



Math Connects

Concepts, Skills, and Problem Solving

Course 1

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STANDARDS	PAGE REFERENCES
<p>STANDARD 4.1 (NUMBER AND NUMERICAL OPERATIONS) ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.</p>	
<p>Building upon knowledge and skills gained in preceding grades, by the end of Grade 6, students will:</p>	
<p><u>Number Sense</u></p>	
<p>Number Sense</p>	
<ul style="list-style-type: none"> Use real-life experiences, physical materials, and technology to construct meanings for numbers 	<p>Student Edition: 53 #36, 144 #31, 157 #4 <i>Mid-Chapter Quiz</i> 41 #17 <i>Problem-Solving Investigation</i> 54-55, 184-185, 254-255 <i>Real-World Link</i> 38, 90, 170, 181 <i>Real-World Unit Project</i> 135, 311 <i>Spreadsheet Lab</i> 107 <i>Start Smart</i> 4-5, 6-7 <i>Test Practice</i> 74-75, 192-193</p>
<ul style="list-style-type: none"> Understand place value through hundred millions 	<p>Student Edition: <i>Concepts and Skill Bank</i> 738-739 <i>Reading to Solve Problems</i> 376 <i>Real-World Unit Project</i> 135</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Read and write numbers through billions 	<p>Student Edition: <i>Concepts and Skill Bank</i> 738-739 <i>Reading to Solve Problems</i> 80 <i>Real-World Unit Project</i> 135</p>
<ul style="list-style-type: none"> Write whole numbers in standard, written and expanded forms 	<p>Student Edition: 138-141, 145 #39, 149 #39, 187, 195, 224 #39-#42 <i>Practice Test</i> 191 #1-#5</p>
<ul style="list-style-type: none"> Explore the magnitude of numbers in the context of real world problems 	<p>Student Edition: 574 #23-#25 The following references can be used in classroom discussion and instruction to meet this objective. <i>Data File</i> 16, 18, 19 <i>Real World Unit Project</i> 135</p>
<ul style="list-style-type: none"> Compare and order numbers up to billions in the context of real world problems 	<p>The following references can be used in classroom discussion and instruction to meet this objective. Student Edition: <i>Concepts and Skills Bank</i> <i>Real-World Unit Project</i> 135</p>
<ul style="list-style-type: none"> Read and write numbers through billions in standards, written forms 	<p>Student Edition: <i>Concepts and Skills Bank</i> 738-739</p>
<ul style="list-style-type: none"> Round numbers to the nearest billions. 	<p>The following references can be used in classroom discussion and instruction to meet this objective. Student Edition: <i>Real-World Unit Project</i> 135</p>
<ul style="list-style-type: none"> Understand powers and exponents 	<p>Student Edition: 32-36, 46 #57, 67 #39, 69, 176 #38-#40 <i>Mid-Chapter Quiz</i> 41</p>
<ul style="list-style-type: none"> Use exponents to write powers of 10 	<p>Student Edition: 33, 34 #6, 35, 36 #45, 46 #57, 125 #45</p>
<ul style="list-style-type: none"> Understand squares numbers 	<p>Student Edition: 33 <i>Test Practice</i> 36</p>
<ul style="list-style-type: none"> Understand cubes of numbers 	<p>Student Edition: 33 <i>Test Practice</i> 36</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Explore the use of integers as positive and negative whole numbers above and below zero. 	Student Edition: 121-125, 130, 145 #40-#43 <i>Practice Test 13 #14-#16</i>
FRACTIONS	
<ul style="list-style-type: none"> Quickly review and maintain: 	Student Edition: 207 #34 <i>Data File 16-19</i> <i>Focal Points G6-FP1 iv</i> <i>MathLab 202-203</i> <i>Reading to Solve Problems 269</i> <i>Test Practice 245 #6</i>
<ul style="list-style-type: none"> Understand all fractions as part of a whole, as subset of a set, as a location on a number line, and as divisions of whole number 	Student Edition: 219 #34-#36, 315 <i>Mini Lab 220</i> <i>Practice Test 243 #8</i> <i>Reading Math 210</i> <i>Reading to Solve Problems 269</i>
<ul style="list-style-type: none"> Create equivalent fractions, given a fraction 	Student Edition: 212 #36-#38, 219 #30-#33, 268 #59-#62 <i>Math Lab 202-203</i> <i>Mid-Chapter Quiz 213 #6-#8</i> <i>Study Tip 203</i> <i>Test-Taking Tip 222</i>
<ul style="list-style-type: none"> Simplify fractions to lowest terms 	Student Edition: 204-208, 212 #36-#38, 232 #45, 239, 247, 319 #40-#43, 363, 380 #50-#53 <i>Mid-Chapter Quiz 213 #10-#12</i> <i>Test Practice 309 #13</i>
<ul style="list-style-type: none"> Understand and apply proper and improper fractions and mixed numbers 	Student Edition: 209-212, 239 <i>Mid-Chapter Quiz 213 #17-#22</i>
<ul style="list-style-type: none"> Rename a mixed number as an improper fraction 	Student Edition: 210, 211, 224 #37, 239 #23, #24, 297 #55-#59 <i>Mid-Chapter Review 213 #14-#16</i> <i>Practice Test 243 #5</i>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> • Compare proper and improper fractions and mixed numbers (with and without the use of a number line; compare fractions using $<$, $>$, or $=$) 	<p>Student Edition: 220-224, 228 #42-#45, 241 <i>Practice Test</i> 243 #13-#15 <i>Test Practice</i> 360 #3</p>
<ul style="list-style-type: none"> • Understand and identify fractions in their lowest and simplest forms 	<p>Student Edition: 204-208, 212 #36-#38, 232 #45, 239 <i>Mid-Chapter Quiz</i> 213 #10-#12</p>
<ul style="list-style-type: none"> • Develop and understanding of: <ul style="list-style-type: none"> a. Prime numbers b. Factors – common and greatest common factor of two numbers c. Multiples d. Common multiple, common factors 	<p>Student Edition: 28-31, 36 #49-#52, 40 #36-#39, 197-201, 208 #40-#42, 216-219, 228 #46, 239, 240, 260 #44-#47, 279 #48-#51, 327 #28, 333 #31-#34 <i>Mid-Chapter Quiz</i> 41 #3-#6, 213 #1-#4 <i>Practice Test</i> 73 #2-#5, 243 #11, #12 <i>Reading to Solve Problems</i> 196, 376 <i>Review Vocabulary</i> 257, 264 <i>Test Practice</i> 74 #5, 245 #7, 361 #12</p>
<ul style="list-style-type: none"> • Relate fractions to decimals and to percents 	<p>Student Edition: 225-228, 229-232, 241, 242, 366-369, 375 #20-#22, #26-#29, 407, 408, 709 #13, #14, 746 <i>Foldables</i> 406 <i>Real-World Link</i> 194 <i>Practice Test</i> 242 #17, 411 #1-#6 <i>Test Practice</i> 413 #8</p>
DECIMALS	
<ul style="list-style-type: none"> • Recognize the decimal nature of United States currency and compute with money in the context of real world problems 	<p>Student Edition: 138-141, 147 #3, 174 #3 <i>Practice Test</i> 191 #20 <i>Problem-Solving Investigation</i> 55 #6, #14, 185 #3, #7, 215 #11, #12 <i>Test Practice</i> 193 #11, #12</p>
<ul style="list-style-type: none"> • Use problems from the world of the students to explore decimals. Use ads, and catalogs to create the problems 	<p>Student Edition: 145 #35, 158 #11, 159 #40, 170 #9, 171 #41, 172 #51 <i>Data File</i> 16-19 <i>Start Smart</i> 6-7</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Read and write decimals to millionths in standard and written form 	<p>Student Edition: 138-141, 145 #39, 149 #39, 187 <i>Mid-Chapter Quiz</i> 161 #1-#7</p>
<ul style="list-style-type: none"> Compare and order decimals through millionths 	<p>Student Edition: 142-145, 149 #36-#38, 154 #40, 166 #52-#54, 187, 201 #45, #46, 212 #42 <i>Mid-Chapter Quiz</i> 161 #12-#14 <i>Practice Test</i> 191 #6, #7, #8</p>
<ul style="list-style-type: none"> Identify equivalent decimals 	<p>Student Edition: 143, 145 #32</p>
<ul style="list-style-type: none"> Understand repeating decimals 	<p>Student Edition: 232 #31-#33, #34</p>
<ul style="list-style-type: none"> Investigate, represent, and use non-terminating decimals versus their fractional equivalent in many different problem 	<p>Student Edition: 232 #31-#35</p>
<ul style="list-style-type: none"> Write a decimal as a fraction or mixed numbers in lowest form $10/10 = 1.0$ 	<p>Student Edition: 225-228, 237 #41-#43, 241 <i>Foldables</i> 238 <i>Practice Test</i> 243 #18-#20</p>
<ul style="list-style-type: none"> Know the relationship among fractions, decimals and percent using real world problems from the students' world 	<p>Student Edition: 226 #4, 227 #32-#34, 365, 366 #3, 403 #4e, 407 <i>Mid-Chapter Quiz</i> 388 #10, #18 <i>Problem Solving Investigation</i> 399 <i>Real-World Link</i> 194</p>
<ul style="list-style-type: none"> Know with accuracy and speed the common equivalent fractions decimals and percents ($1/4$; .25; 25%) 	<p>Student Edition: 401 <i>Foldables</i> 406 <i>Study Tip</i> 226</p>
RATIO AND PROPORTION	
<ul style="list-style-type: none"> Define ratio 	<p>Student Edition: 314 <i>Foldables</i> 355 <i>Glossary</i> R16</p>
<ul style="list-style-type: none"> Read and write ratios based on real world problems 	<p>Student Edition: 314-319 <i>Real-World Limit Project</i> 311 <i>Test Practice</i> 412 #4</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Explore equivalent ratios in tables and graphs 	<p>Student Edition: 322-327, 333 #29, 339 #41, 356, 419 #3, 425 #1 <i>Graphing Calculator Lab</i> 328 <i>Mid-Chapter Quiz</i> 340 #6-#7</p>
<ul style="list-style-type: none"> Explore proportions in a variety of situations 	<p>Student Edition: 329-333, 334-339, 349-353, 357, 358, 395, 747 <i>Graphing Calculator Lab</i> 354 <i>Mid-Chapter Quiz</i> 340 #8-#15 <i>Practice Test</i> 359 <i>Test Practice</i> 361 #9</p>
<ul style="list-style-type: none"> Express equivalent ratios as a proportion 	<p>Student Edition: 322-327, 329-333, 334-339, 357 <i>Mid-Chapter Quiz</i> 340 <i>Practice Test</i> 359 <i>Test Practice</i> 361</p>
PERCENT	
<ul style="list-style-type: none"> Understand that percent means part of 100, and write percents as fractions and decimals 	<p>Student Edition: 365-369, 377-380, 405 #37-#40, 407, 408, 746 <i>Math Lab</i> 364 <i>Mid-Chapter Quiz</i> 388 #1-#7 <i>Test Practice</i> 413 #8</p>
<ul style="list-style-type: none"> Read and write percents based on real world problems and examples 	<p>Student Edition: 370-375, 379 #34, 407 <i>Mid-Chapter Quiz</i> 388 #8-#10 <i>Real-World Unit Project</i> 311</p>
<ul style="list-style-type: none"> Find percents on the number line 	<p>The following reference can be used in classroom discussion and instruction to meet this objective. Student Edition: <i>Math Lab</i> 364</p>
<ul style="list-style-type: none"> Estimate percent 	<p>Student Edition: 371, 401-405, 410 <i>Practice Test</i> 411 #22-#25</p>
<ul style="list-style-type: none"> Mentally calculate percent savings 	<p>Student Edition: 404 #30, 410 <i>Test Practice</i> 413 #7</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Relate percent to decimals and fractions – memorize the common equivalents: $\frac{1}{4} = 20\% = .20$ (1.2, $\frac{1}{3}$, $\frac{1}{5}$, $\frac{1}{6}$, $\frac{1}{7}$, $\frac{1}{8}$, $\frac{1}{9}$, $\frac{1}{10}$...) 	<p>Student Edition: 365-369, 377-380, 401 <i>Foldables</i> 406 <i>Study Tip</i> 226 <i>Practice Test</i> 411 #1-#6</p>
<ul style="list-style-type: none"> Write a percent from fractions and decimals expressed in hundredths 	<p>Student Edition: 365-369, 375 #20-#22, 377-380, 386 #41, 393 #31 <i>Practice Test</i> 411 #1-#3</p>
<ul style="list-style-type: none"> Explore rates and unit prices using common experiences from the students' lives...food 	<p>Student Edition: 314-316, 318, 327 #29-#31, 330, 333 #35-#37, 336, 356 <i>Mid-Chapter Quiz</i> 340 #3, #4 <i>Practice Test</i> 359 #5, #6 <i>Study Tip</i> 330</p>
<p>Numerical Operations</p>	
<p>ADDITION AND SUBTRACTION</p>	
<ul style="list-style-type: none"> Maintain addition of whole numbers with six digits 	<p>The following reference can be used in classroom discussion and instruction to meet this objective. Student Edition: 743</p>
<ul style="list-style-type: none"> Maintain subtraction of whole numbers with six digits 	<p>The following reference can be used in classroom discussion and instruction to meet this objective. Student Edition: 743</p>
<p>MULTIPLICATION AND DIVISION</p>	
<ul style="list-style-type: none"> Maintain multiplication of whole numbers with three digit multipliers 	<p>The following reference can be used in classroom discussion and instruction to meet this objective. Student Edition: 744</p>
<ul style="list-style-type: none"> Maintain division of whole numbers with three digit divisors 	<p>The following reference can be used in classroom discussion and instruction to meet this objective. Student Edition: 744</p>
<ul style="list-style-type: none"> Do short division with one and two digit divisor – Mentally 	<p>Student Edition: 23, 77, 137, 172, 228, 571, 744</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Prove multiplication and division equations 	<p>Student Edition: 57-60, 72, 125 #43, 313, 351 #5, 469, 487 #3, 657-660, 666 <i>Practice Test</i> 73 #17, #18, 667 #21-#30</p>
FRACTIONS	
<ul style="list-style-type: none"> Review and maintain addition and subtractions of all kinds of fractions: Proper, improper, mixed <ul style="list-style-type: none"> Teach well: Multiply fractions: proper, improper and mixed Teach well: Divide fractions: proper, improper and mixed 	<p>Student Edition: 256-260, 263-268, 270-274, 304, 305 <i>Math Lab</i> 261-262 <i>Mid-Chapter Quiz</i> 275 #8-#10, #12-#14, #16-#18 <i>Practice Test</i> 307 #6-#8 <i>Reading to Solve Problems</i> 269 <i>Test Practice</i> 308 #1 <i>Teach Well</i> 282-286, 287-290, 293-297, 298-301, 306 <i>Math Lab</i> 280-281, 291-292 <i>Practice Test</i> 307 #18-#20</p>
DECIMALS	
<ul style="list-style-type: none"> Review well addition of decimals to the thousandths 	<p>Student Edition: 156-160, 188 <i>Math Lab</i> 155 <i>Mid-Chapter Quiz</i> 161 #23, #24</p>
<ul style="list-style-type: none"> Review well subtraction of decimals to the thousandths 	<p>Student Edition: 156-160, 188 <i>Math Lab</i> 155 <i>Mid-Chapter Quiz</i> 161 #23, #24</p>
<ul style="list-style-type: none"> Multiply decimals to the thousandths 	<p>Student Edition: 163-166, 169-172, 183 #47-#49, 188, 189 <i>Math Lab</i> 167-168</p>
<ul style="list-style-type: none"> Multiply decimals with zero in the product and with decimal factors 	<p>Student Edition: 164-165, 169 #2, 170, 171, 176, 189, 191</p>
<ul style="list-style-type: none"> Multiply decimals by 10, 100, 1000 	<p>Student Edition: 164-166 <i>Real-World Link</i> 164</p>
<ul style="list-style-type: none"> Multiply equivalent decimals 	<p>The following reference can be used in classroom discussion and instruction to meet this objective. Student Edition: 166 #44</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Multiply and divide decimals by 10, 100, 1000 	Student Edition: 164-166
<ul style="list-style-type: none"> Divide decimals to the thousandths 	Student Edition: 175, 179-183, 189, 190, 191 #21-#24 <i>Math Lab</i> 177-178 <i>Practice Test</i> 191 #21-#24
<ul style="list-style-type: none"> Divide decimals with zero in the quotient 	Student Edition: 180 #3, 181 #5, #14, #20
<ul style="list-style-type: none"> Divide decimals with zero in the dividend 	Student Edition: 179, 181 #13, #14, #17, 182 #40, 189 #61 <i>Practice Test</i> 191 #23
<ul style="list-style-type: none"> Divide decimals by a decimal 	Student Edition: 179-183, 190 <i>Math Lab</i> 177-178 <i>Practice Test</i> 191 #23
<ul style="list-style-type: none"> Divide decimals by 10, 100, 1000 	Student Edition: Note: This objective needs to be addressed in higher level.
<ul style="list-style-type: none"> Round off the quotients 	Student Edition: 180, 181, 182
<ul style="list-style-type: none"> Round decimals 	Student Edition: 146-149, 154 #39, 160 #50, 187
<ul style="list-style-type: none"> Do math problems – adding and subtracting – using buying and selling of goods from the world of the students. (CDs; ipods, clothing....) 	Student Edition: 52 #20, 159 #26, #40, 160 #45, 166 #49-#50, 188, 318 #27, 708 #9-#11 <i>Mid-Chapter Quiz</i> 161 #25 <i>Problem Solving Investigation</i> 185 #7
RATIO AND PROPORTION	
<ul style="list-style-type: none"> Review ratios and equivalent ratios in a variety of real world problems from students' world 	Student Edition: 322-327, 356
<ul style="list-style-type: none"> Review proportion and how ratio and proportion are related 	Student Edition: 329-333, 357
<ul style="list-style-type: none"> Know the difference between rate and ratio 	Student Edition: 314-319 <i>Study Tip</i> 315
<ul style="list-style-type: none"> Verify proportions by using cross products 	Student Edition: 333 #22-#25

STANDARDS	PAGE REFERENCES
PERCENT	
<ul style="list-style-type: none"> Find the percent of numbers using real world problems from the students' 	Student Edition: 404, 410 <i>Real-World Limit Project</i> 311
<ul style="list-style-type: none"> Find simple interest 	Student Edition: 379 #34
<ul style="list-style-type: none"> Find the regular price, sale price and discount of an object when given a set number 	Student Edition: 404 #29 <i>Test Practice</i> 413 #7
ESTIMATION	
<ul style="list-style-type: none"> Use a variety of strategies for estimating both quantities and the results of computations – (fractions to decimals....) 	Student Edition: 150-154, 166 #51, 188, 276-279, 305, 401-404, 410, 449 #46, #53, 474-478, 741-742 <i>Mid-Chapter Quiz</i> 161 #22 <i>Problem Solving Investigation</i> 442-443
<ul style="list-style-type: none"> Recognize when an estimate is appropriate, and understand the usefulness of an estimate as distinct from an exact answer 	Student Edition: 150-154, 156, 422 #37-#41, 433 #5, 435 #36 <i>Mid-Chapter Quiz</i> 444 #17 <i>Practice Test</i> 191 <i>Problem-Solving Investigation</i> 184-185, 442-443, 661-662 <i>Test Practice</i> 192 #2, 360 #4, 566 #5
<ul style="list-style-type: none"> Determine the reasonableness of an answer by estimating the result of operations 	Student Edition: 163, 169, 190, 276-279, 305, 401-404 <i>Practice Test</i> 191 <i>Problem Solving Investigation</i> 184-185, 442-443, 661-662 <i>Test Practice</i> 192 #3 <i>Test Taking Tip</i> 272
<ul style="list-style-type: none"> Determine whether a given estimate is an overestimate or an underestimate. 	Student Edition: 278 #32, 428 #45 <i>Problem Solving Investigation</i> 442-443

STANDARDS	PAGE REFERENCES
<p>STANDARD 4.2 (GEOMETRY AND MEASUREMENT) ALL STUDENTS WILL DEVELOP SPATIAL SENSE AND THE ABILITY TO USE GEOMETRIC PROPERTIES, RELATIONSHIPS, AND MEASUREMENT TO MODEL, DESCRIBE AND ANALYZE PHENOMENA.</p>	
<p>Building upon knowledge and skills gained in preceding grades, by the end of Grade 6, students will:</p>	
<p><u>Geometric Properties</u></p>	
<p>PROPERTIES</p>	
<ul style="list-style-type: none"> • Understand and apply concepts involving lines and angles: <ol style="list-style-type: none"> 1. Understand notation for line, ray, angle, line segment 2. Understand and apply concepts involving lines and angles 3. Understand and identify properties of parallel, perpendicular, and intersecting lines 4. Understand and find the sum of the measures of the interior angles of a triangle is 180° 	<p>Student Edition: 470-473, 479-484, 486-491, 510, 511, 714, 751-752 <i>Geometry Lab</i> 485, 493 <i>Looking Ahead</i> LA10-LA14 <i>Mid-Chapter Quiz</i> 492 <i>Practice Test</i> 515 <i>Start Smart</i> 10-11 <i>Test Practice</i> 517 #10</p>
<ul style="list-style-type: none"> • Identify, describe, compare, and classify polygons and circles: <ol style="list-style-type: none"> 1. Triangles by angles and sides 2. Polygons by number of sides 3. Quadrilaterals, including squares, rectangles, parallelograms, trapezoids, rhombi 4. Equilateral, equiangular, regular 5. All points equidistant from a given point form a circle 	<p>Student Edition: 486-491, 494-499, 512, 513, 528-533, 562 <i>Geometry Lab</i> 485, 493 <i>Measurement Lab</i> 527 <i>Mid-Chapter Quiz</i> 492, 545 <i>Practice Test</i> 515, 565 #5 <i>Problem-Solving Investigation</i> 501 #11 <i>Start Smart</i> 10-11 <i>Test Practice</i> 668 #2</p>
<ul style="list-style-type: none"> • Identify similar figures. 	<p>Student Edition: 502-507, 514, 526 #29-#31, 533 #44-#46, 562, 714 #11 <i>Foldables</i> 509 <i>Mid-Chapter Quiz</i> 545 #8, #9 <i>Practice Test</i> 515 <i>Test Practice</i> 517 #12</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Understand and apply the concepts of congruence and symmetry (line and rotational). 	<p>Student Edition: 488, 495, 499 #43-#45, 502-507, 514, 726 #9, 731 #13 <i>Practice Test</i> 515 #14 <i>Start Smart</i> 10-11 <i>Test Practice</i> 517 #12</p>
<ul style="list-style-type: none"> Compare properties of cylinders, prisms, cones, pyramids, and spheres. 	<p>Student Edition: 555, 556, 755 <i>Looking Ahead</i> LA20-LA24 <i>Practice Test</i> 565 #10</p>
<ul style="list-style-type: none"> Identify, describe, and draw the faces or shadows (projections) of three dimensional geometric objects from different perspectives. 	<p>Student Edition: 555, 556, 558 #25, 564, 755-756 <i>Looking Ahead</i> LA20 <i>Practice Test</i> 565 #10 <i>Problem-Solving Investigation</i> 546-547</p>
<ul style="list-style-type: none"> Identify a three-dimensional shape with given projections (top, front and side views). 	<p>Student Edition: 548, 555, 556, 755-756 <i>Looking Ahead</i> LA20</p>
<ul style="list-style-type: none"> Identify a three-dimensional shape with a given net (i.e., a flat pattern that folds into a 3D shape). 	<p>Student Edition: 555, 556, 559 #30 <i>Geometry Lab</i> 554 <i>Looking Ahead</i> LA20, LA21</p>
<p>Transforming Shapes</p>	
<p>TRANSFORMING SHAPES</p>	
<ul style="list-style-type: none"> Use a translation, a reflection, or a rotation to map one figure onto another congruent figure. 	<p>Student Edition: 604-609, 610-614, 615-619, 623, 624, 716 #9, #10 <i>Practice Test</i> 625 #28-#33 <i>Real-World Unit Project</i> 569 <i>Test Practice</i> 627 #12, 669 #7</p>
<ul style="list-style-type: none"> Recognize, identify, and describe geometric relationships and properties, as they exist in nature, art and other real-world settings 	<p>Student Edition: 495 #2, 505 #15, #16, 506 #17, #18 <i>Geometry Lab</i> 508 <i>Math Lab</i> 320-321 <i>Practice Test</i> 515 #11 <i>Problem-Solving Investigation</i> 593 #14 <i>Start Smart</i> 10-11 <i>Test Practice</i> 517 #12, 566 #5</p>

STANDARDS	PAGE REFERENCES
<u>Coordinate Geometry</u>	
COORDINATES	
<ul style="list-style-type: none"> • Create geometric shapes with specified properties in the first quadrant on a coordinate grid. 	Student Edition: 599, 601, 608 #19, 635 #47
<u>Units of Measurement</u>	
UNITS	
<ul style="list-style-type: none"> • Select and use appropriate units to measure angles, area, surface area, and volume. 	Student Edition: 63-67, 72, 279 #39, 470-473, 474-478, 484 #43-#48, 499 #34, 510, 534-538, 540-544, 548-553, 555-559 <i>Measurement Lab</i> 459-460, 520-521, 539, 560 <i>Mid-Chapter Quiz</i> 545 #12-#17 <i>Practice Test</i> 73 #19, 515 #1-#4, 565 <i>Problem-Solving Investigation</i> 546-547 <i>Real-World Unit Project</i> 415 <i>Test Practice</i> 516 #3
<ul style="list-style-type: none"> • Use a scale to find a distance on a map or a length on a scale drawing. 	Student Edition: 747 <i>Test Practice</i> 360 #1
<ul style="list-style-type: none"> • Convert measurement units within a system (e.g., 3 feet = ___ inches). 	Student Edition: 175 #24, 181 #26, 285 #38, 346 #3, 347 #10, #23, 418-421, 424-427, 432, 437, 441 #37, 445-449, 450, 454 #34-#36, 462, 463, 658, 713 <i>Measurement Lab</i> 430-431 <i>Mid-Chapter Quiz</i> 444 #1-#12 <i>Practice Test</i> 465 <i>Start Smart</i> 12-13 <i>Test Practice</i> 466 #1
<ul style="list-style-type: none"> • Know approximate equivalents between the standard and metric systems Examples: A kilometer is slightly more than a half-mile; A meter is more than a yard; A liter is slightly more than a quart; A kilogram is about two pounds; One kilometer is approximately 6/10 of a 1000 milliliters of water weigh about one kilogram 	Student Edition: 170 #10, 326 #15-#17, 435 #28-#30 <i>Key Concept</i> 432, 437

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Use measurements and estimates to describe and compare phenomena 	<p>Student Edition: 165 #43, 181 #23, #26, 223 #28, 273 #26, 284 #7, 435 #27, #36 <i>Get Ready</i> 169, 298 <i>Problem-Solving Investigation</i> 185 #5</p>
<p>Review, Use and Maintain all Measures In and Through Problem Solving</p>	
<p>LENGTH</p>	
<ul style="list-style-type: none"> Fractions of an inch, mile, decimeter, kilometer ($\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$), 	<p>Student Edition: 170 #4, 181 #26, 252 #31, 289 #29-#32, 295 #33, 301 #35, 435 <i>Reading to Solve Problems</i> 269 <i>Start Smart</i> 13</p>
<ul style="list-style-type: none"> Measure and calculate: Area, length, width using ruler or yardstick, one inch squares, one centimeter squares 	<p>Student Edition: 63, 250, 252 #20-#23, 418-421, 432-434, 449 #46 <i>Measurement Lab</i> 430-431, 560 <i>Start Smart</i> 13</p>
<ul style="list-style-type: none"> Explore problems using: inches, feet, yards and mile, millimeters, centimeters, meters, kilometers 	<p>Student Edition: 64 #32, 181 #9, #26, 251 #8, 277 #9, 421 #28, 422 #44, #45, 433, 435, 449 #48 <i>Practice Test</i> 73 #20 <i>Problem-Solving Investigation</i> 185 #5</p>
<ul style="list-style-type: none"> Add and subtract customary units of length and width 	<p>Student Edition: 73 #20, 165 #43, 305 #39 <i>Test Practice</i> 360 #6</p>
<p>CAPACITY</p>	
<ul style="list-style-type: none"> Solve word problems for: ounce, cup, gallon, milliliter 	<p>Student Edition: 170 #4, 251 #9, 259 #21, 273 #25, 301 #36, 305 #44, 326 #15-#17, 426-428, 437-441 <i>Practice Test</i> 465 #18 <i>Test Practice</i> 361 #9</p>
<ul style="list-style-type: none"> Solve problems for milliliter, liter, kiloliter 	<p>Student Edition: 437-441, 463 #33, 466 #7 <i>Problem Solving Investigation</i> 443 #4, #7</p>
<p>MASS</p>	
<ul style="list-style-type: none"> Measure and calculate: Volume using one inch cubes and one centimeter cubes 	<p>Student Edition: 437-441, 463</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Solve problems using grams, kilograms 	Student Edition: 437-441, 446-448, 463 <i>Test Practice</i> 466 #5
WEIGHT	
<ul style="list-style-type: none"> Solve problems for ounces, pounds, ton 	Student Edition: 171 340, 227 #32-#34, 273 #24, 325 #5, 337 #20, 346 #3, 425-427, 462 <i>Mid-Chapter Quiz</i> 213 #22 <i>Problem-Solving Investigation</i> 185 #12, 255 #11
VOLUME	
<ul style="list-style-type: none"> Solve problems using cubic inch, cubic centimeter 	Student Edition: 35 #34, 288 #2, 548-553, 564 #34, 715 #12, 723 #15 <i>Mini Lab</i> 57 <i>Practice Test</i> 565 #10 <i>Reading Math</i> 549 <i>Study Tip</i> 549 <i>Test Practice</i> 567 #12
AREA	
<ul style="list-style-type: none"> Solve problems using square inch, square centimeter 	Student Edition: 63-67, 72, 175 #22, 727 #12, #18 <i>Algebra Lab</i> 61-62 <i>Measurement Lab</i> 520-521 <i>Test Practice</i> 75 #12
TIME	
<ul style="list-style-type: none"> Solve problems involving elapsed time within a twelve hour period 	Student Edition: 452, 453 #14-#19, #26, 464 #51, 713 #13-#15 <i>Study Tip</i> 452 <i>Test Practice</i> 193 #10
<ul style="list-style-type: none"> Measure and calculate: Elapsed time to the nearest five minutes during the same twelve hour period 	Student Edition: 452, 453 #14-#19, #26, 464 #51, 713 #13-#15 <i>Study Tip</i> 452 <i>Test Practice</i> 193 #10

STANDARDS	PAGE REFERENCES
TEMPERATURE	
<ul style="list-style-type: none"> Read and interpret thermometers by both positive and negative degrees 	Student Edition: 455-458, 464, 473 #24 <i>Measurement</i> 460 #8 <i>Real-World Unit Project</i> 415
<ul style="list-style-type: none"> New: OC = 32F 	Student Edition: 455
Measuring Geometric Objects	
MEASURING GEOMETRIC OBJECTS	
<ul style="list-style-type: none"> Use a protractor to measure angles 	Student Edition: 470-473, 475 #2, 484 #46-#48, 499 #34, 510 <i>Mid-Chapter Quiz</i> 492 #3 <i>Practice Test</i> 515 #1-#3
<ul style="list-style-type: none"> Develop and apply strategies and formulas for finding perimeter and area: <ol style="list-style-type: none"> Triangle, square, rectangle, parallelogram, and trapezoid Circumference and area of a circle 	Student Edition: 63-67, 72, 85 #16, #17, 171 #38, 522-526, 528-533, 534-538, 540-544, 562, 563, 715 #3 <i>Algebra Lab</i> 61-62 <i>Measurement Lab</i> 520-521, 527, 539 <i>Mid-Chapter Quiz</i> 545 <i>Practice Test</i> 73 #19
<ul style="list-style-type: none"> Develop and apply strategies and formulas for finding the surface area and volume of rectangular prisms and cylinders 	Student Edition: 548-553, 555-559, 564, 715 #12-#15, 727 #18 <i>Measurement Lab</i> 560 <i>Practice Test</i> 565 <i>Test Practice</i> 567 #12
<ul style="list-style-type: none"> Recognize that shapes with the same perimeter do not necessarily have the same area and vice versa 	Student Edition: <i>Measurement Lab</i> 520-521
<ul style="list-style-type: none"> Develop informal ways of approximating the measures of familiar objects (e.g., use a grid to approximate the area of the bottom of one's foot) 	Student Edition: 449 #46 <i>Mid-Chapter Quiz</i> 444 #26 <i>Problem-Solving Investigation</i> 442-443

STANDARDS	PAGE REFERENCES
<p>STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.</p>	
<p>Building upon knowledge and skills gained in preceding grades, by the end of Grade 6, students will:</p>	
<p><u>Patterns</u></p>	
<p>PATTERNS</p>	
<ul style="list-style-type: none"> • Recognize, describe, extend, and create patterns involving: whole numbers and rational numbers. <ol style="list-style-type: none"> 1. Descriptions using tables, verbal rules, simple equations, and graphs 2. Formal iterative formulas (e.g., NEXT = NOW * 3) 3. Recursive patterns, including Pascal's Triangle where each entry is the sum of the entries above it) and the Fibonacci Sequence: 1, 1, 2, 3, 5, 8, (where NEXT = NOW + PREVIOUS) 	<p>Student Edition: 24-27, 31 #52, 49-53, 71, 235 #9, #10, 278 #35, 313, 322-327, 343-348, 353 #29, #30, 357, 441 #40, 589 <i>Algebra Lab</i> 62 #8 <i>Graphing Calculator Lab</i> 48 <i>Math Lab</i> 167 <i>Measurement Lab</i> 431, 539 <i>Practice Test</i> 73 #13, 359 #18-#20 <i>Problem-Solving Investigation</i> 55 #10, 215 #5, 255 #12, 341-342, 400 #15, 500 #7, 662 #7</p>
<p><u>Functions and Relationships</u></p>	
<p>FUNCTIONS AND RELATIONSHIPS</p>	
<ul style="list-style-type: none"> • Describe the general behavior of functions given by formulas or verbal rules (e.g., graph to determine whether increasing or decreasing, linear or not). 	<p>Student Edition: 49-53, 60 #41, 67 #36, 71, 233-237, 242, 253 #44, 343-348, 349-353, 358, 706 #8-#9, 711 <i>Graphing Calculator Lab</i> 47-48, 354 <i>Practice Test</i> 73 #13, 243 #21-#25, 359 #17</p>
<p><u>Modeling</u></p>	
<p>MODELING</p>	
<ul style="list-style-type: none"> • Use patterns, relations, and linear functions to model situations: <ol style="list-style-type: none"> 1. Using variables to represent unknown quantities 2. Using concrete materials, tables, graphs, verbal rules, algebraic expressions/equations/inequalities 	<p>Student Edition: 42-46, 49-53, 57-60, 63-67, 70, 72, 158 #5, 285 #33-#36, 343-348, 358, 487 #3, 494 #1, 633 #3, #4, 637 #4, 638 #5 <i>Algebra Lab</i> 631, 642-643, 655-656 <i>Start Smart</i> 8-9 <i>Test Practice</i> 74 #3</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Draw freehand sketches of graphs that model real phenomena and use such graphs to predict and interpret events <ol style="list-style-type: none"> Changes over time Relations between quantities Rates of change (e.g., when is plant growing slowly/rapidly, when is temperature dropping most rapidly/slowly) 	<p>Student Edition: 82 #1, 82-85, 90 #17-#19, 92, 99 #19, 115, 316, 371 #1, 374 #15 <i>Practice Test</i> 131 #2-#3 <i>Problem Solving Investigation</i> 78-79 <i>Real-World Unit Project</i> 21 <i>Spreadsheet Lab</i> 86-87 <i>Statistics</i> 119-120</p>
<p>Procedures</p>	
<p>PROCEDURES</p>	
<p>Solve simple linear equations informally and with manipulatives</p>	
<ul style="list-style-type: none"> Solve equations with whole-number coefficients only, answers should be Whole numbers 	<p>Student Edition: 59 #23, #24, #27, #28, #31, 313 #6-#13, 349-353, 657-660, 66, 711 #14, 717 #9 <i>Looking Ahead</i> LA7-LA9 <i>Practice Test</i> 667</p>
<ul style="list-style-type: none"> Solve equations with variables on one or both sides of equation 	<p>Student Edition: 59 #23, #24, #27, #28, #31, 313 #6-#13, 349-353, 657-660, 66, 711 #14, 717 #9 <i>Looking Ahead</i> LA7-LA9 <i>Practice Test</i> 667</p>
<ul style="list-style-type: none"> Understand and apply the properties of operations and numbers. <ol style="list-style-type: none"> Understand and apply the distributive property Understand that the product of a number and its reciprocal is 1 	<p>Student Edition: 293, 632-635, 641 #52-#55, 664 <i>Algebra Lab</i> 630-631 <i>Practice Test</i> 667 #6-#11 <i>Study Tip</i> 294 <i>Test Practice</i> 668 #4</p>
<ul style="list-style-type: none"> Evaluate numerical expressions 	<p>Student Edition: 37-40, 46 #54-#56, 53 #34, 70, 77, 519, 706 #5-#6 <i>Mid-Chapter Quiz</i> 41 #13-#16 <i>Practice Test</i> 73 #12</p>
<ul style="list-style-type: none"> Extend understanding and use of inequality 	<p>Student Edition: <i>Algebra Lab</i> 655-656</p>
<ul style="list-style-type: none"> Understand and use Symbols (\geq, \neq, \leq) 	<p>Student Edition: 656 <i>Study Tip</i> 656 <i>Also see Symbols Chart in rear of text.</i></p>

STANDARDS	PAGE REFERENCES
<p>STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.</p>	
<p>Building upon knowledge and skills gained in preceding grades, by the end of Grade 6, students will:</p>	
<p><u>Data Analysis</u></p>	
<p>DATA ANALYSIS</p>	
<ul style="list-style-type: none"> Collect, generate, organize, and display data generated from surveys 	<p>Student Edition: 84 #11, 85 #15, 141 #46, 265 #9, 394-395, 405 #31 <i>Problem-Solving Investigation</i> 78-79, 214-215 <i>Problem-Solving Unit Project</i> 311 <i>Statistics Lab</i> 119-120</p>
<ul style="list-style-type: none"> Read, interpret, select, construct, analyze, generate questions about, and draw inferences from displays of data 	<p>Student Edition: 27 #4, 81-85, 88-91, 92-95, 97, 127-129, 166 #49-#50, 252 #35, 372, 397 #14, 403 #8 <i>Mid-Chapter Quiz</i> 101 #3 <i>Problem-Solving Investigation</i> 78-79 <i>Problem-Solving Unit Project</i> 21, 135 <i>Spreadsheet Lab</i> 86-87</p>
<ul style="list-style-type: none"> Display data with bar graph, line graph, circle graph, table, histogram 	<p>Student Edition: 82-85, 92, 95 #17, 96, 114-118, 127, 130, 252 #35, 365, 370, 373 #6, 574 #26, #27 <i>Looking Ahead</i> LA25-LA28 <i>Practice Test</i> 131 #12, #13 <i>Problem-Solving Investigation</i> 78-79, 400 #13, 547 #13 <i>Spreadsheet Lab</i> 86-87</p>
<ul style="list-style-type: none"> Solve problems involving the range, median, and mean of data - with and without a calculator 	<p>Student Edition: 102-106, 108-113, 125 #39, #40, 129, 153 #32, #33, 183 #54, 707 #9-#12 <i>Practice Test</i> 131 #10-#11 <i>Problem-Solving Investigation</i> 342 #13, 593 #14 <i>Spreadsheet Lab</i> 107 <i>Test Practice</i> 133 #6, 192 #6, 244 #3</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Respond to questions about data, generate your own questions and hypotheses, and formulate strategies for answering their questions and testing their hypotheses 	<p>Student Edition: 81, 84 #11, 95 #21-#24, 207 #34, 580 #37 <i>Data File</i> 16-19 <i>Problem-Solving Investigation</i> 662 #8 <i>Real-World Unit Project</i> 135 <i>Statistics Lab</i> 119-120</p>
<p>Probability</p>	
<p>PROBABILITY</p>	
<ul style="list-style-type: none"> Determine probabilities of: events: <ol style="list-style-type: none"> Complementary event; probability of an event Multiplication rule for probability Probability of certain event is 1 and of impossible event is 0 Probability of event and complementary event add up to 1 	<p>Student Edition: 381-386, 390, 408 <i>Mid-Chapter Quiz</i> 388 #20-#23 <i>Practice Test</i> 411 <i>Test Practice</i> 412 #3</p>
<ul style="list-style-type: none"> Determine probability using intuitive, experimental, and theoretical methods (e.g., using model of picking items of different colors from a bag). 	<p>Student Edition: 383 #3, 384 #24-#27, 393 #28-#30, 394-398 <i>Probability Lab</i> 387</p>
<ul style="list-style-type: none"> Given numbers of various types of items in a bag, what is the probability that an item of one type will be picked 	<p>Student Edition: 384 #24-#27, 391 #3, 397 #19, 712 #5-#7, 723 #17, 731 #23, 735 #10 <i>Test Practice</i> 412 #3</p>
<ul style="list-style-type: none"> Given data obtained experimentally, what is the likely distribution of items in the bag 	<p>Student Edition: 384 #24-#27 <i>Probability Lab</i> 387</p>
<ul style="list-style-type: none"> Explore compound events 	<p>Student Edition: 759-760</p>
<ul style="list-style-type: none"> Model situations involving probability using simulations (with spinners, dice) and theoretical models 	<p>The following references can be used in classroom discussion and instruction to meet this objective. Student Edition: 386 #37, 387</p>
<ul style="list-style-type: none"> Recognize and understand the connections among the concepts of independent outcomes, picking at random, and fairness 	<p>Student Edition: 383 #3, 384 #1-#6, 392 #24, 393 #28-#30, 408, 712 #5-#7, 423 #54, 713 #8-#9, 759 <i>Test Practice</i> 412 #3</p>

STANDARDS	PAGE REFERENCES
Discrete Mathematics—Systematic Listing and Counting	
SYSTEMATIC LISTINGS AND COUNTING	
<ul style="list-style-type: none"> Solve counting problems and justify that all possibilities have been enumerated without duplication 	Student Edition: 389-393, 409 <i>Practice Test</i> 411 #17, #18
<ul style="list-style-type: none"> Organized lists, charts, tree diagrams and tables 	Student Edition: 389-394, 398 #14, 409 <i>Practice Test</i> 411 #17-#18 <i>Problem-Solving Investigation</i> 78-79, 214-215 <i>Test Practice</i> 413 #12
<ul style="list-style-type: none"> Use Venn diagrams 	Student Edition: 197-198 <i>Reading to Solve Problems</i> 196
<ul style="list-style-type: none"> Apply the multiplication principle of counting. <ol style="list-style-type: none"> Simple situations (e.g., you can make 3 x 4 = 12 outfits using 3 shirts and 4 skirts). Number of ways a specified number of items can be arranged in order (concept of permutation) Number of ways of selecting a slate of officers from a class (e.g. there are 6. 23 students and 3 officers, the number is 23 x 22 x 21 	Student Edition: 390, 392
<ul style="list-style-type: none"> List the possible combinations of two elements chosen from a given set (e.g. forming a committee of two from a group of 12 students, finding how many handshakes there will be among ten people if everyone shakes each other 14 person's hand once. 	Student Edition: 759-760
Discrete Mathematics—Vertex-Edge Graphs and Algorithms	
VERTEX-EDGE GRAPHS AND ALGORITHMS	
<ul style="list-style-type: none"> Devise strategies for winning simple games (e.g., start with two piles of objects, each of two players in turn removes any number of objects from a single pile, and the person to take the last group of objects wins) and express those strategies as sets of directions 	Student Edition: 392 #24

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Analyze vertex-edge graphs and tree diagrams. <ol style="list-style-type: none"> Can a picture or a vertex-edge graph be drawn with a single line? (degree of vertex) Can you get from any vertex to any other vertex? (connectedness) 	<p>See <i>Math Connects: Concepts, Skills, and Problem Solving Course 2</i> © 2009.</p> <p>Student Edition: 481</p>
<ul style="list-style-type: none"> Use vertex-edge graphs to find solutions to practical problems. <ol style="list-style-type: none"> Delivery route that stops at specified sites but involves least travel Shortest route from one site on a map to another 	<p>See <i>Math Connects: Concepts, Skills, and Problem Solving Course 2</i> © 2009.</p> <p>Student Edition: 481</p>
<p>STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.</p>	
<p>At each grade level, with respect to content appropriate for that grade level, students will:</p>	
<p>A. Problem Solving</p>	
<ul style="list-style-type: none"> Learn mathematics through problem solving, inquiry, and discovery 	<p>Student Edition: 91 #20, 171 #41, 352 #19 <i>Problem-Solving Investigation</i> 54-55, 78-79, 442-443 <i>Real-World Unit Project</i> 21, 135, 311, 569, 592 <i>Statistics Lab</i> 119-120 <i>Start Smart</i> 6-13</p>
<ul style="list-style-type: none"> Solve problems that arise in mathematics and in other contexts (cf. workplace readiness standard 8.3) 	<p>Student Edition: 91 #20, 105 #10-#13, #21, 233, 237 #45, 580 #37 <i>Problem-Solving Investigation</i> 54-55, 78-79, 442-443 <i>Real-World Unit Project</i> 21, 135, 311, 415, 569, 592 <i>Start Smart</i> 6-15</p>
<ul style="list-style-type: none"> Solve open-ended problems 	<p>Student Edition: 21 #44, 52 #24, 124 #31, 171 #41, 175 #27, 318 #28, 347 #25, 397 #18, 477 #37, 532 #34, 558 #25 <i>Looking Ahead</i> LA9, LA14 <i>Real-World Unit Project</i> 135, 415</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Solve non-routine problems 	<p>Student Edition: 171 #41, 352 #19, 373 #1, 463, 477 #30-#33, 507 #35, 551 #20-#21 <i>Problem-Solving Investigation</i> 442-443 <i>Real-World Unit Project</i> 135, 415, 559 <i>Start Smart</i> 10-11, 14-15</p>
<ul style="list-style-type: none"> Solve problems with multiple solutions 	<p>Student Edition: 105 #10-#13, 463, 552 #31, 669 #34 <i>Problem-Solving Investigation</i> 399-400, 442-443 <i>Real-World Unit Project</i> 21, 135, 311, 415 <i>Statistics Lab</i> 119-120</p>
<ul style="list-style-type: none"> Solve problems that can be solved in several ways 	<p>Student Edition: 66 #26, 463, 552 #31, 639 #34 <i>Problem-Solving Investigation</i> 399, 442 <i>Real-World Unit Project</i> 21, 135, 415, 569 <i>Statistics Lab</i> 119-120</p>
<ul style="list-style-type: none"> Select and apply a variety of appropriate problem-solving strategies (e.g., “try a simpler problem” or “make a diagram”) to solve problems 	<p>Student Edition: 183 #55, 441 #40, 513 <i>Problem-Solving Investigation</i> 54-55, 78-79, 184-185, 214-215, 399-400, 501-502, 661-662 <i>Real-World Unit Project</i> 21, 135, 415, 569</p>
<ul style="list-style-type: none"> Pose problems of various types and levels of difficulty 	<p>Student Edition: 53 #27, 66 #23, 100 #21, 172 #51, 182 #39, #43, 338 #34, 347 #16, 442 #43 <i>Data File</i> 16-19 <i>Looking Ahead LA6</i> #31 <i>Reading to Solve Problems</i> 80 <i>Spreadsheet Lab</i> 107 <i>Statistics Lab</i> 119-120 <i>Start Smart</i> 4-15</p>
<ul style="list-style-type: none"> Monitor their progress and reflect on the process of their problem solving activity 	<p>Student Edition: 112 #16, 404 #24 <i>Data File</i> 16-19 <i>Geometry Lab</i> 508 <i>Probability Lab</i> 387 <i>Real-World Unit Project</i> 21, 135, 311, 415, 569 <i>Statistics Lab</i> 119-120</p>

STANDARDS	PAGE REFERENCES
B. Communication	
<ul style="list-style-type: none"> Use communication to organize and clarify their mathematical thinking 	<p>Student Edition: 31 #47, 45 #47, 52 #25, 66 #28, 105 #24, 141 #40, 228 #37, 448 #41, 483 #38, 538 #22 <i>Real-World Unit Project</i> 21, 135, 311, 569</p>
<ul style="list-style-type: none"> Read and write often in math class 	<p>Student Edition: 75 #13, 95 #17, 99 #19, 172 #49, 253 #41, 274 #32, 327 #20, 338 #33, 369 #40, 473 #21 <i>Reading to Solve Problems</i> 269</p>
<ul style="list-style-type: none"> Use Discussion, listening, and questioning techniques to: <ul style="list-style-type: none"> Communicate mathematical thinking coherently and clearly to peers, teachers, and others, both orally and in writing. Analyze and evaluate the mathematical thinking and strategies of others. Use the language of mathematics to express mathematical ideas precisely. 	<p>Student Edition: 31 #47, 45 #47, 52 #25, 66 #28, 105 #24, 118 #15, 141 #40, 149 #32, 201 #39, 228 #37, 498 #25, 538 #22 <i>Real-World Unit Project</i> 21, 135, 311, 569</p>
C. Connections	
<ul style="list-style-type: none"> Recognize recurring themes across mathematical domains (e.g., patterns in number, algebra, and geometry). 	<p>Student Edition: 26 #2, 60 #40, 117 #13, 472 #17, 483 #24-#28, 510 #15, 512 #29, 524 #1, 540, 613 #23, 624 #65 <i>Measurement Lab</i> 431 #2</p>
<ul style="list-style-type: none"> Use connections among mathematical ideas to explain concepts (e.g., two linear equations have a unique solution because the lines they represent intersect at a single point). 	<p>Student Edition: 117 #13, 191 #5, 507 #35, 512 #29, 514 #40, 599, 613 #16, #23</p>
<ul style="list-style-type: none"> Recognize that mathematics is used in a variety of contexts outside of mathematics. 	<p>Student Edition: 84 #7-#10, 117 #6, #13, 127 #10, 144 #19, 183 #54, 404 #22, 453 #12, 507 #35, 514 #40, 524 #1, 580 #37, 613 #16, #23, 624 #25, 652 #3 <i>Practice Test</i> 243 #8</p>
<ul style="list-style-type: none"> Apply mathematics in practical situations and in other disciplines. 	<p>Student Edition: 84 #7-#10, 453 #12, 512 #29, 580 #37, 602, 613 #16, #23, 624 #25</p>
<ul style="list-style-type: none"> Trace the development of mathematical concepts over time and across cultures (cf. world languages and social studies standards). 	<p>Student Edition: 325 #7, 379 #33 <i>Real-World Unit Project</i> 135</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Understand how mathematical ideas interconnect and build on one another to produce a coherent whole. 	<p>Student Edition: 477 #33, 507 #35, 512 #29, 556 #2 <i>Measurement Lab</i> 430-431 <i>Start Smart</i> 6-7, 10-11</p>
<u>D. Reasoning</u>	
<ul style="list-style-type: none"> Recognize that mathematical facts, procedures, and claims must be justified. 	<p>Student Edition: 31 #45, 105 #22, 118 #15, 182 #41, 477 #36, 483 #37, 551 #23 <i>Measurement Lab</i> 431, 521</p>
<ul style="list-style-type: none"> Use reasoning to support their mathematical conclusions and problem solutions. 	<p>Student Edition: 31 #45, 45 #47, 112 #19-#20, 201 #33, 219 #24, 454 #27, 477 #36, 551 #23, 590 #36-#39 <i>Math Lab</i> 321 #5</p>
<ul style="list-style-type: none"> Select and use various types of reasoning and methods of proof. 	<p>Student Edition: 60 #35, 85 #12, 105 #22, #24, 112 #19-#20, 118 #15, 483 #37</p>
<ul style="list-style-type: none"> Rely on reasoning, rather than answer keys, teachers, or peers, to check the correctness of their problem solutions. 	<p>Student Edition: 85 #12, 105 #22, 112 #19-#20, 118 #15, 201 #33, 219 #24, 290 #39, 483 #37 <i>Math Lab</i> 321 #5</p>
<ul style="list-style-type: none"> Make and investigate mathematical conjectures. 	<p>Student Edition: 182 #39, 338 #33, 479, 558 #26 <i>Algebra Lab</i> 643 <i>Geometry Lab</i> 485, 493, 508 <i>Math Lab</i> 178, 262, 292, 364 <i>Measurement Lab</i> 431, 527</p>
<ul style="list-style-type: none"> Counterexamples as a means of disproving conjectures 	<p>Student Edition: 31 #47, 118 #15, 160 #42, 201 #34-#36, 285 #42-#44, 441 #31</p>
<ul style="list-style-type: none"> Verifying conjectures using informal reasoning or proofs. <ul style="list-style-type: none"> 1. Evaluate examples of mathematical reasoning and determine whether they are valid. 	<p>Student Edition: 182 #39, 338 #33 <i>Algebra Lab</i> 61-62, 643 <i>Geometry Lab</i> 485, 508 <i>Math Lab</i> 292 <i>Measurement Lab</i> 431 <i>Spreadsheet Lab</i> 107 #13</p>

STANDARDS	PAGE REFERENCES
<u>E. Representations</u>	
<ul style="list-style-type: none"> • Create and use representations to organize, record, and communicate mathematical ideas. <ul style="list-style-type: none"> <input type="checkbox"/> Concrete representations (e.g., base-ten blocks or algebra tiles) <input type="checkbox"/> Pictorial representations (e.g., diagrams, charts, or tables) <input type="checkbox"/> Symbolic representations (e.g., a formula) <input type="checkbox"/> Graphical representations (e.g., a line graph) 	<p>Student Edition: 49-53, 63-67, 81-84, 96-99, 105 #21, 182 #41, 197, 225, 232 #39, 237 #40, 318 #24, #25, 588 #5, 721 <i>Algebra Lab</i> 61-62 <i>Looking Ahead</i> LA25-LA28 <i>Math Lab</i> 202-203, 261-262 <i>Measurement Lab</i> 430-431, 539 <i>Problem-Solving Investigation</i> 78-79, 214-215, 341-342, 500-501 <i>Reading to Solve Problems</i> 269, 376 <i>Real-World Unit Project</i> 21</p>
<ul style="list-style-type: none"> • Select, apply, and translate among mathematical representations to solve problems. 	<p>Student Edition: 49-53, 81-84, 114-118, 141 #46, 707 #13 <i>Problem-Solving Investigation</i> 54-55, 399-400 <i>Real-World Unit Project</i> 21, 415 <i>Statistics Lab</i> 119-120</p>
<ul style="list-style-type: none"> • Use representations to model and interpret physical, social, and mathematical phenomena. 	<p>Student Edition: 27 #4, 138-139, 173, 318 #24-#25, 365, 490 #30, 645 <i>Algebra Lab</i> 655 <i>Looking Ahead</i> LA2 <i>Math Lab</i> 155, 162, 202-203, 291 <i>Problem-Solving Investigation</i> 54-55, 546-547 <i>Real-World Unit Project</i> 21, 135 <i>Statistics Lab</i> 119-120</p>
<u>F. Technology</u>	
<ul style="list-style-type: none"> • Use technology to gather, analyze, and communicate mathematical information. 	<p>Student Edition: 352 #19 <i>Math Online</i> 28, 92, 587 <i>Real-World Unit Project</i> 21, 135, 311, 569 <i>Spreadsheet Lab</i> 86-87, 107</p>
<ul style="list-style-type: none"> • Use computer spreadsheets, software, and graphing utilities to organize and display quantitative information (cf. workplace readiness standard 8.4-D). 	<p>Student Edition: 352 #19 <i>Graphing Calculator Lab</i> 47, 328, 354 <i>Real-World Unit Project</i> 21, 135 <i>Spreadsheet Lab</i> 86-87, 107</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Use graphing calculators and computer software to investigate properties of functions and their graphs. 	<p>Student Edition: 53 #27, 60 #41 <i>Graphing Calculator Lab</i> 47-48</p>
<ul style="list-style-type: none"> Use calculators as problem-solving tools (e.g., to explore patterns, to validate solutions). 	<p>Student Edition: 105 #23, 448 #40, 532 #34, 552 #31 <i>Mini Lab</i> 179</p>
<ul style="list-style-type: none"> Use computer software to make and verify conjectures about geometric objects. 	<p>Student Edition: 476 #28, 498 #24 <i>Real-World Unit Project</i> 135, 569</p>
<ul style="list-style-type: none"> Use computer-based laboratory technology for mathematical applications in the sciences (cf. science standards). 	<p>Student Edition: 99 #20 <i>Math Online</i> 28, 92, 256, 587 <i>Real-World Unit Project</i> 135, 311</p>