbers, multiple ways of representing numbers, relationships among numbers and number systems.</i></p> <p>7.N.4 Develop the laws of exponents for multiplication and division.</p> <p>7.N.10 Determine the prime factorization of a given number and write in exponential form.</p> <p><i>Students will understand meanings of operations and procedures, and how they relate to one another.</i></p> <p>7.N.14 Develop a conceptual understanding of negative and zero exponents with a base of ten and relate to fractions and decimals.</p>	<p>LP: Course 1</p> <p>2.1: Factors and Multiples, pp. 76-79.</p> <p>8.3: Areas and Squares, pp. 498-503.</p>

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
WEEK 9	<p>3.3 Growing Exponentially</p> <p>To develop a sense of exponential growth and exponential decay.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>42. Explore, p. 176; Investigation 1: (All).</p> <p>43. Investigation 2: T&D, p. 179; [Recommended, PS C, p. 180;]. 182TE, Additional Examples.</p> <p>44. IYOW, p. 187; QQ, p. 188 (TE).</p>		<p>PROBLEM SOLVING STRAND</p> <p><i>Students will build new mathematical knowledge through problem solving.</i></p> <p>7.PS.2 Construct appropriate extensions to problem situations.</p> <p>7.PS.3 Understand and demonstrate how written symbols represent mathematical ideas.</p> <p>REPRESENTATION STRAND</p> <p><i>Students will use representations to model and interpret physical, social and mathematical phenomena.</i></p> <p>7.R.11 Use mathematics to show and understand mathematical phenomena (e.g., use tables, graphs, and equations to show the pattern underlying a function).</p> <p>NUMBER SENSE AND OPERATIONS STRAND</p> <p><i>Students will understand numbers, multiple ways of representing numbers, relationships among numbers, and number systems.</i></p> <p>7.N.4 Develop the laws of exponents for multiplication and division.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LC:</p> <p><i>The King's Chessboard</i> by David Birch.</p> <p><i>Anno's Magic Seeds</i> by Mitsumasa Anno.</p> <p><i>Anno's Mysterious Multiplying Jar</i> by Mitsumasa Anno.</p> <p>LP: Course 1</p> <p>8.3: Areas and Squares, pp. 498-503.</p>

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEK 9 (continued)			ALGEBRA STRAND <i>Students will perform algebraic procedures accurately.</i> 6.A.2 Use substitution to evaluate algebraic expressions (may include exponents of one, two and three) (POST MARCH IN GRADE 6). <i>Students will recognize, use, and represent algebraically patterns, relations, and functions.</i> 7.A.8 Create algebraic patterns using charts/tables, graphs, equations, and expressions (POST MARCH IN GRADE 7).	

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
WEEKS 10–11	<p>3.4 Describing Large Numbers</p> <p><i>Suggested Per Period Pacing:</i></p> <p>45. T&D, p. 190, *Investigation 1: (All).</p> <p>46. Investigation 2: (All).</p> <p>Note: Review conversion of equivalent measurements within metric (PS C, #6, 9, 10).</p> <p>47. Investigation 3: (All).</p> <p>48. * Investigation 4: T&D, p. 200; PS G, p. 201; PS H, p. 201; [Recommended, PS I, p. 202]; S&S, p. 202.</p> <p>49. IYOW, p. 211; QQ, p. 212 (TE); [Recommended—Lab Investigation, pp. 203–205.</p> <p><i>*Scientific calculator is suggested.</i></p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics,</p> <p>3.3: Scientific Notation, pp. 178–180.</p> <p>8.1: Systems of Measurement, pp. 392–393.</p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 54: Metric Units of Measure, pp. 107–108.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will build new mathematical knowledge through problem solving.</i></p> <p>7.PS.3 Understand and demonstrate how written symbols represent mathematical ideas.</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i></p> <p>7.PS.8 Understand how to break a complex problem into simpler parts or use a similar problem type to solve a problem (if Lab Investigation done).</p> <p>NUMBER SENSE AND OPERATIONS STRAND</p> <p><i>Students will understand numbers, multiple ways of representing numbers, relationships among numbers, and number systems.</i></p> <p>7.N.5 Write numbers in scientific notation.</p> <p>7.N.6 Translate numbers from scientific notation into standard form.</p> <p>7.N.7 Compare numbers written in scientific notation.</p> <p><i>Students will compute accurately and make reasonable estimates.</i></p> <p>7.N.19 Justify the reasonableness of answers using estimation.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>N: Lab investigation is optional, but provides review of work with patterns.</p> <p>Web link for Lab Investigation: www.mathforum.org/dr.math/faq/faq.tower.hanoi.html</p> <p>LC: <i>How Much is a Million</i> by David Schwartz. <i>If You Made a Million</i> by David Schwartz.</p> <p>LP: Course 1</p> <p>2.3: Patterns in Decimals, pp. 112-119.</p> <p>3.3: Multiplying and Dividing with Decimals, pp. 207-208.</p>

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEKS 10–11 (continued)			MEASUREMENT STRAND <i>Students will determine what can be measured and how, using appropriate methods and formulas.</i> 8.M.1 Solve equations/proportions to convert to equivalent measurements within metric and customary measurement systems. Note: These concepts are introduced in Grade 7 to prepare students for later mastery.	
	Review and Self-Assessment <i>Suggested Per Period Pacing:</i> 50. Begin Review and Self-Assessment, p. 213. 51. Review and Self-Assessment, pp. 213–215. 52. Chapter 3 Test.			

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
CHAPTER 4: WORKING WITH SIGNED NUMBERS Algebraic Representations: <i>Coordinate Graphs—Develop; Tables and Graphs—Develop</i> Algebraic Reasoning: <i>Patterns and numeric forms—Develop; Properties and Rules—Develop</i> Functions and Relations: <i>Exponential Expressions, Equations—Develop</i> Two-Dimensional Shapes: <i>Triangles, Polygons—Apply</i> Coordinate Geometry: <i>Coordinate Representations—Apply</i> Number and Number Sense: <i>Whole Numbers, Signed Numbers—Apply; Exponents and Roots—Apply</i> Algorithms and Operations: <i>Signed Numbers—Apply</i>				
WEEK 11-12	4.1 Adding and Subtracting with Negative Numbers To add and subtract signed numbers <i>Suggested per period pacing:</i> 53. p. 218; T&D, p. 219; [Lab Investigation, pp. 220–222] 54. Investigation 1: T&D, p. 225; PS A, p. 225; E, p. 226; PS B, (odd numbers) p. 227; S&S, p. 227 55. Investigation 2: T&D, p. 228; PS C, pp. 228–229; T&D, p. 229; PS D, p. 230; S&S, p. 230 56. Investigation 3: PS E, p. 231; PS F, p. 232 (#2, 4, 6, 8) 57. *PS F, p. 232 (#9, 10); PS G, p. 233; S&S, p. 233 * Expand the amount of work done involving inequalities. <i>(continued)</i>	<i>For additional practice or homework:</i> Hot Words, Hot Topics, 1.5: Integer Operations, pp. 90–91. Skills Intervention for Pre-Algebra Skill 5: Integers, pp. 9–10. Skill 6: Adding and Subtracting Integers, pp. 11–12.	PROBLEM SOLVING STRAND <i>Students will build new mathematical knowledge through problem solving.</i> 7.PS.3 Understand and demonstrate how written symbols represent mathematical ideas. <i>Students will monitor and reflect on the process of mathematical problem solving</i> 7.PS.12 Interpret solutions within the given constraints of a problem. COMMUNICATION STRAND <i>Students will communicate their mathematical thinking coherently and clearly to peers, teachers, and others.</i> 7.CM.4 Share organized mathematical ideas through the manipulation of objects, numerical tables, drawings, pictures, charts, graphs, tables, diagrams, models and symbols in written and verbal form. <i>(continued)</i>	LP: Course 1 2.5: Negative Numbers, pp. 142-145. 3.1: Adding and Subtracting Fractions, pp. 154-163. 9.1: Celsius to Kelvin Temperature Conversion, p. 569, #32. Hot Words, Hot Topics: Book 1 2.6: Adding and Subtracting Decimals, p 132.

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEK 11-12 (continued)	58. Investigation 4, All; IYOW, p. 240; QQ, p. 241		NUMBER SENSE AND OPERATIONS STRAND <i>Students will understand numbers, multiple ways of representing numbers, relationships among numbers, and number systems.</i> 7.N.3 Place rational and irrational numbers (approximations) on a number line and justify the placement of the numbers. <i>Students will understand meanings of operations and procedures, and how they relate to one another.</i> 7.N.13 Add and subtract two integers (with and without the use of a number line). ALGEBRA STRAND <i>Students will perform algebraic procedures accurately</i> 7.A.5 Solve one-step inequalities (positive coefficients only). 7.A.6 Evaluate formulas for given input values (surface area, rate, and density problems).	

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
WEEK 12-13	<p>4.2 Multiplying and Dividing with Negative Numbers</p> <p>To multiply and divide with signed numbers.</p> <p><i>Suggested Per Period Pacing</i></p> <p>59. Explore, p. 242; Investigation 1: PS A, p. 243; T&D, p. 243; PS B, p. 243.</p> <p>60. *PS C, p. 244; S&S, p.244.</p> <p>61. Investigation2: PS D, p.245; T&D, p. 245; PS E, p. 246; E, p. 246; PS F, p. 247; S&S, p. 247.</p> <p>62. Investigation 3: PS G, p.248; T&D, p. 248; PS H, p. 249; S&S, p. 249; IYOW, p. 250; QQ, p. 253.</p> <p>Note: To meet standards 7.N.1 and 7.N.2, page T248 must be done and extended to include all the subsets of numbers listed in 7.N.1 and to classify irrational numbers as non-repeating/non-terminating decimals.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics, 1.5: Integer Operations, p. 92.</p> <p>Skills Intervention for Pre-Algebra Skill 7: Multiplying and Dividing Integers, pp. 13–14.</p> <p><i>Suggested test review:</i></p> <p>Hot Words, Hot Topics 3.2: Square root, p. 172.</p>	<p>PROBLEM SOLVING STRAND <i>Students will build new mathematical knowledge through problem solving.</i></p> <p>7.PS.3 Understand and demonstrate how written symbols represent mathematical ideas.</p> <p>NUMBER SENSE AND OPERATIONS STRAND <i>Students will understand numbers, multiple ways of representing numbers, relationships among numbers, and number systems.</i></p> <p>7.N.1 Distinguish between the various subsets of real numbers (counting/natural numbers, whole numbers, integers, rational numbers, and irrational numbers).</p> <p>7.N.2 Recognize the difference between rational and irrational numbers (e.g., explore different approximations of π).</p> <p><i>Students will understand meanings of operations and procedures, and how they relate to one another.</i></p> <p>7.N.12 Add, subtract, multiply, and divide integers.</p> <p>7.N.15 Recognize and state the value of the square root of a perfect square (up to 225).</p> <p>7.N.17 Classify irrational numbers as non-repeating/non-terminating decimals.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>3.2: Multiplying and Dividing with Fractions, pp. 172-188.</p> <p>3.3: Multiplying and Dividing with Decimals, pp. 198-210.</p> <p>8.3: Squaring: pp. 498-507.</p>

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEK 12-13 (continued)	<p>Note: Students should know that π is an irrational number and, unless otherwise specified, the π key and the full display of the calculator should be used in computations. π is <u>not</u> equal to 3.1416, 3.14 <u>nor</u> 22/7. When working without a calculator, students should leave their answers in terms of pi for greatest accuracy.</p> <p>*Calculator suggested</p>		<p><i>Students will compute accurately and make reasonable estimates.</i></p> <p>7.N.19 Justify the reasonableness of answers using estimation.</p> <p>ALGEBRA STRAND</p> <p><i>Students will perform algebraic procedures accurately.</i></p> <p>7.A.4 Solve multi-step equations by combining like terms, using the distributive property, or moving variables to one side of the equation (POST MARCH GRADE 7).</p> <p>7.A.6 Evaluate formulas for given input values (surface area, rate, and density problems).</p>	

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WEEK 13	<p>4.3 Plotting Points in Four Quadrants</p> <p>To create and interpret four-quadrant graphs.</p> <p>To use the distinguishing characteristics of points in the four quadrants and on the two axes to analyze graphs.</p> <p>To think more flexibly about operations with signed numbers.</p> <p>63. T&D, p. 254; Investigation 1: T&D, p. 255; PS A, p.255, #1, 2; [Recommended—PS B, pp. 257–258].</p> <p>64. Investigation 2: (All) IYOW, p. 266; {Suggested—Investigation 3: (All)}; QQ, p. A392 (TE).</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics,</p> <p>6.7: Graphing on the Coordinate Plane, pp. 300–302.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will solve problems that arise in mathematics and in other contexts.</i></p> <p>7.PS.6 Represent problem situations verbally, numerically, algebraically, and graphically.</p> <p>NUMBER SENSE AND OPERATIONS STRAND</p> <p><i>Students will understand meanings of operations and procedures, and how they relate to one another</i></p> <p>7.N.12 Add, subtract, multiply, and divide integers</p> <p>GEOMETRY STRAND</p> <p><i>Students will apply coordinate geometry to analyze problem solving situations.</i></p> <p>6.G.10 Graph the solution set of an inequality (positive coefficients only) on a number line (POST MARCH GRADE 6).</p> <p>STATISTICS AND PROBABILITY STRAND</p> <p><i>Students will collect, organize, display, and analyze data.</i></p> <p>7.S.6 Read and interpret data represented graphically (pictograph, bar graph, histogram, line graph, double line/bar graphs or circle graph).</p>	<p>LP: Course 1</p> <p>2.5: Negative Numbers, pp. 142-145; p. 146 # 4.</p> <p>5.2: Drawing and Labeling Graphs, pp. 302-310.</p>

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
WEEK 14-15	<p>4.5 Negative Numbers as Exponents</p> <p>To relate negative exponents to both multiplication by fractions and repeated division.</p> <p>To evaluate simple expressions with negative exponents.</p> <p>To apply laws of exponents to expressions with negative exponents.</p> <p>To write numbers in scientific notation with negative exponents.</p> <p>65. T&D, p. 280; Investigation 1: PS A, p. 281; T&D, p. 281.</p> <p>66. PS B, pp. 282–283; S&S, p. 284.</p> <p>67. Investigation 2: E, p. 284; PS C, p. 285; [Recommended—PS D, p. 285].</p> <p>68. Investigation 3; PS E, p. 286 (odd #); PS F, p. 287; IYOW, p. 291.</p> <p>69. QQ, p. 292TE.</p>	<p><i>For additional practice or homework:</i></p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 21: Powers and Exponents, pp. 41–42</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will build new mathematical knowledge through problem solving.</i></p> <p>7.PS.3 Understand and demonstrate how written symbols represent mathematical ideas.</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i></p> <p>7.PS.8 Understand how to break a complex problem into simpler parts or use a similar problem type to solve a problem.</p> <p>REASONING AND PROOF STRAND</p> <p><i>Students will make and investigate mathematical conjectures.</i></p> <p>7.RP.3 Evaluate conjectures by distinguishing relevant from irrelevant information to reach a conclusion or make appropriate estimates.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>3.3 Multiplying and Dividing with Decimals, pp. 207-8.</p> <p>LP: Course 2</p> <p>Chapter 3, p. 145a (TG).</p>

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEK 14 (continued)			NUMBER SENSE AND OPERATIONS <i>Students will understand numbers, multiple ways of representing numbers, relationships among numbers, and number systems.</i> 7.N.5 Write numbers in scientific notation. 7.N.6 Translate numbers from scientific notation into standard form. 7.N.7 Compare numbers written in scientific notation. <i>Students will understand meanings of operations and procedures, and how they relate to one another.</i> 7.N.14 Develop a conceptual understanding of negative and zero exponents with a base of ten and relate to fractions and decimals (e.g., $10^{-2} = .01 = 1/100$).	
	Review and Self-Assessment 70. Review and Self- Assessment, pp. 294–297. 71. Continue Review and Self-Assessment, Test on Chapter 4. 72. Test Chapter 4.			

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CHAPTER 5: LOOKING AT LINEAR RELATIONSHIPS

Ratios and Rates: *Meaning and Representation—Develop; Proportions—Develop*
 Algebraic Representations: *Coordinate Graphs—Develop; Tables and Graphs—Develop*
 Algebraic Reasoning: *Patterns and Numeric Forms—Develop*
 Functions and Relations: *Linear Expressions/Equations—Develop*

WEEKS 15–16	<p>5.1 Understanding and Describing Rates</p> <p>To understand rates and proportional relationships.</p> <p>To represent rates and proportional relationships.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>73. T&D, p. 300; Investigation 1: (All).</p> <p>74. Investigation 2: T&D, p. 305; PS C, p. 306; [Recommended, PS D, p. 307; PS E, p. 308; S&S, p.308].</p> <p>75. Investigation 3: T&D, p. 310; PS F, p. 310; PS G, p. 310–311; S&S, p. 311.</p> <p>Note: Must assign p. 314, questions 1, 2 in <i>On Your Own Exercises</i> to expose students to measurement standards.</p> <p>76. Skills Intervention for Pre-Algebra: Skill 53: Customary Units of Measure, pp. 105-106; Skill 54: Metric Units of Measure, pp. 107-108</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics</p> <p>6.5: Ratio and Proportion, p. 292.</p> <p>7.8: Circles, p. 377.</p> <p><i>Standardized test review:</i></p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 30: Ratio and Proportion, pp. 59–60.</p> <p>76. Skill 31: Proportional Reasoning, pp. 61-62.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i></p> <p>7.PS.10 Use proportionality to model problems.</p> <p>ALGEBRA STRAND</p> <p><i>Students will perform algebraic procedures accurately</i></p> <p>6.A.3. Translate two-step verbal sentences into algebraic equations (POST MARCH GRADE 6).</p> <p>6.A.5 Solve simple proportions within context (POST MARCH IN GRADE 6).</p> <p><i>Student will recognize, use, and represent algebraically patterns, relations, and functions.</i></p> <p>7.A.7 Draw the graphic representation of a pattern from an equation or from a table of data (POST MARCH IN GRADE 7).</p> <p>7.A.10 Write an equation to represent a function from a table of values (POST MARCH IN GRADE 7).</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>7.2: Rules in Real Life, pp. 430-442.</p> <p>7.3: Explaining Number Relationships, pp. 450-456.</p> <p>8.2: Measuring Around, pp.482-489.</p> <p>9.1: Understanding Equations, pp. 558-562.</p> <p>9.2: Backtracking, pp. 570-578.</p> <p>9.3: Guess, Check and Improve, pp.586-593.</p>
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PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEKS 15–16 (continued)			<p>GEOMETRY STRAND</p> <p><i>Students will use visualization and spatial reasoning to analyze characteristics and properties of geometric shapes</i></p> <p>7.G.1 Calculate the radius or diameter, given the circumference or area of a circle.</p> <p><i>Students will apply coordinate geometry to analyze problem solving situations.</i></p> <p>8.G.15 Graph a line using a table of values.</p> <p>Note: This concept is introduced in Grade 7 to prepare students for later mastery.</p> <p>MEASUREMENT STRAND</p> <p><i>Students will determine what can be measured and how, using appropriate methods and formulas.</i></p> <p>7.M.2 Convert capacities and volumes within a given system.</p> <p>7.M.3 Identify customary and metric units of mass.</p> <p>7.M.4 Convert mass within a given system.</p>	

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
WEEK 16	<p>5.2 Speed and Slope Connection</p> <p>To recognize linear relationships from different forms: symbolic rules, graphs, patterns, and tables.</p> <p><i>Suggested per period pacing:</i></p> <p>77. Explore, p. 321; Investigation 1; PS A, pp. 322–333; PS B, p. 323.</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics</p> <p>6.3: Distance traveled, pp. 277–278.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will solve problems that arise in mathematics and in other contexts.</i></p> <p>7.PS.6 Represent problem situations verbally, numerically, algebraically, and graphically.</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i></p> <p>7.PS.10 Use proportionality to model problems.</p> <p>REPRESENTATION STRAND</p> <p><i>Students will use representations to model and interpret physical, social, and mathematical phenomena</i></p> <p>7.R.9 Use mathematics to show and understand physical phenomena (e.g., make and interpret scale drawings of figures or scale models of objects).</p> <p>ALGEBRA STRAND</p> <p><i>Students will perform algebraic procedures accurately.</i></p> <p>7.A.6 Evaluate formulas for given input values (surface area, rate, and density problems).</p>	<p>LP: Course 1</p> <p>1.2: Following Rules, pp. 14-22.</p> <p>7.1: Patterns and Variables, pp. 410-421.</p> <p>8.3: Areas and Squares, pp. 494-507.</p> <p>8.4: Calculating Areas: pp. 514-527.</p> <p>8.5: The Pythagorean Theorem, pp. 536-543.</p>

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
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CHAPTER 7: SIMILARITY

Two Dimensional Geometry: *Polygons, Triangles, Quadrilaterals—Apply*
 Geometric Relationships: *Congruence, Similarity—Apply*
 Measurement: *Perimeter, Area, Surface Area and Volume—Apply*
 Coordinate Geometry: *Transformations—Develop*
 Percents: *Meaning and Representation—Apply*
 Ratio and Rates: *Proportion—Apply*

WEEK 16	<p>7.4 Volume and Surface Area of Similar Figures</p> <p>To understand how scaling affects measurements of three dimensional figures.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>78. Investigation 3: PS E, p. 501 (#1, 2, 6); Investigation 4: T&D, p. 504; PSG, p. 505; S&S, p. 505.</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics,</p> <p>7.6: Surface Area, pp. 362–365</p> <p>7.7: Volume, pp. 366–372</p> <p><i>Standardized test review:</i></p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 63: Nets and Solids, pp. 125–126</p> <p>Skill 65: Surface Area of Rectangular Prisms and Cylinders, pp. 129–130.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i></p> <p>7.PS.8 Understand how to break a complex problem into simpler parts or use a similar problem type to solve a problem.</p> <p>7.PS.10 Use proportionality to model problems.</p> <p>ALGEBRA STRAND</p> <p><i>Students will perform algebraic procedures accurately.</i></p> <p>7.A.6 Evaluate formulas for given input values (surface area, rate, and density problems).</p> <p>GEOMETRY STRAND</p> <p><i>Students will use visualization and spatial reasoning to analyze characteristics and properties of geometric shapes.</i></p> <p>7.G.1 Calculate the radius or diameter, given the circumference or area of a circle.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>8.4: Calculating Area pp.514-524.</p> <p>9.3: Volume, p. 597.</p> <p>LP: Course 2</p> <p>2.3: Finding Volumes of Block Structures, pp. 109-116.</p>
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PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEK 16 (continued)			<p>7.G.2 Calculate the volume of prisms and cylinders, using a given formula and a calculator].</p> <p>7.G.3 Identify the two-dimensional shapes that make up the faces and bases of three-dimensional shapes (prisms, cylinders, cones, and pyramids).</p> <p>7.G.4 Determine the surface area of prisms and cylinders, using a calculator and a variety of methods.</p> <p><i>Students will perform transformations and symmetry to analyze problem solving situations.</i></p> <p>8.G.11 Draw the image of a figure under a dilation.</p> <p>8.G.12 Identify the properties preserved and not preserved under a reflection, rotation, translation, and dilation.</p> <p>Note: These concepts are introduced in Grade 7 to prepare students for later mastery.</p>	

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
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CHAPTER 10: DATA AND PROBABILITY

Algebraic Representations: *Coordinate Graphs—Review and Extend; Tables and Graphs—Develop*

Algebraic Reasoning: *Patterns and Numeric Forms—Develop*

Coordinate Geometry: *Coordinate Representations—Review and Extend*

Rationals and Irrationals: *Fraction and Decimal Concepts—Review and Extend*

Percents: *Meaning and Representation—Review and Extend*

Data Analysis: *Graphs and Displays—Develop; Modeling and Analysis—Develop; Statistical Measures—Develop; Surveys and Sampling—Develop*

Probability: *Basic Concepts and Rules—Develop; Experiments and Simulations—Develop; Counting Methods—Develop*

WEEK 16-17	<p>10.1 Dependence</p> <p>To recognize when previous outcomes influence later ones.</p> <p>79. T&D, p. 666; Investigation 1: (All).</p> <p>80. Investigation 2 (All).</p> <p>81. IYOW, p. 675; QQ, p. 675 (TE).</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics</p> <p>4.5: Combinations and Permutations, pp. 216–217, pp. 220–221.</p> <p>4.6: Probability, pp. 224–234.</p> <p><i>Standardized test review:</i></p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 75: Counting Outcomes and Tree Diagrams, pp. 149–150.</p> <p>Skill 78: Probability, pp. 155–156.</p>	<p>COMMUNICATION STRAND</p> <p><i>Students will communicate their mathematical thinking coherently and clearly to peers, teachers, and others.</i></p> <p>7.CM.4 Share organized mathematical ideas through the manipulation of objects, numerical tables, drawings, pictures, charts, graphs, tables, diagrams, models and symbols in written and verbal form.</p> <p>STATISTICS AND PROBABILITY STRAND</p> <p><i>Students will collect, organize, display, and analyze data.</i></p> <p>6.S.1 Develop the concept of sampling when collecting data from a population and decide the best method to collect data for a particular question (POST MARCH IN GRADE 6).</p> <p>7.S.1 Identify and collect data using a variety of methods.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>10.1: The Language of Chance, pp. 601-612.</p> <p>10.3: Making Matches, pp. 638-645.</p>
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grade 7

MATHEMATICS PLANNING GUIDE

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEK 16-17 (continued)			<p><i>Students will understand and apply concepts of probability.</i></p> <p>6.S.9 List possible outcomes for compound events (POST MARCH IN GRADE 6).</p> <p>7.S.8 Interpret data to provide the basis for predictions and to establish experimental probabilities.</p> <p>7.S.12 Compare actual results to predicted results.</p>	

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
WEEK 17	<p>10.2 Applying Probability</p> <p>To understand that a fair game is one in which all participants have the same chance of winning.</p> <p>To use probability to make decisions and create strategies.</p> <p>82. Explore, p. 676; Investigation 1: (All).</p> <p>83. [Recommended—Investigation 2; Investigation 3].</p> <p>84. [Recommended—Investigation 4; IYOW, p. 690; QQ, p. 691].</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics, 4.2: Displaying Data, pp. 201–202.</p> <p><i>Standardized test review:</i></p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 76: Permutations, pp. 151–152.</p> <p>Skill 79: Theoretical and Experimental Probability, pp. 157–158</p>	<p>COMMUNICATION STRAND</p> <p><i>Students will communicate their mathematical thinking coherently and clearly to peers, teachers, and others.</i></p> <p>7.CM.4 Share organized mathematical ideas through the manipulation of objects, numerical tables, drawings, pictures, charts, graphs, tables, diagrams, models and symbols in written and verbal form.</p> <p>STATISTICS AND PROBABILITY STRAND</p> <p><i>Students will understand and apply concepts of probability.</i></p> <p>6.S.9 List possible outcomes for compound events (POST MARCH in Grade 6).</p> <p>6.S.10 Determine the probability of dependent events (POST MARCH in Grade 6).</p> <p>7.S.8 Interpret data to provide the basis for predictions and to establish experimental probabilities.</p> <p>7.S.10 Predict the outcome of an experiment.</p> <p>7.S.11 Design and conduct an experiment to test predictions.</p>	<p>N: Stick or Switch Problem www.illuminations.nctm.org/LessonDetail.aspx?idL377</p> <p>LP: Course 1</p> <p>10.1: The Language of Chance, pp. 602-612.</p> <p>10.2: Analyzing Games, pp. 620-630.</p>

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
WEEK 18	<p>10.3 Sampling and Making Predictions</p> <p>To use probability to make decisions and create strategies.</p> <p>To analyze how appropriate a sample or a sampling process is.</p> <p>85. Explore, p. 692; Investigation 1: (All).</p> <p>86. Investigation 2: (All).</p> <p>87. Investigation 3(All).</p> <p>88. IYOW, p. 706; QQ, p. 707.</p> <p>Note: Review the different measures of central tendency that were introduced in sixth grade.</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics</p> <p>4.1: Collecting Data, pp. 189–190.</p> <p><i>Standardized test review:</i></p> <p>Hot Words, Hot Topics</p> <p>4.6: Venn Diagrams, p. 234.</p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 74: Using Statistics to Make Predictions, pp. 147–148.</p> <p>Skill 66: Mean, Median, Mode, pp. 131–132.</p> <p>Skill 67: Frequency Tables, pp. 133–134.</p>	<p>REPRESENTATION STRAND</p> <p><i>Students will select, apply, and translate among mathematical representations to solve problems.</i></p> <p>7.R.7 Investigate relationships between different representations and their impact on a given problem.</p> <p><i>Students will use representations to model and interpret physical, social, and mathematical phenomena.</i></p> <p>7.R.9 Use mathematics to show and understand physical phenomena (e.g., make and interpret scale drawings of figures or scale models of objects).</p> <p>7.R.10 Use mathematics to show and understand social phenomena (e.g., determine profit from sale of yearbooks).</p> <p>NUMBER SENSE AND OPERATIONS STRAND</p> <p><i>Students will compute accurately and make reasonable estimates.</i></p> <p>7.N.19 Justify the reasonableness of answers using estimation.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>6.1: Using Graphs to Understand Data, pp. 342-352.</p> <p>6.2: What is Typical, pp. 362-379.</p> <p>6.3: Collecting and Analyzing Data, pp. 390-398.</p> <p>10.1: The Language of Chance, pp. 604-614.</p>

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEK 18 (continued)			<p>STATISTICS AND PROBABILITY STRAND</p> <p><i>Students will collect, organize, display, and analyze data.</i></p> <p>6.S.1 Develop the concept of sampling when collecting data from a population and decide the best method to collect data for a particular question (POST MARCH IN GRADE 6).</p> <p>6.S.2 Record data in a frequency table (POST MARCH IN GRADE 6).</p> <p>7.S.1 Identify and collect data using a variety of methods.</p> <p><i>Students will understand and apply concepts of probability.</i></p> <p>7.S.8 Interpret data to provide the basis for predictions and to establish experimental probabilities.</p> <p>7.S.9 Determine the validity of sampling methods to predict outcomes.</p> <p>7.S.11 Design and conduct an experiment to test predictions.</p>	

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
WEEK 18	<p>10.4 Statistical Tools and Graphs To interpret and display line graphs, pie charts, histograms, stem-and-leaf plots, bar graphs, and box-and-whisker plots.</p> <p>89. T&D, p. 709. 90. Investigation 2: (All).</p> <p>Note: Extend the work to include double bar graphs and double line graphs. Discuss which graph is appropriate for which set of data.</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics 4.2: Displaying Data, pp. 194, 196–204.</p> <p><i>Standardized test review:</i></p> <p>Skills Intervention for Pre-Algebra Skill 71: Line Graphs, pp. 141–142. Skill 72: Bar Graphs and Histograms, pp. 143–144. Skill 73: Circle Graphs, pp. 145–146.</p>	<p>PROBLEM SOLVING STRAND <i>Students will solve problems that arise in mathematics and in other contexts.</i></p> <p>7.PS.6 Represent problem situations verbally, numerically, algebraically, and graphically.</p> <p>REPRESENTATION STRAND <i>Students will use representations to model and interpret physical, social, and mathematical phenomena.</i></p> <p>7.R.10 Use mathematics to show and understand social phenomena (e.g., determine profit from sale of yearbooks).</p> <p>7.R.11 Use mathematics to show and understand mathematical phenomena (e.g., use tables, graphs, and equations to show a pattern underlying a function).</p> <p>STATISTICS AND PROBABILITY <i>Students will collect, organize, display and analyze data.</i></p> <p>6.S.4 Determine and justify the most appropriate graph to display a given set of data (pictograph, bar graph, line graph, histogram, or circle graph) (POST MARCH IN GRADE 6)</p> <p>MEASUREMENT STRAND <i>Students will determine what can be measured and how, using appropriate methods and formulas.</i></p> <p>7.M.8 Draw central angles in a given circle using a protractor (circle graphs).</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>6.1: Using Graphs to Understand Data, pp. 342-352.</p> <p>6.2: What is Typical, pp. 362-379.</p> <p>6.3: Collecting and Analyzing Data, pp. 390-395.</p>

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEKS 18-19 (continued)			STATISTICS AND PROBABILITY STRAND <i>Students will collect, organize, display, and analyze data.</i> 7.S.2 Display data in a circle graph. 7.S.3 Convert raw data into double bar graphs and double line graphs. 7.S.4 Calculate the range for a given set of data. 7.S.5 Select the appropriate measure of central tendency.	
	Review and Self-Assessment <i>Suggested per period pacing</i> 91. Review and Self-Assessment, pp. 724–728; Test, Chapter 10.			

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CHAPTER 6: SOLVING EQUATIONS

Algebraic Representations: *Coordinate Graphs—Develop; Tables and Graphs—Develop*

Algebraic Reasoning: *Patterns and Numeric Forms—Develop*

Functions and Relations: *Line Expressions/ Equations—Develop*

Coordinate Geometry: *Coordinate Representations—Develop*

Ratios and Rates: *Meaning and Representations—Develop*

WEEK 19	<p>6.1 Two Solution Methods Revisited</p> <p>To solve linear equations using guess-check-and-improve or backtracking methods.</p> <p>To use variables to write algebraic expressions.</p> <p><i>Suggested Per Period Pacing</i></p> <p>92. T&D, p. 384; T&D, p. 385; Investigation 1: PS A, pp. 385–386; PS B, pp. 386–387.</p> <p>93. S&S, p. 387; {Suggested—Lab Investigation, p. 388} IYOW, p. 392; QQ, p. 394 (TE).</p>	<p><i>For additional practice or homework:</i></p> <p>Impact Mathematics Refresher Worksheet #16, p. 20.</p> <p>Hot Words, Hot Topics</p> <p>6.1 Writing Expressions, p. 264–265.</p> <p>6.4 Solving Linear Equations, p. 281.</p> <p><i>Standardized test review:</i></p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 24: Writing Expressions and Equations, pp. 47–48.</p> <p>Skill 25: Simplifying Expressions and Equations, pp. 49–50.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will build new mathematical knowledge through problem solving.</i></p> <p>7.PS.2 Construct appropriate extensions to problem situations.</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i></p> <p>7.PS.9 Work backwards from a solution.</p> <p>ALGEBRA STRAND</p> <p><i>Students will represent and analyze algebraically a wide variety of problem solving situations.</i></p> <p>7.A.1 Translate two-step verbal expressions into algebraic expressions.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>9.2: Backtracking, pp. 570-578.</p> <p>9.3 Guess, Check and Improve, pp. 586-593.</p> <p>LP: Course 2</p> <p>1.1: Variables and Expressions, pp. 18-21.</p>
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PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEK 19 (continued)			<p><i>Students will perform algebraic procedures accurately.</i></p> <p>6.A.3 Translate two-step verbal sentences into algebraic equations (POST MARCH IN GRADE 6).</p> <p>6.A.4 Solve and explain two-step equations involving whole numbers using inverse operations (POST MARCH IN GRADE 6).</p> <p>7.A.2 Add and subtract monomials with exponents of one (POST MARCH IN GRADE 7).</p> <p>7.A.4 Solve multi-step equations by combining like terms, using the distributive property, or moving variables to one side of the equation (POST MARCH IN GRADE 7).</p>	

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEKS 19–20	<p>6.2 A Model for Solving Equations</p> <p>To introduce the balance model for solving equations.</p> <p>To write equations to solve problems.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>94. Explore, p. 395; Investigation 1: (All).</p> <p>95. Investigation 2: E, p. 398; PS C, p. 398; E, p. 399; PS D, pp. 399–400.</p> <p>96. T&D, p. 400; [Recommended—PS E, p. 401; S&S, p. 401]; IYOW, p.406.</p> <p>97. Investigation 3: PS G; p. 403; S&S, p.403; QQ, p. 408 (TE).</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics</p> <p>6.1 Writing Expressions, p.266.</p> <p><i>Standardized test review:</i></p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 25: Simplifying Expressions and Equations, pp. 49–50, #7–17.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will solve problems that arise in mathematics and in other contexts.</i></p> <p>7.PS.6 Represent problem situations verbally, numerically, algebraically, and graphically.</p> <p><i>Students will monitor and reflect on the process of mathematical problem solving.</i></p> <p>7.PS.17 Evaluate the efficiency of different representations of a problem.</p> <p>REPRESENTATION STRAND</p> <p><i>Students will use representations to model and interpret physical, social, and mathematical phenomena.</i></p> <p>7.R.11 Use mathematics to show and understand mathematical phenomena (e.g., use tables, graphs, and equations to show a pattern underlying a function).</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>9.2: Solving Equations by Backtracking, pp. 570-578.</p> <p>LP: Course 2</p> <p>1.1: Writing Expressions, pp. 10-13.</p> <p>5.3: Recognizing Linear Relationships, pp. 345-350.</p>

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEKS 19–20 (continued)			ALGEBRA STRAND <i>Students will represent and analyze algebraically a wide variety of problem solving situations.</i> 7.A.1 Translate two-step verbal expressions into algebraic expressions. <i>Students will perform algebraic procedures accurately.</i> 6.A.3 Translate two-step verbal sentences into algebraic equations (POST MARCH IN GRADE 6). 6.A.4 Solve and explain two-step equations involving whole numbers using inverse operations (POST MARCH IN GRADE 6). 7.A.4 Solve multi-step equations by combining like terms, using the distributive property, or moving variables to one side of the equation (POST MARCH IN GRADE 7).	

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
WEEK 20	<p>6.3 Thinking with Symbols</p> <p>To solve equations without using the balance puzzle model.</p> <p>To solve simple word problems by writing and solving equations.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>98. Explore, p. 409; Investigation 1: (All).</p> <p>99. Investigation 2: (All) QQ, p. 418 (TE).</p> <p>100. {Suggested—Investigation 3: (All).}</p> <p>Note: Extend 6.3 to include graphing of the solution set.</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics</p> <p>6.4: Solving Linear Equations, pp. 280–287.</p> <p><i>Standardized test review:</i></p> <p>Hot Words, Hot Topics</p> <p>6.6: Inequalities, pp. 296–299.</p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 29: Solve Inequalities, pp. 57–58.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will build new mathematical knowledge through problem solving.</i></p> <p>7.PS.3 Understand and demonstrate how written symbols represent mathematical ideas.</p> <p><i>Students will solve problems that arise in mathematics and in other contexts.</i></p> <p>7.PS.6 Represent problem situations verbally, numerically, algebraically, and graphically.</p> <p>REASONING AND PROOF STRAND</p> <p><i>Students will select and use various types of reasoning and methods of proof.</i></p> <p>7.RP.6 Support an argument by using a systematic approach to test more than one case.</p> <p>ALGEBRA STRAND</p> <p><i>Students will represent and analyze algebraically a wide variety of problem solving situations.</i></p> <p>7.A.1 Translate two-step verbal expressions into algebraic expressions.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>9.2: Backtracking, pp. 570-578.</p> <p>9.3: Guess, Check, and Improve: pp. 586-593.</p> <p>LP: Course 2</p> <p>1.2: Expressions and formulas, pp. 32-45.</p>

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WEEK 20 (continued)			<p><i>Students will perform algebraic procedures accurately.</i></p> <p>7.A.4 Solve multi-step equations by combining like terms, using the distributive property, or moving variables to one side of the equation (POST MARCH IN GRADE 7).</p> <p>7.A.5 Solve one-step inequalities (positive coefficients only).</p> <p>GEOMETRY STRAND</p> <p><i>Students will apply coordinate geometry to analyze problem solving situations.</i></p> <p>7.G.10 Graph the solution set of an inequality (positive coefficients only) on a number line.</p>	

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
WEEK 21	<p>6.4 Simplifying Equations To write equations to solve problems. To write and simplify algebraic expressions.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>101. T&D, p. 419; Investigation 1: PS A, P. 420.</p> <p>102. PS B, pp. 420–421; PS C, p. 421; S&S, p. 421.</p> <p>103. Investigation 2: (ALL); IYOW, p.432.</p> <p>104. Investigation 3(All); QQ, p. 433 (TE).</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics, 6.4: Solving Linear Equations, pp. 280–287.</p> <p><i>Standardized test review:</i></p> <p>Skills Intervention in Pre-Algebra Skill 23: Variables and Expressions, pp. 45–46.</p>	<p>PROBLEM SOLVING STRAND <i>Students will build new mathematical knowledge through problem solving.</i></p> <p>7.PS.3 Understand and demonstrate how written symbols represent mathematical ideas.</p> <p>NUMBER SENSE AND OPERATIONS STRAND <i>Students will understand meanings of operations and procedures, and how they relate to one another.</i></p> <p>7.N.11 Simplify expressions using order of operations. Note: Expressions may include absolute value and/or integral exponents greater than 0.</p> <p>ALGEBRA STRAND <i>Students will perform algebraic procedures accurately.</i></p> <p>6.A.2 Use substitution to evaluate algebraic expressions (may include exponents of one, two and three) (POST MARCH IN GRADE 6).</p> <p>6.A.3 Translate two-step verbal sentences into algebraic equations (POST MARCH IN GRADE 6).</p> <p>6.A.4 Solve and explain two-step equations involving whole numbers using inverse operations (POST MARCH IN GRADE 6).</p> <p>7.A.4 Solve multi-step equations by combining like terms, using the distributive property, or moving variables to one side of the equation (POST MARCH IN GRADE 7).</p>	<p>LP: Course 2 1.1: Variables and Expressions, pp. 4-21.</p>

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEK 21-22	<p>6.5 Using Expressions To write and simplify expressions.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>105. Explore, p. 434; Investigation 1 (All); QQ, pp. 443–444 TE.</p> <p>106. [Recommended—Investigation 2 (All)].</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics</p> <p>6.2: Simplifying Expressions, pp. 268–271.</p>	<p>PROBLEM SOLVING STRAND <i>Students will solve problems that arise in mathematics and in other contexts.</i></p> <p>7.PS.6 Represent problem situations verbally, numerically, algebraically, and graphically.</p> <p>NUMBER SENSE AND OPERATIONS STRAND <i>Students will understand meanings of operations and procedures, and how they relate to one another.</i></p> <p>7.N.11 Simplify expressions using order of operations.</p> <p>Note: Expressions may include absolute value and/or integral exponents greater than 0.</p> <p>ALGEBRA STRAND <i>Students will represent and analyze algebraically a wide variety of problem solving situations.</i></p> <p>7.A.1 Translate two-step verbal expressions into algebraic expressions.</p> <p style="text-align: right;"><i>(continued)</i></p>	

grade 7

MATHEMATICS PLANNING GUIDE

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEK 21-22 (continued)			<p><i>Students will recognize, use, and represent algebraically patterns, relations, and functions.</i></p> <p>7.A.7 Draw the graphic representation of a pattern from an equation or from a table of data (POST MARCH IN GRADE 7).</p> <p>8.A.4 Create a graph given a description or an expression for a situation involving a linear or nonlinear relationship.</p> <p>Note: This concept is introduced in Grade 7 to prepare students for later mastery.</p>	
WEEK 22	Review and Self-Assessment 107. Review and Self-Assessment, pp.445–447. 108. Chapter 6 Test.			

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
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CHAPTER 8: RATIO AND PROPORTION

Functions and Relations: *Rational Expressions, Equations—Develop*

Geometric Relationships: *Similarity—Apply*

Measurement: *Perimeter and Area—Develop*

Percents: *Meaning and Representation—Develop*

Ratio and Rates: *Meaning and Representation—Develop; Proportion—Develop*

Data Analysis: *Surveys and Sampling—Expose*

WEEKS 22–23	<p>8.1 Comparing with Ratios and Rates</p> <p>To compare and scale ratios and rates. To write and interpret comparisons.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>109. T&D, p. 709; Investigation 1: Explore, p. 520–521; Investigation 1: PS A, pp. 521–523.</p> <p>110. PS B, pp. 523–524; S&S, p. 524.</p> <p>111. Investigation 2: (All).</p> <p>112. Investigation 3: (All).</p> <p>113. Investigation 4: (All); QQ, p. 538 (TE).</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics</p> <p>2.1: Fractions and Equivalent Fractions, pp. 102–103.</p> <p>6.5: Ratio and Proportion, p. 292.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i></p> <p>7.PS.10 Use proportionality to model problems.</p> <p>7.PS.17 Evaluate the efficiency of different representations of a problem.</p> <p>REPRESENTATION STRAND</p> <p><i>Students will use representations to model and interpret physical, social, and mathematical phenomena.</i></p> <p>7.R.9 Use mathematics to show and understand physical phenomena (e.g., make and interpret scale drawings of figures or scale models of objects).</p> <p>7.R.10 Use mathematics to show and understand social phenomena (e.g., determine profit from sale of yearbooks).</p> <p>ALGEBRA STRAND</p> <p><i>Students will perform algebraic procedures accurately.</i></p> <p>7.A.6 Evaluate formulas for given input values (surface area, rate, and density problems).</p>	<p>LP: Course 1</p> <p>2.2: Patterns in Fractions, pp. 99-102.</p> <p>4.1: Using Percents, PS J, p. 238.</p> <p>4.3: Percents and Wholes, p. 261.</p>
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PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
WEEKS 23–24	<p>8.2 Using Proportions To write and solve proportions.</p> <p>Suggested Per Period Pacing:</p> <p>114. T&D, p. 540; Investigation 1: PS A.</p> <p>115. Investigation 2: (All).</p> <p>116. Investigation 3: (All).</p> <p>117. Investigation 4: (All); IYOW, p. 559.</p> <p>118. QQ, p. A739 (TE) Lab Investigation (Optional).</p> <p>Note: Review cross multiplication as a method to solve proportions.</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics</p> <p>6.5: Ratio and Proportion, pp. 292–294.</p> <p><i>Standardized test review:</i></p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 30: Ratio and Proportion, pp. 59–60.</p> <p>Skill 31: Proportional Reasoning, pp. 61–62.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i></p> <p>7.PS.10 Use proportionality to model problems .</p> <p>REPRESENTATION STRAND</p> <p><i>Students will use representations to model and interpret physical, social, and mathematical phenomena.</i></p> <p>7.R.9 Use mathematics to show and understand physical phenomena (e.g., make and interpret scale drawings of figures or scale models of objects).</p> <p>MEASUREMENT STRAND</p> <p><i>Students will determine what can be measured and how, using appropriate methods and formulas.</i></p> <p>7.M.7 Convert money between different currencies with the use of an exchange rate table and a calculator (POST MARCH in GRADE 7).</p> <p>[Note: Questions 19 and 20 (page 558) are the only instance where 7.M.7 is addressed in Impact Math.]</p>	<p>LP: Course 1</p> <p>2.2: Patterns in Fractions, pp. 99-102.</p>

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WEEKS 24-25	<p>8.3 Percentages and Proportions</p> <p>To use percentages to make comparisons</p> <p>To understand percent change</p> <p>119. T&D, p. 562; Investigation 1: T&D, p. 563; PS A, p. 563.</p> <p>120. PS B, pp. 564–565; S&S, p. 565; Investigation 2: PS C, p. 566; T&D, p. 567.</p> <p>121. PS D, pp. 567–568; S&S, p. 568.</p> <p>122. Investigation 3: (All).</p> <p>123. Investigation 4: (All).</p> <p>124. IYOW, p. 582; QQ, p.583.</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics,</p> <p>2.7: Meaning of Percent, pp. 138–140.</p> <p>2.8: Using and Finding Percents, pp. 142–150.</p> <p><i>Standardized test review:</i></p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 17: Percents as Fractions and Decimals, pp. 33–34.</p> <p>Skill 18: Percent of a Number, pp. 35–36.</p> <p>Skill 19: Percent Proportion, pp. 37–38.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i></p> <p>7.PS.10 Use proportionality to model problems.</p> <p>REPRESENTATION STRAND</p> <p><i>Students will use representations to model and interpret physical, social, and mathematical phenomena.</i></p> <p>7.R.9 Use mathematics to show and understand physical phenomena (e.g., make and interpret scale drawings of figures or scale models of objects).</p> <p>7.R.10 Use mathematics to show and understand social phenomena (e.g., determine profit from sale of yearbooks).</p> <p>NUMBER SENSE AND OPERATIONS STRAND</p> <p><i>Students will understand numbers, multiple ways of representing numbers, relationships among numbers, and number systems.</i></p> <p>7.N.4 Develop the laws of exponents for multiplication and division.</p>	<p>LP: Course 1</p> <p>4.1: Using Percent, pp. 227-228; p.238.</p> <p>4.2: Finding a Percent of a Quantity, pp. 248-255.</p>

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
WEEKS 26	<p>8.4 Interpreting and Applying Proportions</p> <p>To interpret comparisons that use ratios and percentages</p> <p><i>Suggested Per Period Pacing:</i></p> <p>125. T&D, p. 585; Investigation 1: (All).</p> <p>126. Investigation 2: (All).</p> <p>127. IYOW, p. 594; QQ, p. A741 (TE).</p>	<p>Skills Intervention for Pre-Algebra:</p> <p>Skill 32: Scale Drawings, pp. 63–64.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will build new mathematical knowledge through problem solving.</i></p> <p>7.PS.2 Construct appropriate extensions to problem situations.</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i></p> <p>7.PS.10 Use proportionality to model problems.</p> <p>REASONING AND PROOF STRAND</p> <p><i>Students will make and investigate mathematical conjectures.</i></p> <p>7.RP.2 Use mathematical strategies to reach a conclusion.</p> <p>MEASUREMENT STRAND</p> <p><i>Students will determine what can be measured and how, using appropriate methods and formulas.</i></p> <p>7.M.5 Calculate unit price using proportions (POST MARCH IN GRADE 7).</p> <p>7.M.6 Compare unit prices (POST MARCH IN GRADE 7).</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>4.1: Using Percents, pp. 236-239.</p> <p>4.3: Percents and Wholes, pp. 261-264.</p>

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEKS 26 (continued)			STATISTICS AND PROBABILITY STRAND <i>Students will make predictions that are based upon data analysis.</i> 7.S.7 Identify and explain misleading statistics and graphs. <i>Students will understand and apply concepts of probability.</i> 7.S.9 Determine the validity of sampling methods to predict outcomes.	
	Review and Self Assessment <i>Suggested Per Period Pacing</i> 128. Review and Self Assessment, p. 596–599. 129. Test, Chapter 8.			

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
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CHAPTER 9: INTERPRETING GRAPHS

Algebraic Representations: *Coordinate Graphs—Develop; Tables and Graphs—Develop*

Algebraic Reasoning: *Patterns and numeric forms—Develop*

Functions and Relations: *Linear, Quadratic, and Exponential Expressions & Equations—Develop*

Coordinate Geometry: *Coordinate Representations—Develop*

Number and Number Sense: *Exponents and Roots—Develop*

Data Analysis: *Graphs and Displays—Develop; Modeling and Analysis—Develop*

WEEK 27	<p>9.1 Graphing Change over Time To interpret graphing change over time.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>130. T&D, p. 602; Investigation 1: (All).</p> <p>131. Investigation 2: PS C, p. 606; [Recommended, PS D, p. 607]; S&S, p. 607; Lab Investigation pp. 608-609; IYOW, p. 621.</p> <p>132. Investigation 3: (All).</p> <p>133. QQ, p. 623 (TE).</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics,</p> <p>4.2: Displaying Data, p. 199.</p> <p>6.8: Slope and Intercept, pp. 308–311.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will solve problems that arise in mathematics and in other contexts.</i></p> <p>7.PS.6 Represent problem situations verbally, numerically, algebraically, and graphically.</p> <p><i>Students will monitor and reflect on the process of mathematical problem solving.</i></p> <p>7.PS.12 Interpret solutions within the given constraints of a problem.</p> <p>COMMUNICATION STRAND</p> <p><i>Students will communicate their mathematical thinking coherently and clearly to peers, teachers, and others.</i></p> <p>7.CM.4 Share organized mathematical ideas through the manipulation of objects, numerical tables, drawings, pictures, charts, graphs, tables, diagrams, models and symbols in written and verbal form to show and understand social phenomena (e.g., determine profit from sale of yearbooks).</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>5.1: Interpreting Graphs, pp. 286-291.</p>
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PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEK 27 (continued)			<p>REPRESENTATION STRAND</p> <p><i>Students will use representations to model and interpret physical, social, and mathematical phenomena.</i></p> <p>7.R.9 Use mathematics to show and understand physical phenomena (e.g., make and interpret scale drawings of figures or scale models of objects).</p> <p>7.R.10 Use mathematics to show and understand social phenomena (e.g., determine profit from sale of yearbooks).</p> <p>ALGEBRA STRAND</p> <p><i>Students will recognize, use, and represent algebraically patterns, relations, and functions.</i></p> <p>7.A.7 Draw the graphic representation of a pattern from an equation or from a table of data (POST MARCH IN GRADE 7).</p> <p>7.A.8 Create algebraic patterns using charts/tables, graphs, equations, and expressions (POST MARCH IN GRADE 7).</p> <p>STATISTICS AND PROBABILITY STRAND</p> <p><i>Students will collect, organize, display, and analyze data.</i></p> <p>7.S.6 Read and interpret data represented graphically (pictograph, bar graph, histogram, line graph, double line/bar graphs or circle graph).</p> <p><i>Students will understand and apply concepts of probability.</i></p> <p>7.S.8 Interpret data to provide the basis for predictions and to establish experimental probabilities.</p>	

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WEEKS 27–28	<p>9.2 Graphs and Equations</p> <p>To use graphs to solve problems and equations.</p> <p>To recognize graphs of square, inverse and exponential relationships.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>134. T&D, p. 624; Investigation 1: (All).</p> <p>135. Investigation 2: (All).</p> <p>136. Investigation 3: PS E, p. 629; PS F, p. 630.</p> <p>137. PS G, pp. 630–631; S&S, p. 631; IYOW, p. 642.</p> <p>138. Investigation 4: (All); QQ, pp 642–643.</p> <p>139. Monetary Conversion–P. 636, #5.</p>	<p><i>For additional practice or homework</i></p> <p>Hot Words, Hot Topics</p> <p>6.7: Graphing on the Coordinate Plane, pp. 303–306.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will solve problems that arise in mathematics and in other contexts.</i></p> <p>7.PS.6 Represent problem situations verbally, numerically, algebraically, and graphically.</p> <p><i>Students will monitor and reflect on the process of mathematical problem solving.</i></p> <p>7.PS.12 Interpret solutions within the given constraints of a problem.</p> <p>COMMUNICATION STRAND</p> <p><i>Students will communicate their mathematical thinking coherently and clearly to peers, teachers, and others.</i></p> <p>7.CM.4 Share organized mathematical ideas through the manipulation of objects, numerical tables, drawings, pictures, charts, graphs, tables, diagrams, models and symbols in written and verbal form.</p> <p>NUMBER SENSE AND OPERATIONS STRAND</p> <p><i>Students will compute accurately and make reasonable estimates.</i></p> <p>7.N.19 Justify the reasonableness of answers using estimation.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>1.1: Looking for Patterns, pp. 3-9</p> <p>Chapter 5: Exploring Graphs, pp. 276-327.</p> <p>6.1: Using Graphs to Understand data, pp. 342-350.</p> <p>LP: Course 2</p> <p>5.3: Recognizing Linear Relationships, pp. 344-353.</p>

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WEEKS 27–28 (continued)			<p>ALGEBRA STRAND <i>Students will recognize, use, and represent algebraically patterns, relations, and functions.</i></p> <p>7.A.7 Draw the graphic representation of a pattern from an equation or from a table of data (POST MARCH IN GRADE 7).</p> <p>MEASUREMENT STRAND <i>Students will determine what can be measured and how, using appropriate methods and formulas</i></p> <p>7.M.7 Convert money between different currencies with the use of an exchange rate table and a calculator.</p> <p>STATISTICS AND PROBABILITY STRAND <i>Students will collect, organize, display, and analyze data.</i></p> <p>7.S.6 Read and interpret data represented graphically (pictograph, bar graph, histogram, line graph, double line/bar graphs or circle graph).</p>	

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WEEKS 28–29	<p>9.3 Repeating Relationships</p> <p>To complete a table and make a graph for a periodic relationship.</p> <p>To interpret repetitive distance-time graphs of walking motions.</p> <p>To explain deviations in repetitive pattern.</p> <p>To use the regularity of a cycle to make predictions.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>140. Explore, p. 644; Investigation 1: (All).</p> <p>141. Investigation 2: (All).</p> <p>142. Investigation 3: (All).</p>		<p>ALGEBRA STRAND</p> <p><i>Students will recognize, use, and represent algebraically patterns, relations, and functions.</i></p> <p>7.A.7 Draw the graphic representation of a pattern from an equation or from a table of data (POST MARCH).</p> <p>7.A.8 Create algebraic patterns using charts/tables, graphs, equations, and expressions (POST MARCH).</p> <p>STATISTICS AND PROBABILITY STRAND</p> <p><i>Students will collect, organize, display, and analyze data.</i></p> <p>7.S.6 Read and interpret data represented graphically (pictograph, bar graph, histogram, line graph, double line/bar graphs or circle graph).</p> <p><i>Students will understand and apply concepts of probability.</i></p> <p>7.S.8 Interpret data to provide the basis for predictions and to establish experimental probabilities.</p>	<p>LP: Course 1</p> <p>1.3: Writing Rules for Patterns, pp. 28-35.</p> <p>7.1: Patterns and Variables, pp. 410-421.</p> <p>7.3: Explaining Number Relationships, pp. 450-456.</p>
	<p>Review and Assessment</p> <p><i>Suggested Per Period Pacing</i></p> <p>143. IYOW, p. 658; QQ, p. 659; Review and self-assessment, pp. 660–663.</p> <p>144. Continue Review and Self-Assessment.</p> <p>145. Test, Chapter 9.</p>			

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEK 30	<p>4.4 Finding Distances</p> <p>To apply the Pythagorean theorem or distance formula when finding lengths of line segments.</p> <p>146. Explore, p. 268; {Suggested: Investigation 1: T&D, p. 269; PS A, p. 270}; E p. 271; PS B, p. 272; S&S, p. 272.</p> <p>147. Investigation 2: (All).</p> <p>148. IYOW, p. 276; QQ, p. 279.</p> <p>Note: To provide students with the exposure needed to meet 7.N.18 page T271 must be done.</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics,</p> <p>7.9: Pythagorean Theorem, pp. 378–380.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will solve problems that arise in mathematics and in other contexts.</i></p> <p>7.PS.6 Represent problem situations verbally, numerically, algebraically, and graphically.</p> <p>NUMBER SENSE AND OPERATIONS STRAND</p> <p><i>Students will understand meanings of operations and procedures, and how they relate to one another.</i></p> <p>7.N.15 Recognize and state the value of the square root of a perfect square (up to 225).</p> <p>7.N.16 Determine the square root of non-perfect squares using a calculator.</p> <p><i>Students will compute accurately and make reasonable estimates</i></p> <p>7.N.18 Identify the two consecutive whole numbers between which the square root of a non-perfect square whole number less than 225 lies (with and without the use of a number line).</p> <p>7.N.19 Justify the reasonableness of answers using estimation.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>8.3: Areas and Squares, pp. 498-507.</p> <p>8.5: The Pythagorean Theorem, pp. 536-549.</p>

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEK 29-30 (continued)			GEOMETRY STRAND <i>Students will identify and justify geometric relationships, formally and informally.</i> 7.G.5 Identify the right angle, hypotenuse, and legs of a right triangle (POST MARCH GRADE 7). 7.G.6 Explore the relationship between the lengths of the three sides of a right triangle to develop the Pythagorean Theorem (POST MARCH GRADE 7). 7.G.8 Use the Pythagorean Theorem to determine the unknown length of a side of a right triangle (POST MARCH GRADE 7). 7.G.9 Determine whether a given triangle is a right triangle by applying the Pythagorean Theorem and using a calculator (POST MARCH GRADE 7).	

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CHAPTER 5: LOOKING AT LINEAR RELATIONSHIPS

Ratios and Rates: *Meaning and Representation—Develop; Proportions—Develop*
 Algebraic Representations: *Coordinate Graphs—Develop; Tables and Graphs—Develop*
 Algebraic Reasoning: *Patterns and Numeric Forms—Develop*
 Functions and Relations: *Linear Expressions/Equations—Develop*

WEEK 30	5.2 Speed and Slope Connection To recognize linear relationships from different forms: symbolic rules, graphs, patterns, and tables. To understand slope and y-intercept in graphs. 149. Investigation 2: (All). 150. Investigation 3: (All); Investigation 4; PS F, p. 330; T&D, p. 331. 151. PS G, pp. 331–332; S&S, p. 333, IYOW, p. 341; QQ, p. A397 (TE).	<i>For additional practice or homework:</i> Skills Intervention for Pre-Algebra Skill 37: Slope of a Line, pp. 73–74. Hot Words, Hot Topics 6.8: Slope and Intercept, pp. 308–312.	PROBLEM SOLVING STRAND <i>Students will solve problems that arise in mathematics and in other contexts.</i> 7.PS.6 Represent problem situations verbally, numerically, algebraically, and graphically. <i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i> 7.PS.10 Use proportionality to model problems. REPRESENTATION STRAND <i>Students will use representations to model and interpret physical, social, and mathematical phenomena.</i> 7.R.9 Use mathematics to show and understand physical phenomena (e.g., make and interpret scale drawings of figures or scale models of objects). ALGEBRA STRAND <i>Students will perform algebraic procedures accurately.</i> 7.A.6 Evaluate formulas for given input values (surface area, rate, and density problems). (continued)	
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WEEKS 30 (continued)			<p><i>Students will recognize, use, and represent algebraically patterns, relations, and functions.</i></p> <p>7.A.7 Draw the graphic representation of a pattern from an equation or from a table of data (POST MARCH IN GRADE 7).</p> <p>GEOMETRY STRAND</p> <p><i>Students will apply coordinate geometry to analyze problem solving situations.</i></p> <p>8.G.13 Determine the slope of a line from a graph and explain the meaning of slope as a constant rate of change.</p> <p>8.G.15 Graph a line using a table of values.</p> <p>Note: These concepts are introduced in Grade 7 to prepare students for later mastery.</p>	

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WEEK 31	<p>5.3 Recognizing Linear Shapes</p> <p>To understand the connection between a linear equation and its graph.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>152. Explore, p. 344; Investigation 1: (All).</p> <p>153. Investigation 2: (All).</p> <p>154. Investigation 3: T&D, p. 351; PS F, p. 352.</p> <p>155. PS G, p. 353; S&S, p. 353; Quick Quiz, p. 400 (TE).</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics,</p> <p>6.8: Slope and Intercept, pp. 308–318</p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 38: Graphing Linear Equations, pp. 75–76.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will solve problems that arise in mathematics and in other contexts.</i></p> <p>7.PS.6 Represent problem situations verbally, numerically, algebraically, and graphically.</p> <p>ALGEBRA STRAND</p> <p><i>Students will recognize, use, and represent algebraically patterns, relations, and functions.</i></p> <p>7.A.7 Draw the graphic representation of a pattern from an equation or from a table of data (POST MARCH IN GRADE 7).</p> <p>7.A.8 Create algebraic patterns using charts/tables, graphs, equations, and expressions (POST MARCH IN GRADE 7).</p> <p>GEOMETRY STRAND</p> <p><i>Students will apply coordinate geometry to analyze problem solving situations.</i></p> <p>8.G.13 Determine the slope of a line from a graph and explain the meaning of slope as a constant rate of change.</p> <p>8.G.14 Determine the y-intercept of a line from a graph and be able to explain the y-intercept.</p> <p>8.G.15 Graph a line using a table of values.</p> <p style="text-align: right;"><i>(continued)</i></p>	<p>LP: Course 1</p> <p>7.1: Patterns and Variables, pp. 410-421.</p>

grade 7

MATHEMATICS PLANNING GUIDE

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WEEKS 31 (continued)			<p>8.G.16 Determine the equation of a line given the slope and the y-intercept.</p> <p>8.G.17 Graph a line from an equation in slope-intercept form ($y = mx + b$).</p> <p>Note: These concepts are introduced in Grade 7 to prepare students for later mastery.</p>	

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WEEKS 31–32	<p>5.4 Tricks of the Trade</p> <p>To recognize and write equations for linear relationships using the method of constant differences.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>156. T&D, p. 362; Investigation 1: (All).</p> <p>157. Investigation 2: PS C, p. 365; PS D, p. 366; PS E, pp. 366–367.</p> <p>158. E, p. 367; S&S, p. 368; Investigation 3 (All).</p> <p>159. Quick Quiz, p. A404 (TE).</p>	<p><i>For additional practice or homework:</i></p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 39: Solve Equations in Two Variables, pp. 77–78.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i></p> <p>7.PS.8 Understand how to break a complex problem into simpler parts or use a similar problem type to solve a problem.</p> <p>7.PS.9 Work backwards from a solution.</p> <p>ALGEBRA STRAND</p> <p><i>Students will recognize, use, and represent algebraically patterns, relations, and functions.</i></p> <p>7.A.8 Create algebraic patterns using charts/tables, graphs, equations, and expressions (POST MARCH IN GRADE 7).</p> <p>7.A.10 Write an equation to represent a function from a table of values (POST MARCH IN GRADE 7).</p>	<p>LP: Course 1</p> <p>1.3: Writing Rules for Patterns, pp. 28-35.</p> <p>7.1: Patterns and Variables, pp. 410-421.</p> <p>7.2: Rules in Real Life, pp. 430-438.</p> <p>7.3: Explaining Number Relationships, pp. 450-456.</p> <p>9.1: Understanding Equations, pp. 558-564.</p> <p>9.2: Backtracking, pp. 570-578.</p> <p>9.3: Guess, Check and Improve, pp. 586-593.</p>
	<p>Review and Self-Assessment</p> <p><i>Suggested Per Period Pacing</i></p> <p>160. Begin Review and Self-Assessment, pp. 378–381.</p> <p>161. Review and assessment, pp. 378–381.</p> <p>162. Chapter 5 Test.</p>			

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
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CHAPTER 7: SIMILARITY

Two Dimensional Geometry: *Polygons, Triangles, Quadrilaterals—Apply*

Geometric Relationships: *Congruence, Similarity—Apply*

Measurement: *Perimeter, Area, Surface Area and Volume—Apply*

Coordinate Geometry: *Transformations—Develop*

Percents: *Meaning and Representation—Apply*

Ratio and Rates: *Proportion—Apply*

WEEK 33	<p>7.1 Are they the same?</p> <p>To identify congruent figures, angles, and segments.</p> <p>To identify corresponding sides and angles of similar or congruent polygons.</p> <p>To identify equivalent ratios.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>163. Explore, p. 451; Investigation 1: PS A, pp. 451–452; T&D, p. 452; PS B, p. 452; PS C, p. 453; S&S, p. 453.</p> <p>164. Investigation 2: All.</p> <p>165. Investigation 3: E, p. 456; PS G, p. 457; PS H, p. 458; PS I, pp. 459–460 (#1, 2).</p> <p>166. PS I, p. 460 (# 3); S&S, p. 460; Investigation 4: PS J, pp.461–462; PS K, p. 463; S&S, p. 463.</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics</p> <p>8.6: Size and Scale, pp. 408–409.</p> <p>Skills Intervention for Pre-Algebra</p> <p>Skill 47: Similar Figures, pp. 93–94.</p> <p>Skill 48: Congruent Figures, pp. 95–96.</p>	<p>PROBLEM SOLVING STRAND</p> <p>7.PS.8 Understand how to break a complex problem into simpler parts or use a similar problem type to solve a problem.</p> <p>7.PS.10 Use proportionality to model problems.</p> <p>REPRESENTATION STRAND</p> <p>7.R.9 Use mathematics to show and understand physical phenomena (e.g., make and interpret scale drawings of figures or scale models of objects).</p>	<p>LP: Course 1:</p> <p>1.4: Angles, pp. 46-48 (PS B). Triangles, pp. 54-56.</p> <p>8.1: Investigating Angle Relationships, p473, (PS D).</p>
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PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES <i>N: Notes</i> <i>LP: Links to the Past</i> <i>LC: Literature Connections</i>
WEEK 34	<p>7.2 Polygon Similarity and Congruence</p> <p>To test polygons for congruence and similarity.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>167. Explore, p.471; Investigation 1: (All).</p> <p>168. Investigation 2: (All).</p> <p>169. Investigation 3: PS E, p. 475; S&S, p. 475; IYOW, p. 480.</p> <p>170. {Suggested—Lab Investigation, pp. 476–477}.</p> <p>Note: This lab investigation reinforces the idea of congruence, and in particular, SSScongruence.</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics,</p> <p>8.6: Size and Scale, pp. 408–409.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i></p> <p>7.PS.10 Use proportionality to model problems.</p> <p>REPRESENTATION STRAND</p> <p><i>Students will use representations to model and interpret physical, social, and mathematical phenomena.</i></p> <p>7.R.9 Use mathematics to show and understand physical phenomena (e.g., make and interpret scale drawings of figures or scale models of objects).</p>	

PACING	IMPACT TEXTBOOK <i>PS: Problem Set</i> <i>QQ: Quick Quiz</i> <i>IYOW: In Your Own Words</i> <i>T&D: Think and Discuss</i> <i>S&S: Share and Summarize</i> <i>E: Example</i>	HOT WORDS, HOT TOPICS SKILLS INTERVENTION	NEW YORK STATE MATHEMATICS STANDARDS	NOTES N: Notes LP: Links to the Past LC: Literature Connections
WEEKS 35–36	<p>7.3 Area and Perimeter of Similar Figures</p> <p>To understand how scaling affects two dimensional figures.</p> <p><i>Suggested Per Period Pacing:</i></p> <p>171. T&D, p.482; Investigation 1: (All).</p> <p>172. Investigation 2: (All).</p> <p>173. Investigation 3: (All).</p> <p>174. IYOW, p. 494; QQ, p. 496.</p>	<p><i>For additional practice or homework:</i></p> <p>Hot Words, Hot Topics,</p> <p>8.6: Size and Scale, p. 410.</p> <p>7.4: Perimeter, pp. 350–352.</p> <p>7.5: Area, pp. 356–360.</p>	<p>PROBLEM SOLVING STRAND</p> <p><i>Students will apply and adapt a variety of appropriate strategies to solve problems.</i></p> <p>7.PS.10 Use proportionality to model problems.</p> <p>REASONING AND PROOF STRAND</p> <p><i>Students will make and investigate mathematical conjectures.</i></p> <p>7.RP.3 Evaluate conjectures by distinguishing relevant from irrelevant information to reach a conclusion or make appropriate estimates.</p> <p>REPRESENTATION STRAND</p> <p><i>Students will use representations to model and interpret physical, social, and mathematical phenomena.</i></p> <p>7.R.9 Use mathematics to show and understand physical phenomena (e.g., make and interpret scale drawings of figures or scale models of objects).</p> <p>GEOMETRY STRAND</p> <p><i>Students will apply transformations and symmetry to analyze problem solving situations.</i></p> <p>8.G.11 Draw the image of a figure under a dilation.</p> <p>Note: These concepts are introduced in Grade 7 to prepare students for later mastery.</p>	<p>LP: Course 2</p> <p>5.1: Understanding and Describing Rates, pp. 300-313.</p>

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WEEKS 35–36	Review and Self-Assessment <i>Suggested Per Period Pacing</i> 175. Review and Assessment, pp. 514–517. 176. Continue Review and Self-Assessment, pp. 514–517. 177. Chapter 7 Test. 178. Final Exam.			

Acknowledgements

A Comprehensive Approach to Balanced Mathematics: Mathematics Planning guides for grades 6, 7, 8 was produced under the auspices of Joel Klein, Chancellor of the New York City Department of Education; Andrés Alonso, Deputy Chancellor for Teaching and Learning; Brenda Steele, Executive Director of Curriculum; and Professional Development; and Linda Curtis-Bey, Director of Mathematics and Science.

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Manuscripts were prepared for publication by the Office of Instructional Publications, Christopher Sgarro, Director. It was formatted by Tobey Hartman and Cor Hazelaar and copyedited by Judy Goldberg.