

## Correlation to the Common Core State Standards

Saxon Math Course 3 © 2012 Grade 8





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Domain	Standard	Text of Objective	Saxon Math Course 3 Citations	Narrative
Standards for Mathematical Practice	1.	Make sense of problems and persevere in solving them.	INSTRUCTION:           New Concept: Lesson 3, pp. 19-22; Lesson 4, pp. 27-28; Lesson 34, pp. 223-226; Lesson 87, pp. 580-582; Lesson 89, pp. 593-596; Lesson 105, pp. 697-699           Investigation: Investigation 2, pp. 132-138;, Investigation 7, pp. 476-478; Lesson 10, pp. 670-674; Lesson 12, pp. 782-784           MAINTENANCE:           Power Up: Lesson 2, pp. 11-12; Lesson 8, pp. 47-48; Lesson 13, p. 85; Lesson 23, pp. 153-154; Lesson 40, p. 264; Lesson 56, p. 382; Lesson 73, p. 491; Lesson 85, p. 568; Lesson 98, p. 651           Problem Solving: Lesson 1, p. 6; Lesson 12, p. 78; Lesson 23, p. 153; Lesson 35, p. 229; Lesson 45, p. 308; Lesson 53, p. 360; Lesson 64, p. 435; Lesson 76, p. 507; Lesson 83, p. 557; Lesson 92, p. 617; Lesson 102, p. 681; Lesson 115, p. 754           Written Practice: Lesson 3, pp. 23-24(#1, #2, #3, #4, #5, #6, #7); Lesson 4, pp. 28-30(#1, #2, #3, #4, #5, #25); Lesson 5, pp. 33-35(# 1, #2, #3, #4, #6,#9, #17); Lesson 6, pp. 38-40           (#1,#2,#3,#11; Lesson 7, pp. 45-46 (#4,#5,#7); Lesson 18, pp. 117-119 (#26,#27); Lesson 26, pp. 174-175; Lesson 39, pp. 261-263 (#28); Lesson 40, pp. 268-270 (#4, #5, #27); Lesson 91, pp. 603-604 (#1, #16); Lesson 94, p. 631 (#3); Lesson 105, pp. 699-700 (#4, #12); Lesson 106, pp. 704-705 (#2, #5, #9); Lesson 108, pp. 715-716 (#7, #12, #13, #14)           Standards Success Activity: Activity 16, pp. 31-32	Developing enthusiastic and proficient problem solvers is the focus of the <i>Saxon Math</i> series. To reinforce this commitment from day one, <i>Course 3</i> opens with a "Problem-Solving Overview" on pages 1 - 5. Working from Polya's classic four-step problem solving process, and beginning with ten general strategies, students are reminded to <b>understand</b> the information that has been provided and the question being asked, to <b>plan</b> accordingly before beginning, to <b>solve</b> the problem while remaining open to re-direction, and to <b>check</b> their solution for reasonableness and possible extensions. Additional emphasis is placed at this level of problem solving on solving most efficiently, and the ability to effectively communicate in writing a process and results. The process and strategies outlined in the overview are discussed daily in the Problem Solving portion of the daily Power Up, and practiced daily in the integrated Written Practice, where students are not only expected to solve, but to also formulate problems. All problems build in complexity throughout the year, and to support good questioning, teacher materials include a "Problem Solving Discussion Guide" for each Power-Up, and "Math Conversation" prompts for each Lesson and Written Practice. Saxon's pedagogy of daily integrating and gently evolving domains simultaneously naturally promotes <b>perseverance</b> . Students are provided both the time to master and the material to maintain skill sets. This avoids the current phenomenon of students learning enough to get by on the next test but forgetting those skills shortly thereafter, forcing them to be reviewed again the following year

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Standards for Mathematical Practice	2.	Reason abstractly and quantitatively.	INSTRUCTION:         New Concept: Lesson 3, pp. 19-23; Lesson 17, pp. 108-111;         Lesson 59, pp. 401-403; Lesson 89, pp. 593-596         Investigation: Investigation 7, pp. 476-478; Investigation 9,         pp. 606-609         MAINTENANCE:         Power Up: Lesson 20, p. 126; Lesson 21, p. 139; Lesson 25,         p. 163; Lesson 29, p. 186; Lesson 33, p. 218; Lesson 44, p.         300; Lesson 61, p. 415; Lesson 66, p. 446; Lesson 75, p.         502; Lesson 90, p. 599         Problem Solving: Lesson 12, p.78; Lesson 15, pp. 97-97;         Lesson 17, p. 108; Lesson 25, p. 163; Lesson 37, p. 245;         Lesson 45, p. 308; Lesson 54, p. 367; Lesson 61, p. 415;         Lesson 79, p. 525; Lesson 94, p. 629;         Lesson 99, p. 658; Lesson 109, p. 717; Lesson 118, p. 768         Written Practice: Lesson 17, pp. 111-113 (#27, #28);         Lesson 18, pp. 117-119 (#26, #27); Lesson 21, pp. 144-145         (#6, #8, #11, #12, #20); Lesson 24, pp. 161-162 (# 4, #5, );         Lesson 26, pp. 174-175; Lesson 59, Lesson 89, p. 597 (#19);         Lesson 93, p. 628 (#17)	The foundation of the <i>Saxon Math</i> series is mathematically proficient students, as measured by both computational fluency and in modeling conceptual understanding with numbers and variables in expressions, equations, and inequalities. Daily Written Practice does not focus simplistically on one standard at a time, but rather involves multiple domains just as real-world situations require. Examples and Practice Problems in the student text are marked with blue icons signifying to students the need to coherently "Generalize," "Represent," "Formulate," and "Model" their work. Students develop habits of fluency and flexibility in both contextualizing (generating models of their understanding) and decontextualizing (simplifying a problem into symbolic form).

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Standards for Mathematical Practice	3.	Construct viable arguments and critique the reasoning of others.	INSTRUCTION:           New Concept: Lesson 3, pp. 19-23; Lesson 17, pp. 108-111           MAINTENANCE:           Problem Solving: Lesson 1, pp. 6-7; Lesson 15, pp. 97-98; Lesson 25, p. 163; Lesson 36, p. 237; Lesson 49, p. 330; Lesson 68, p. 457; Lesson 79, p. 525; Lesson 96, p. 640; Lesson 109, p. 717           Written Practice: Lesson 18, p. 119 (#26); Lesson 19, pp. 151 (#19); Lesson 21, p. 144 (#19); Lesson 22, p. 235 (#11); Lesson 26, p. 189 (#15); Lesson 29, p. 221 (#26); Lesson 35, p. 285 (#6)           Standards Success Activity: Activity 5, pp. 9-10	Mathematically proficient students are able to communicate their personal thinking, to ask useful questions, and to clarify or improve upon the arguments of others. The opening "Power Up" activities of each lesson provided throughout the Saxon Math series are designed to foster discussion within the classroom and amongst classmates as to individual perspectives and preferences, strategies, and techniques of problem solving. Examples, Practice Problems, and "Thinking Skill" prompts in the margins of the student text are marked with blue icons signifying to students the need to "Discuss," "Explain," "Justify," and "Verify" their solutions. Teacher Manuals provide daily "Error Alert" and "Error Analysis" prompts to emphasize opportunities for evaluative discussion of student thinking.

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Standards for Mathematical Practice	4.	Model with mathematics	<ul> <li>INSTRUCTION:</li> <li>New Concept: Lesson 9, pp. 55-57; Lesson 10, pp. 60-65; Lesson 22, pp. 147-150; Lesson 26, pp. 169-174; Lesson 31, pp. 203-207; Lesson 33, pp. 218-220; Lesson 55, pp. 375-378; Lesson 68, pp. 457-458 (Ex.1); Lesson 75, pp. 502-504; Lesson 78, pp. 520-521 (Ex. 1, 2)</li> <li>Investigation: Investigation 1, pp. 68-71; Investigation 4, pp. 271-276; Investigation 5, pp. 342-345; Investigation 8, pp. 538-544</li> <li>MAINTENANCE:</li> <li>Problem Solving: Lesson 6, p. 36; Lesson 9, pp. 4-44; Lesson 11, pp. 72-72; Lesson 22, pp. 146-147; Lesson 74, p. 496; Lesson 34, p. 223; Lesson 59, p. 400; Lesson 74, p. 496; Lesson 84, p.563; Lesson 92, p. 617; Lesson 113, p. 742</li> <li>Written Practice: Lesson 6, pp. 38-40 (#1-3, ); Lesson 10, pp. 66-67 (#5-9, #22); Lesson 27, pp. 178-180 (# 7, #9); Lesson 34, pp. 227-228 (#3, #26, #27); Lesson 36, pp. 242- 244 (#9, #11, #12, #15); Lesson 41, pp. 284-286 (#4, #30); Lesson 43, pp. 297-299 (#5, #30); Lesson 45, pp. 310-312 (#1, #3, #4); Lesson 64, p. 438 (#6); Lesson 66, p. 451 (#21); Lesson 108, p. 714 (#3)</li> <li>Standards Success Activity: Activity 15, pp. 29-30; Activity 19, pp. 37-38; Activity 23, pp. 45-46; Activity 28, pp. 55-56</li> </ul>	Saxon Math is based on the belief that people learn by doing, and the ultimate "doing" is applying mathematical concepts to everyday life situations. The Saxon Math series seeks to produce mathematically proficient students who can then use the quantitative skills they have honed to create solutions, and apply quantitative methods to practical challenges. Examples and Practice Problems in the student text are marked with blue icons signifying to students the need to "Represent," "Formulate," and "Model" their work. Activities in the Student Edition and active learning prompts in the margin of the Teacher's Edition highlight opportunities for students to apply their mathematical understanding as they model real-world situations.

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Standards for Mathematical Practice	5.	Use appropriate tools strategically.	INSTRUCTION:           New Concept: Lesson 16, pp. 103-105; Lesson 18, pp. 114- 117; Lesson 28, pp. 181-183; Lesson 30, pp. 192-194; Lesson 38, pp. 251-254; Lesson 73, pp. 491-494, Lesson 87, pp. 580- 582           Investigation: Investigation 2, pp. 132-138           MAINTENANCE:           Written Practice: Lesson 39, pp. 261-263 (#28); Lesson 43, pp. 297-299 (#5, #30); Lesson 76, pp. 512-513 (#10, #13, #24)           Standards Success Activity: Activity 10, pp. 19-20	Saxon Math requests and requires the use of grade level appropriate tools for instruction and problem solving. This begins with concrete models at the primary level, regularly includes representational tools such as diagrams, graphs and tables, and moves to more sophisticated tools like geometry software at the secondary level. Saxon offers instruction and guidance for appropriate use of tools throughout the program, and has compiled a complete manipulative set for the middle school. Icons in the margins of the textbook indicate to students appropriate places for use of calculators, and formal instruction in the use of graphing calculators is part of <i>Course 3</i> . Graphing calculator icons in the textbook indicate additional related/extension activities available on-line. Alongside the standard use of tools, "Alternate Approach with Manipulatives" notes in the Teacher Manual and the "Adaptation Teaching Guide" provide additional techniques for working with at-risk students via standard manipulatives, reference guides, and adaptation prompts.

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Standards for Mathematical Practice	6.	Attend to precision.	<ul> <li>INSTRUCTION: New Concept: Lesson 8, pp. 48 – 51; Lesson 18, pp. 114 – 117; Lesson 42, pp. 287-290; Lesson 43, pp. 294-297; Lesson 76, pp. 507-511, Lesson 86, pp. 574-578; Lesson 87, pp. 580- 582; Lesson 91, pp. 610-613; Lesson 117, pp. 763-766</li> <li>MAINTENANCE: Power Up: Lesson 1, pp. 6-7; Lesson 4, pp. 26-27; Lesson 6, p. 36; Lesson 8, p. 47; Lesson 10, p. 60; Lesson 18, p. 114; Lesson 32, p. 210; Lesson 38, pp. 250-251; Lesson 42, p287; Lesson 49, p. 330; Lesson 61, p. 415; Lesson 79, p. 525; Lesson 95, p. 634</li> <li>Problem Solving: Lesson 32, p. 210</li> <li>Written Practice: Lesson 8, pp. 51-53 (#1-4); Lesson 10, pp. 66-67 (#5-9, #19, #22); Lesson 12, pp. 83-84 (#6-8, #21, #23); Lesson 13, pp. 90-91 (#4, #6-14,); Lesson 22, pp. 150-152 (#8-11, #13); Lesson 26, pp. 174-175; Lesson 42, pp. 290- 293 (#3); Lesson 43, pp. 297-299 (#5, #30); Lesson 45, pp. 310-312 (#1, #3, #4); Lesson 47, pp. 324-325; Lesson 77, p. 518 (#22); Lesson 87, pp. 582-583 (#1, #2, #5, #7); Lesson 91, pp. 614 (#4, #6, #9, #15); Lesson 94, pp. 631, 633 (#3, #22)</li> <li>Standards Success Activity: Activity 8, pp. 15-16; Activity 9, pp. 17-18; Activity 13, pp. 25-26</li> </ul>	To ensure students use appropriate terminology correctly, communicate precisely, calculate accurately and efficiently, and then maintain that proficiency, 30 fully integrated and evolving Written Practice problems have been designed to daily guarantee students' minds do not go on autopilot, which is the brain's natural tendency when presented with too many of the same thing in a single sitting. Conscientious effort has been made by author Stephen Hake to guarantee that if, for example, a function is to be posed daily, that it be presented from different perspectives so as to very naturally require and instill the practice of attention to detail. Students may simply define a function on one day, evaluate or compare functions the next day, and/or use a function to model a relationship between quantities the following day. Each practice and assessment question is referenced to its lesson of initial instruction to encourage students to reference rather than guess when in doubt. Automaticity of basic skill sets is promoted with a 2-3 minute timed practice set that opens the Power-Up portion of each lesson. Parallel to the student textbook, the "Student Adaptation Workbook" provides additional starting points, hints/tips for progressing, and reminders to label to encourage and reinforce precision with special needs and at-risk students.

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Standards for Mathematical Practice	7.	Look for and make use of structure.	INSTRUCTION:         New Concept: Lesson 2, pp. 13-16; Lesson 3, pp. 19-23;         Lesson 21, pp. 140-143; Lesson 73, pp. 491-494         Investigation: Investigation 2, pp. 132-138         MAINTENANCE:         Written Practice: Lesson 4, pp. 28-30 (#1-5, #25, #27);         Lesson 5, pp. 33-35 (#1-4, #6, #9, 17); Lesson 7, pp. 45-46         (#4, \$5, #7); Lesson 9, pp. 57-59 (#7, #26-29); Lesson 21, pp.         144-145 (#6, #8, #11,#12, #20); Lesson 23, pp. 156-158 (#12, #13, #20); Lesson 26, pp. 174-175Lesson 73, p. 495 (#11, #24); Lesson 74, p. 501 (#13, #15)         Standards Success Activity: Activity 11, pp. 21-22; Activity 24, pp. 47-48; Activity 27, pp. 53-54	Saxon Math builds solid structure throughout the program first by explicitly teaching number properties and how concepts connect, and then by encouraging students to use both problem solving strategies and their skill fluency to notice possible patterns and apply basic structures to new or unique challenges. Author Stephen Hake is careful to phrase examples and practice problems of a single concept in a variety of ways to assure flexibility of student thinking exists within the fluency. "What is NOT?" is a frequent form of questioning, and blue icons identify "Connect," "Classify," and "Analyze" questions within the Written Practice that require students to step back, get an overview of the problem at hand, and shift their perspective if necessary.

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Standards for Mathematical Practice	8.	Look for and express regularity in repeated reasoning.	<ul> <li>INSTRUCTION:</li> <li>New Concept: Lesson 15, pp. 98-101; Lesson 21, pp. 140-143Lesson 61, pp. 415-418; Lesson 73, pp. 491-494; Lesson 97, pp. 646-648; Lesson 102, pp. 681-683</li> <li>Investigation: Investigation 10, pp. 670-674</li> <li>MAINTENANCE:</li> <li>Problem Solving: Lesson 26, p. 169; Lesson 37, p. 245; Lesson 40, p. 264; Lesson 42, p. 287; Lesson 44, p. 300; Lesson 48, p. 326; Lesson 51, p. 346; Lesson 59, p. 400; Lesson 103, p. 686; Lesson 107, p. 707; Lesson 111, p. 731; Lesson 116, p. 758</li> <li>Written Practice: Lesson 22, pp. 150-152 (#8-11); Lesson 23, pp. 156-158 (#12, #13, #20); Lesson 26, pp. 174-175; Lesson 29, pp. 189-191; Lesson 73, p. 495 (#11); Lesson 74, pp. 500-501 (#7, #13, #15); Lesson 78, p. 655 (#6, #18); Lesson 102, pp.683-684 (#4, #15, #16, #19); Lesson 108, p. 715 (#10)</li> <li>Standards Success Activity: Activity 2, pp. 3-4</li> </ul>	Distributing the instruction of concepts over the course of the year allows Saxon curriculum to visit the ever-increasing "big picture" on a daily basis while attending to finer and finer detail. Multiple opportunities are provided over the course of the school year for students to solve and model like problems to ensure they are developing connections, cohesiveness, and flexibility in their work within the grade level standard. "Shortcuts" are not introduced or utilized in Saxon until students exemplify proficiency with all subtasks of the skill set. For instance, in Investigation 1 of <i>Course 3</i> students revisit graphing points on the coordinate plane, and in Lesson 41 define functions, describe their rules, and identify their graphs. In Lesson 44 they define the slope of a line, and in Lesson 47 graph functions, but not until Lesson 56 is the "aha" – the shortcut - of using the slope- intercept method of graphing linear equations utilized. Frequently in Saxon, the shortcut has already been discovered and utilized by students themselves by the time it is formally introduced.

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em		Know that there are numbers that are not rational, and approximate them by rational numbers.	Rational and Irrational numbers are defined early in <i>Course 3</i> , and are then able to be utilized daily throughout the course. Knowledge and use of rational and irrational numbers for 8 <sup>th</sup> graders is expanded upon in <i>Course 3</i> at the following points: Lesson 10 Rational Numbers Lesson 12 Decimal Numbers Lesson 16 Irrational Numbers (Approximating Values and Position on a Number Line) Investigation 2 The Pythagorean Theorem Lesson 30 Repeating Decimal Numbers Lesson 63 Rational Numbers; Non-terminating Decimals Lesson 66 Special Right Triangles Lesson 84 Selecting Appropriate Rational Numbers
8.NS The Number Syst	8.NS.1	Understand informally that every number has a decimal expansion; the rational numbers are those with decimal expansions that terminate in 0s or eventually repeat. Know that other numbers are called irrational.	Investigation 30, pp. 192-194, Lesson 63, pp. 429-432 <b>Investigation 12</b> , pp. 78-82; Lesson 16, pp. 103-105, Lesson 30, pp. 192-194, Lesson 63, pp. 429-432 <b>Investigation 2</b> , pp. 132-138 <b>MAINTENANCE: Problem Solving:</b> Lesson 89, p. 593         Written Practice: Lesson 12, pp. 83-84 (#5-8, #21, #23) ; Lesson 16, pp. 105-107 (#28-30); Lesson 18, pp. 117-119 (#26, #27); Lesson 19, pp. 124-125; Lesson 20, pp. 139-131 (#14) ; Lesson 30, pp. 195-196 (#13) ; Lesson 31, pp. 209-209 (#14, #15, #18) ; Lesson 32, pp. 214-217 (#4, #5,#23, #24) ; Lesson 35, pp. 234-236 (#17, #28, #29) ; Lesson 39, pp. 261-263 (#28) ; Lesson 43, pp. 297-299 (#5, 30) ; Lesson 47, pp. 324-325; Lesson 50, pp. 338-341 (#4-9, #27) ; Lesson 56, pp. 386-388 (#5); Lesson 63, pp. 433 (#7, #8), Lesson 81, p. 548 (#16)         Graphing Calculator Activities: Activity 3 (Lesson 13)
			Standards Success Activity: Activity 4, pp. 7-8

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8.NS The Number System	8.NS.2	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., $\pi^2$ ).	INSTRUCTION:         New Concept: Lesson 16, pp. 103-105; Lesson 66, pp. 446-449         MAINTENANCE:         Power Up: Lesson 31, p. 202         Problem Solving: Lesson 18, p. 118         Written Practice Lesson 18 pp. 117-119 (#26, #27); Lesson 19, pp. 124-125; Lesson 20, pp. 129-131 (#14); Lesson 78, p, 523 (#15); Lesson 81, p. 548         Standards Success Activity: Activity 2, pp. 3-4

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and Equations		Work with radicals and integer exponents.	Students revisit and begin utilizing powers and roots to the nth degree in Lesson 15 of <i>Course 3</i> . Work with radicals and exponents for 8 <sup>th</sup> graders is expanded upon in <i>Course</i> 3 at the following points: Lesson 15 Powers and Roots Lesson 16 Irrational Numbers Lesson 27 Laws of Exponents Lesson 28 Scientific Notation for Large Numbers (w/ notation for Graphing Calculator use) Lesson 36 Multiplying and Dividing Integers Lesson 46 Problems Using Scientific Notation Lesson 51 Negative Exponents; Scientific Notation for Small Numbers Lesson 66 Special Right Triangles Lesson 74 Simplifying Square Roots Lesson 93 Equations with Exponents Lesson 96 Geometric Measures with Radicals
8.EE Expressions	8.EE.1	Know and apply the properties of integer exponents to generate equivalent numerical expressions.	INSTRUCTION:         New Concept: Lesson 15, pp. 97-101; Lesson 27, pp. 176-178; Lesson 51, pp. 346-351; Lesson 57, pp. 389-391         Investigation: Investigation 2, pp. 132-138         MAINTENANCE:         Power Up: Lesson 16, p. 103; Lesson 17, p. 108; Lesson 19, p. 120; Lesson 31, p. 202; Lesson 62, p. 422; Lesson 64, p. 435; Lesson 66, p. 446; Lesson 72, p. 486; Lesson 86, p. 574; Lesson 96, p. 640; Lesson 100, p. 664         Problem Solving: Lesson 62, p. 422         Written Practice: Lesson 16, p. 102; Lesson 25, p. 167; Lesson 28, p. 184; Lesson 29, p. 189; Lesson 30, p. 195; Lesson 31, p. 209; Lesson 32, p. 216; Lesson 33, p. 221; Lesson 34, p. 227; Lesson 41, p. 285         Standards Success Activity: Activity 1, pp. 1-2

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8.EE Expressions and Equations	8.EE.2	Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$ , where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.	INSTRUCTION: New Concept: Lesson 15, pp. 97-101; Lesson 16, pp. 103-105Lesson 66, pp. 446-449, Lesson 93, pp. 624-626 Investigation: Investigation 2, pp. 132-138 Appendix Lesson: Lesson A84-A87, pp. 805-807 <u>MAINTENANCE:</u> Written Practice: Lesson 16, pp. 105-107 (#28-#30); Lesson 17, pp. 111-113 (#28, #29); Lesson 85, p. 571 (#7); Lesson 93, p. 627 (#5, #9); Lesson 96, p. 643 (#15); Lesson 98, p. 656 (#17); Lesson 102, p. 684 (#18); Lesson 105, p. 700 (#15, #19); Lesson 107, p. 711 (#15); Lesson 111, p. 735 (#10, #13); Lesson 112, p.740 (#15); Lesson 115, p. 757 (#9, #10, #16, #20) Graphing Calculator Activities: Activity 16 (Investigation 8), pp. 538-544 Standards Success Activity: Activity 19, pp. 37-38

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8.EE Expressions and Equations	8.EE.3	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.	INSTRUCTION:         New Concept: Lesson 28, pp. 181-183; Lesson 46, pp. 313-316; Lesson 51, pp.346-351; Lesson 57, pp. 389-391         MAINTENANCE:         Written Practice: Lesson 30, pp. 195-196 (#13); Lesson 31, pp. 208-209 (#14, #15 #18, #27); Lesson 34, pp. 227 -228(#3, #26, #27); Lesson 39, pp. 261-263 (#28); Lesson 47, pp. 324-325; Lesson 52, pp. 357-359 (#5, #6); Lesson 53, pp. 364-366 (#6); Lesson 55, 378-381; Lesson 56, pp. 386-388 (#5); Lesson 58, pp. 397- 399 (# 2); Lesson 59, pp. 403- 405 (#4); Lesson 405, Lesson 99, p. 663 (#23)         Graphing Calculator Activities: Activity 6 (Lesson 28); Activity 11 (Lesson 51)         Standards Success Activity: Activity 12, pp. 23-24
	8.EE.4	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	INSTRUCTION:         New Concept: Lesson 28, pp. 181-183; Lesson 46, pp. 313-316; Lesson 51, pp. 346-351; Lesson 57, pp. 389-391;         MAINTENANCE:         Written Practice: Lesson 28, pp. 181-183; Lesson 46, pp. 313-316; Lesson 51, pp. 346-351; Lesson 57, pp. 389-391;Lesson 99, p. 663 (#23)         Graphing Calculator Activities: Activity 6 (Lesson 28); Activity 11 (Lesson 51)         Standards Success Activity: Activity 10, pp. 19-20

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		Understand the connections between propertional relationships lines and linear	Beginning at Lesson 7 in <i>Course</i> 3, and addressed daily throughout, is the expectation that students will apply to their own experiences their understanding and interpretation of
		equations	students will apply to their own experiences their understanding and interpretation of proportional reasoning. Daily work with proportional relationships for 8 <sup>th</sup> graders is expanded
		cquations.	upon in <i>Course</i> 3 at the following points:
			Lesson 7 Rates
			Investigation 1 The Coordinate Plane
			Lesson 29 Ratio
su			Lesson 34 Proportions and Ratio Word Problems
tio			Lesson 35 Similar Polygons
lua			Lesson 41 Functions
E			Lesson 44 Solving Proportions with Cross Products; Slope of a Line
pui			Lesson 45 Ratio Problems Involving Totals
IS a			Lesson 47 Graphing Functions Lesson 40 Solving Pote Problems with Proportions and Equations
sion			Lesson 52 Using Unit Multipliers to Convert Measurement
ese			Lesson 56 Slope-Intercept Equation of a Line
ıdx			Lesson 64 Using Unit Multipliers to Convert a Rate
Ĥ			Lesson 66 Applications Involving Similar Triangles
EE			Lesson 69 Direct Variation
8			Extension Activity 15 "How can I find and interpret a rate of change?"
			Lesson 72 Multiple Unit Multipliers
			Lesson 88 Review of Proportional and Non-proportional Relationships
			Extension Activity 17 "Describe and Sketch Functions"
			Lesson 98 Relations and Functions
			Lesson 99 Inverse Variation
			Lesson 102 Exponential Growth and Decay
			Lesson 105 Compound Average Rate Problems

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sions and Equations	8.EE.5	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.	INSTRUCTION:         New Concept: Lesson 41, pp. 277-284; Lesson 44, pp. 301-304; Lesson 69, pp. 463-467; Lesson 88, pp. 585-589         MAINTENANCE:         Written Practice: Lesson 47, pp. 324-325; Lesson 48, pp. 328-329(#4); Lesson 49, pp. 333-335(#1, #2); Lesson 77, p. 517 (#4, #5); Lesson 88, p. 592 (#25)         Standards Success Activity: Activity 15, pp. 29-30
8.EE Expr	8.EE.6	Use similar triangles to explain why the slope $m$ is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at $b$ .	INSTRUCTION: New Concept: Lesson 56, pp. 382-386 Standards Success Activity: Activity 28, pp. 55-56

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		Analyze and solve linear equations and	Students revisit and begin daily solving equations in one variable in Lesson 14 of Course 3.
		pairs of simultaneous linear equations.	Depth and complexity of work with linear equations for 8 <sup>th</sup> graders are further developed and
			expanded upon in <i>Course</i> 3 at the following points:
			Lesson 14 Solving Equations by Inspection
s			Lesson 21 Distributive Property; Order of Operation
on			Lesson 31 Collect Like Terms
ati			Lesson 38 Property of Equality to Solve Equations
nby			Lesson 50 Solving Multi-step Equations
d E			Lesson 56 Slope-Intercept
ano			Algebra Lesson 61 Equations with Decimals
Su			Algebra Lesson 63 Equations with Fractions
sio			(Lesson 82 Graphing Equations Using Intercepts)
.es			Algebra Lesson 87 Solve Equations with Two Variables Using Substitution
крг			Lesson 89 Solving Problems with Two Unknowns by Graphing
Ê			Extension Activity 18 "Systems of equations with one, none, or infinitely many solutions"
E			Lesson 92 Solving Systems of Equations by Substitution, Part 1
8.E			Lesson 93 Equations with Exponents
			Lesson 99 Solving Systems of Equations by Elimination, Part 1
			Lesson 102 Solving Systems of Equations by Substitution, Part 2
			Lesson 104 Solving Systems of Equations by Elimination, Part 2
			Algebra Lesson 112 Solving Systems of Inequalities
			Algebra Lesson 114 Solving Systems of Inequalities from Word Problems

Domain	Standard	Text of Objective	Saxon Math Course 3 Citations/Examples References in italics indicate foundational.
8.EE Expressions and Equations	8.EE.7	Solve linear equations in one variable.	
	8.EE.7.a	Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$ , $a = a$ , or $a = b$ results (where $a$ and $b$ are different numbers).	INSTRUCTION:         New Concept: Lesson 14, pp. 92-94         MAINTENANCE:         Written Practice: Lesson 14, pp. 94-95(#5-#10, #15-#18); Lesson 16, pp. 105-107(#28, #29, #30); Lesson 17, pp. 111-113(#27, #28); Lesson 18, pp. 117-119(#26, #27); Lesson 19, pp. 124-125; Lesson 20, pp. 129-131(#14); Lesson 21, pp. 144-145(#6, #8, #11, #12, #20); Lesson 23, pp. 156-157 (#12, #13); Lesson 46, pp. 316-318 (#4, #5); Lesson 57, pp. 391-393         Standards Success Activity: Activity 7, pp. 13, 14
	8.EE.7.b	Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	<b>MAINTENANCE: Written Practice:</b> Lesson 50, pp. 338-340(#4-#9); Lesson 51, pp. 351-353(#16); Lesson 52, pp. 357-359(#5, #6); Lesson 54, pp. 371-374(#5, #6); Lesson 55, pp. 378-381; Lesson 56, pp. 386-388(#5); Lesson 57, pp. 391-393; Lesson 58, pp. 397-399(#2); Lesson 61, p. 419 (#10, #11, #12, #13, #14, #15); Lesson 62, p. 428 (#18, #19, #20, #21, #22); Lesson 64, p. 439 (#20, #21, #22); Lesson 66, p. 451 (#22, #223); Lesson 69, p. 469 (#19, #20, #21) <b>Standards Success Activity:</b> Activity 25, pp. 49-50

Domain	Standard	Text of Objective	Saxon Math Course 3 Citations/Examples References in italics indicate foundational.
8.EE Expressions and Equations	8.EE.8	Analyze and solve pairs of simultaneous linea	r equations.
	8.EE.8.a	Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.	INSTRUCTION:         New Concept: Lesson 89, pp. 593-596         Appendix Lesson: Lesson A92-A95, pp. 809-811; Lesson A97, pp. 814-815; Lesson A99-A100, pp. 818-821; Lesson A102, pp. 824-826; Lesson A104, pp. 827-829         MAINTENANCE:         Written Practice: Lesson A92, p. 811; Lesson A97, p. 816; Lesson A99-A100, p. 821; Lesson A104, p. 829         Standards Success Activity: Activity 18, pp. 35-36
	8.EE.8.b	Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection.	INSTRUCTION: Appendix Lesson: Lesson A92-A94, pp. 809-811; Lesson A99-A100, pp. 818-821; Lesson A102-A104, pp. 824-827; Lesson A104, pp. 827-829 MAINTENANCE: Written Practice: Lesson A92-A94, p. 811; Lesson A99-A100, p. 821; Lesson A102, p. 826; Lesson A204, p. 829 Standards Success Activity: Activity 18, pp. 35-36
	8.EE.8.c	Solve real-world and mathematical problems leading to two linear equations in two variables.	INSTRUCTION: Appendix Lesson A92-A94, pp. 809-811; Lesson A97, pp. 814-815

Domain	Standard	Text of Objective	Saxon Math Course 3 Citations/Examples References in italics indicate foundational.
8.F Functions	8.F	Define, evaluate, and compare functions.	<i>Course 3</i> has students revisit basic concepts of "input, output" tables in Lesson 41 in preparation for applying their understanding of functions as they model contextual situations. Work with functions for 8 <sup>th</sup> graders is expanded upon in <i>Course</i> 3 at the following points: Lesson 41 Functions Lesson 41 Functions Lesson 44 Solving Proportions; Slope of a Line Lesson 47 Graphing Functions Lesson 56 Slope-Intercept Equation of a Line Lesson 61 Sequences Extension Activity 26 Comparing Linear Functions Lesson 70 Solve Direct Variation Lesson 70 Solve Direct Variation Problems Extension Activity 28 Deriving the Equation of a Line Lesson 73 Formulas for Sequences Lesson 82 Graphing Equations Using Intercepts Lesson 97 Recursive Rules for Sequences Lesson 98 Relations and Functions Lesson 99 Inverse Variation Investigation 11 Nonlinear Functions Extension Activity 21 Applying Nonlinear Functions Extension Activity 22 Linear, Quadratic and Exponential Functions

Domain	Standard	Text of Objective	Saxon Math Course 3 Citations/Examples References in italics indicate foundational.
Inctions	8.F.1	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. <sup>1</sup>	INSTRUCTION:         New Concept: Lesson 41, pp. 277-284; Lesson 47, pp. 319-323; Lesson 98, pp. 651-655         Investigation 11, pp. 727-730         Appendix Lesson 11, pp. 727-730         Appendix Lesson 20, pp. 816-818         MAINTENANCE:         Problem Solving: Lesson 18, p. 114; Lesson 40, p. 264; Lesson 48, p. 326         Written Practice: Lesson 42, pp. 290-293(#3, #18); Lesson 34, pp. 297-299(#5); Lesson 44, pp. 305-307; Lesson 45, pp. 310-312(#1, #3, #4); Lesson 46, pp. 316-318 (#4); Lesson 47, 324- 325; Lesson 48, pp. 328- 329(#4); Lesson 49, pp. 333- 335(#1, #2); Lesson 50, pp. 338- 341(#4-9); Lesson 51, pp. 351-353 (#16); Lesson 53, pp. 364 -366 (#6); Lesson 98, p.655 (#4, #5); Lesson 103, p. 688 (#4, #5); Lesson 47), pp. ; Activity 22 (Lesson 11)
8.F ]			Standards Success Activity: Activity 21, pp. 41-42
	8.F.2	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	INSTRUCTION:         New Concept: Lesson 41, pp. 277-284, Lesson 88, pp. 585-589         Investigation: Investigation 11, pp. 727-730         MAINTENANCE:         Written Practice Lesson 41, pp. 284-286(#4, #30); Lesson 42, pp. 290-293(#3 #18); Lesson 44, pp. 305- 307; Lesson 45, pp. 310-312 (#1,#3, #4); Lesson 46, pp. 316-318 (#4); Lesson 47, pp. 324- 325; Lesson 48, pp. 328-329(# 4); Lesson 49, pp. 333- 335(#1, #2); Lesson 50, pp. 338 – 341 (#4-9, #27), Lesson 98, p. 655 (#7)         Standards Success Activity: Activity 26, pp. 51-52

<sup>&</sup>lt;sup>1</sup> Function notation is not required in Grade 8.

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Domain	Standard	Text of Objective	Saxon Math Course 3 Citations/Examples References in italics indicate foundational.
		Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.	<b>INSTRUCTION:</b> <b>New Concept</b> : Lesson 56, 382-38; Lesson 69, pp. 463-467, Lesson 82, pp. 550-553 <b>Investigation</b> : Investigation 11, pp. 727-730
	8.F.3		MAINTENANCE: Written Practice: Lesson 56, pp. 387(#5); Lesson 57, p. 391; Lesson 58, p. 397(#2); Lesson 61, p. 420 (#20); Lesson 62, p. 428 (#22); Lesson 71, p. 483 (#6); Lesson 72, p. 489 (#4); Lesson 75, p. 506 (#25); Lesson 77, p. 517 (#4, #5); Lesson 88, p. 592 (#25)
			Graphing Calculator Activities: Activity 13 (Investigation 69); Activity 17 (Lesson 82), pp. 550-556 Standards Success Activity: Activity 22, pp. 43-44
8.F Functions		Use functions to model relationships between quantities.	In <i>Course 3</i> , students build a foundation of functions as a relationship of quantities first through an input-output table before moving into abstract representations of sequences and patterns expressed algebraically. Functions are used as quantitative models in the following <i>Course 3</i> lessons: Lesson 41 Functions Lesson 44 Solving Proportions; Slope of a Line Lesson 47 Graphing Functions Lesson 61 Sequences Lesson 69 Direct Variation Lesson 70 Solve Direct Variation Problems Lesson 73 Formulas for Sequences Lesson 88 Review of Proportional and Non-proportional Relationships Lesson 97 Recursive Rules for Sequences Lesson 98 Relations and Functions Lesson 99 Inverse Variation Investigation 11 Nonlinear Functions Extension Activity 21 Applying Nonlinear Functions Extension Activity 22 Linear. Quadratic and Exponential Functions

Domain	Standard	Text of Objective	Saxon Math Course 3 Citations/Examples References in italics indicate foundational.
actions	8.F.4	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two $(x, y)$ values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	INSTRUCTION:         New Concept: Lesson 41, p. 277-284, Lesson 44, p. 300-304, Lesson 47, p. 319-323, Lesson 69, pp. 463-467         Appendix Lesson: A68, pp. 793-794; Lesson A98, pp. 816-818         MAINTENANCE:         Problem Solving: Lesson 18, p. 114; Lesson 40, p. 264; Lesson 48, p. 326         Written Practice: Lesson 44, p. 307(#29); Lesson 50, p. 340(#27); Lesson 69, p. 468         (#14); Lesson 70, p. 475 (#25); Lesson 77, p. 517 (#5); Lesson 95, p. 639 (#25); Lesson 100, p. 669 (325); Lesson A98, p. 818         Graphing Calculator Activities: Activity 9 (Lesson 47); Activity 13 (Lesson 69), pp. 463-469         Standards Success Activity: Activity 27, pp. 53 54
8.F F	8.F.S	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	INSTRUCTION:         New Concept: Lesson 41, p. 277-284Lesson 69, pp. 463-467; Lesson 88, pp. 585-589         Investigation: Investigation 11, pp. 727-730         Appendix Lesson: Lesson A98, pp. 816-818         MAINTENANCE:         Written Practice: Lesson 42, p. 286; Lesson 42, p. 292(#18); Lesson 43, p. 297(#5);         Lesson 44, p. 307(#29); Lesson 47, p. 325; Lesson 48, p. 329; Lesson 49, p. 335; Lesson 50, p. 341; Lesson 71, p. 483 (#4, #6); Lesson 72, p. 489 (#4, #8)         Graphing Calculator Activities: Activity 13 (Lesson 69), pp. 463-469
			Standards Success Activity: Activity 17, pp. 33-34

Domain	Standard	Text of Objective	Saxon Math Course 3 Citations/Examples References in italics indicate foundational.
8.G Geometry		Understand congruence and similarity using physical models, transparencies, or geometry software.	Students begin working with two-dimensional figures in Investigation 1 in <i>Course 3</i> so as to allow for opportunities to practice on a daily basis throughout the course. Geometric concepts for 8 <sup>th</sup> grade are built upon at the following points within <i>Course 3</i> : Investigation 1 Coordinate Plane Lesson 19 Polygons Lesson 20 Triangles Lesson 26 Transformations Lesson 35 Similar Polygons Lesson 37 Combined Polygons Investigation 5 Graphing Transformations Lesson 54 Angles Relationships Lesson 65 Applications Using Similar Triangles Lesson 71 Percent Change in Dimensions Lesson 98 Review of Proportional Relationships Lesson 95 Slant Heights of Pyramids and Cones Lesson 96 Geometric Measures with Radicals Lesson 112 Ratios of Side Lengths of Right Triangles Lesson 115 Relative Sizes of Sides and Angles of a Triangle

Domain	Standard	Text of Objective	Saxon Math Course 3 Citations/Examples References in italics indicate foundational.		
8.G Geometry	8.G.1	Verify experimentally the properties of rotations, reflections, and translations:			
	8.G.1.a	Lines are taken to lines, and line segments to line segments of the same length.	INSTRUCTION:         New Concept: Lesson 25, pp. 169-174         Investigation: Investigation 5, pp. 342-345         MAINTENANCE:         Problem Solving: Lesson 22, p. 146, Lesson 84, p.563         Written Practice: Lesson 27, p.179 (#7, #9); Lesson 29, p. 189; Lesson 51, p. 353; Lesson 58, p. 399; Lesson 59, p. 405; Lesson 68, p. 462 (#25); Lesson 71, p. 484 (#15); Lesson 76, p. 513 (#25); Lesson 79, p. 530 (#25); Lesson 81, p. 548 (#3, #4); Lesson 83, p. 561 (#12); Lesson 85, p. 573 (#25)         Graphing Calculator Activities: Activity 10 (Investigation 5), pp. 342-345		
	8.G.1.b	Angles are taken to angles of the same measure.	INSTRUCTION:         New Concept: Lesson 26, pp. 169-174         Investigation: Investigation 5, pp. 342-345         MAINTENANCE:         Problem Solving : Lesson 22, p. 146, Lesson 84, p. 563         Written Practice Lesson 27, p.         179(#7, #9); Lesson 51, p. 353; Lesson 58, p. 399; Lesson 59, p. 405; Lesson 68, p. 462 (#25); Lesson 71, p. 484 (#15); Lesson 76, p. 513 (#25); Lesson 79, p. 530 (#25); Lesson 81, p. 548 (#3, #4); Lesson 83, p. 561 (#12); Lesson 85, p. 573 (#25)         Standards Success Activity: Activity 3, pp. 5-6		

Domain	Standard	Text of Objective	Saxon Math Course 3 Citations/Examples References in italics indicate foundational.
8.G Geometry	8.G.1.c	Parallel lines are taken to parallel lines.	INSTRUCTION: New Concept: Lesson 26, pp.169-174 MAINTENANCE: Problem Solving: Lesson 42, p. 146, Lesson 84, p.563 Written Practice: Lesson 29, p. 189; Lesson 51, p. 353; Lesson 58, p. 399; Lesson 59, p. 405; Lesson 76, p.513 (#25); Lesson 81, p. 548 (#3) Graphing Calculator Activities: Activity 10 (Investigation 5), pp. 342-345 Standards Success Activity: Activity 3, pp. 5-6
	8.G.2	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.	INSTRUCTION:         New Concept: Lesson 19, pp. 120-123, Lesson 26, pp. 169-174         Investigation: Investigation 5, pp. 342-345         MAINTENANCE:         Written Practice Lesson 51, p.353; Lesson 58, p. 399; Lesson 59, p. 405; Lesson 68, p. 462 (#25); Lesson 76, p. 513 (#25); Lesson 79, p. 530 (#25); Lesson 83, p. 561 (#12); Lesson 85, p. 573 (#25)         Standards Success Activity: Activity 8, pp. 15-16
	8.G.3	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	INSTRUCTION:         New Concept: Lesson 26, pp. 169-174, Lesson 71, pp. 479-483         Investigation: Investigation 5, pp. 342-345         MAINTENANCE:         Written Practice: Lesson 51, p. 352; Lesson 56, p. 387; Lesson 58, p. 399; Lesson 68, p. 462 (#25); Lesson 76, p. 513 (#25); Lesson 79, p. 530 (#25); Lesson 81, p. 548 (#3); Lesson 93, p. 627 (#4); Lesson 114, p. 753 (#16)         Graphing Calculator Activities: Activity 10 (Investigation 5), pp. 342-345

Domain	Standard	Text of Objective	Saxon Math Course 3 Citations/Examples References in italics indicate foundational.
8.G Geometry	8.G.4	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.	INSTRUCTION:         New Concept: Lesson 19, pp. 120-123, Lesson 26, pp. 169-174, Lesson 71, pp. 479-483         Investigation: Investigation 5, pp. 342-345         MAINTENANCE:         Written Practice Lesson 27, p.179; Lesson 34, p. 228; Lesson 36, p.242, Lesson 39, p. 256, Lesson 40, p. 268, Lesson 57, p. 387, Lesson 60, p. 410, Lesson 71, p. 484 (#10, #16); Lesson 81, p. 548 (#3, #4); Lesson 93, p. 627 (#4); Lesson 643         Standards Success Activity: Activity 9, pp. 17-18
	8.G.5	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.	INSTRUCTION:         New Concept: Lesson 54, pp. 367-371, Lesson 65, pp. 440-443, Lesson 115, pp. 754-756         MAINTENANCE:         Power Up: Lesson 11, p. 72, Lesson 14, p. 92, Lesson 16, p.103, Lesson 19, p.120, Lesson 19, p. 120, Lesson 64, p. 435, Lesson 66, p. 446         Problem Solving : Lesson 92, p. 617, Lesson 65, p. 443         Written Practice: Lesson 27, p.179; Lesson 34, p. 228; Lesson 36, p.242, Lesson 39, p. 256, Lesson 40, p. 268, Lesson 57, p. 387, Lesson 60, p. 410, Lesson 61, p. 419 (#5); Lesson 62, p. 426 (#5); Lesson 63, p. 433 (#5); Lesson 64, p. 437 (#5); Lesson 66, p. 450 (#5, #6); Lesson 68, p. 461 (#5, #12)         Standards Success Activity: Activity 11, pp. 21-22; Activity 14, pp. 27-28; Activity 24, pp. 47-48

Domain	Standard	Text of Objective	Saxon Math Course 3 Citations/Examples References in italics indicate foundational.
8.G Geometry		Understand and apply the Pythagorean Theorem.	Students begin using the Pythagorean Theorem early in <i>Course 3</i> and practice and apply its principals meaningfully throughout the course in order to be able to utilize it in problem-solving situations and eventually prove its origins. These applications occur at the following points in <i>Course 3</i> : Investigation 2 Pythagorean Theorem Extension Activity 5 The Pythagorean Theorem and Its Converse Extension Activity 6 The Pythagorean Theorem and Distance Lesson 95 Slant Heights of Pyramids and Cones Lesson 96 Geometric Measures with Radicals Extension Activity 20 Using the Pythagorean Theorem in 2-D and 3-D Figures Investigation 12 Proof of the Pythagorean Theorem
	8.G.6	Explain a proof of the Pythagorean Theorem and its converse.	INSTRUCTION: Investigation: Investigation 12, pp. 782-784 Standards Success Activity: Activity 5, pp. 9-10
	8.G.7	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	INSTRUCTION:         New Concept: Lesson 37, pp. 245-247, Lesson 95, pp. 634-636         Investigation 2, pp. 132-138         MAINTENANCE:         Written Practice: Lesson 21, p.145, Lesson 28, p. 185, Lesson 32, p. 215, Lesson 39, p.263, Lesson 46, p.318, Lesson 55, p. 379, Lesson 59, p. 404, Lesson 62, p. 427 (#8, #13); Lesson 65, p. 444 (#10); Lesson 68, p. 46 (#10); Lesson 70, p. 475; Lesson 72, p. 489 (#9); Lesson 75, p. 505 (#7); Lesson 82, p. 553 (#5); Lesson 88, p. 591 (#10); Lesson 91, p. 614 (#8); Lesson 92, p. 622 (#15); Lesson 93, p. 628 (#25); Lesson 94, p. 632 (#6); Lesson 97, p. 649 (#10); Lesson 99, p. 662 (#4); Lesson 103, p. 689 (#11); Lesson 108, p. 716 (#14); Lesson 110, p. 726 (#12); Lesson 111, p. 735 (#10); Lesson 112, p. 741 (#22); Lesson 115, p. 757 (#6, #16)         Standards Success Activity: Activity 20, pp. 39-40

Domain	Standard	Text of Objective	Saxon Math Course 3 Citations/Examples References in italics indicate foundational.
8.G Geometry	8.G.8	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	INSTRUCTION:           New Concept: Lesson 96, pp. 640-642           MAINTENANCE:           Written Practice: Lesson 96, pp. 644 (#19); Lesson 104, p. 695; Lesson 111, p. 736 (#22); Lesson 114, p. 753 (#15); Lesson 115, p. 757 (#13); Lesson 119, p. 777 (#23)           Standards Success Activity: Activity 6, pp. 11-12
		Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	Students revisit and begin utilizing volume in context in Lesson 76 of <i>Course 3</i> . Applications of volume for 8 <sup>th</sup> graders are expanded upon in <i>Course 3</i> at the following points: Lesson 76 Volume of Prisms and Cylinders Lesson 86 Volume of Pyramids and Cones Lesson 106 Review of the Effect of Scale on Volume Lesson 107 Volume and Surface Area of Compound Solids Lesson 111 Volume and Surface Area of the Sphere
	8.G.9	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	INSTRUCTION:           New Concept: Lesson 76, pp. 507-511, Lesson 86, pp. 574-578, Lesson 106, pp. 702-704, Lesson 107, pp. 707-709, Lesson 111, pp. 731-734           MAINTENANCE:           Written Practice: Lesson 76, p. 512 (#5, #6); Lesson 78, p. 523 (#19); Lesson 79, p. 529 (#20, #22); Lesson 80, p. 536 (#6); Lesson 87, p. 583 (#5); Lesson 96, p. 643; Lesson 111, p. 735 (#1); Lesson 112, p. 740 (#8); Lesson 113, p.746

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8.SP Statistics and Probability		Investigate patterns of association in bivariate data.	Students in <i>Course 3</i> will build upon basic plotting of data points (Investigation 1) to begin determining relationships between two sets of data points: is the association negative or positive, and to what degree? Were "outlier" data points valid or a measurement error? Students begin working with two sets of data points in Investigation 6 of <i>Course 3</i> and provide opportunities to practice on a daily basis throughout the remainder of the course. Concepts regarding bivariate data for 8 <sup>th</sup> grade are built upon at the following points within <i>Course 3</i> : Investigation 1 Graphing on a Coordinate Plane Investigation 6 Collect, Display, Interpret Data Extension Activity 13 Two-way Tables Investigation 8 Scatter Plots Extension Activity 16 Scatter Plots and Model Fit Lesson 113 Using Scatter Plots to Make Predictions Extension Activity 23 Patterns in Scatter Plots
	8.SP.1	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.	INSTRUCTION: New Concept: Lesson 113, pp. 742-745 Investigation: Investigation 8, pp. 538-544 <u>MAINTENANCE:</u> Written Practice: Lesson 97, p. 650 (#25); Lesson 101, p. 680 (#24) Graphing Calculator Activities: Activity 16 (Investigation 8), pp. 538-544 Standards Success Activity: Activity 23, pp. 45-46
	8.SP.2	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.	INSTRUCTION:         New Concept: Lesson 113, pp. 742-745         Investigation: Investigation 8, pp. 538-544         MAINTENANCE:         Written Practice: Lesson 97, p. 650 (#25); Lesson 101, p. 680 (#24)         Graphing Calculator Activities: Activity 16 (Investigation 8), pp. 538-544         Standards Success Activity: Activity 16, pp. 31-32

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Domain	Standard	Text of Objective	Saxon Math Course 3 Citations/Examples References in italics indicate foundational.
8.SP Statistics and Probability	8.SP.3	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.	INSTRUCTION: New Concept: Lesson 96, p. 642; Lesson 113, pp. 742-745 Investigation: Investigation 8, pp. 538-544 <u>MAINTENANCE:</u> Problem Solving : 382 Written Practice: Lesson 66, p. 451; Lesson 90, p. 604; Lesson 101, p. 680 (#24)
	8.SP.4	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables.	INSTRUCTION:         Investigation: Investigation 8, pp. 538-544         Investigation: Investigation 6, pp. 412-414         MAINTENANCE:         Written Practice: Lesson 66, p. 451         Standards Success Activity: Activity 13, pp. 25-26