



Pre-Algebra

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STANDARDS	PAGE REFERENCES
<p>Standard 1: Students will acquire number sense and perform operations with rational numbers.</p>	
<p>Objective 1: Compute fluently and make reasonable estimates.</p>	
<p>a. Compute using selected methods from among mental arithmetic, estimation, paper and pencil, and calculator.</p>	<p>Student Edition: 10-11, 12-13, 28, 36 #61-#63, 47 #60, 53 #33, 66 #41, 70, 97 #60, 184 #66, 228, 233 #60, 250, 296 #49, 428 #39, 713 #31 <i>Mid-Chapter Quiz</i> 48 #2 <i>Standardized Test Practice</i> 225 #14 Teacher Wraparound Edition: A 331; CMC 28</p>
<p>b. Add, subtract, multiply, and divide integers using the order of operations.</p>	<p>Student Edition: 32-33, 35 #42-#45, 36 #61-#63, 66 #41, 108 #4, 109 #30, #31, #33 <i>Mid-Chapter Quiz</i> 48 #5-#10 <i>Standardized Test Practice</i> 225 #14, 286 #1 Teacher Wraparound Edition: AA 119; DI 204; FMC 24E, 33; T 32</p>

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c. Check the reasonableness of results using estimation.	<p>Student Edition: 28 #3, 41 #58, 47 #60, 88 #5, 89 #4, 154 #3, 215 #3, 250, 265 #4, 329 #3, 331 #43, 343-347, 352, 467 #29, #30, 794 #2 <i>Mid-Chapter Quiz</i> 48 #3, 173 #21 <i>Standardized Test Practice</i> 120 #4</p> <p>Teacher Wraparound Edition: DI 328; FMC 27</p>
d. Justify the steps used in solving problems using correct notation.	<p>Student Edition: 26-30, 36 #61-#63, 70, 277 #5 <i>Standardized Test Practice</i> 225 #14, 287 #13</p> <p>Teacher Wraparound Edition: A 30; CO 252; FMC 24E, 27; PC 178H</p>
Objective 2: Represent rational numbers in a variety of ways.	
a. Recognize and create equivalent forms of a rational number.	<p>Student Edition: 228-233, 313-317, 350, 798 #9, 799 #7-#10 <i>Practice Test</i> 353</p> <p>Teacher Wraparound Edition: A 318; AE 229, 314, 315; DI 229; FMC 231</p>
b. Find an approximate location of a rational number on a number line.	<p>Student Edition: 78-82, 230 #5, 231 #6, 238 #56, 327, 470 <i>Mid-Chapter Quiz</i> 98 #7</p> <p>Teacher Wraparound Edition: AE 79; DI 80; FMC 226E</p>
c. Find a rational number between any two rational numbers.	<p>Student Edition: 137 #1, 143 #3, 230 #5, 231 #6</p> <p>Teacher Wraparound Edition: FMC 226E</p>
d. Choose appropriate and convenient forms of rational numbers for solving problems and representing solutions.	<p>Student Edition: 247, 249 #65, 254 #56, 315 #6, 318 #64, 798 #9, 799 #7-#10 <i>Standardized Test Practice</i> 415 #9</p> <p>Teacher Wraparound Edition: A 249</p>

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<p>e. Represent very large and very small numbers using scientific notation.</p>	<p>Student Edition: 214-219, 222, 318 #73, 363 #40 <i>Practice Test 223 #25-#30</i> <i>Standardized Test Practice 224 #2, #5, 286 #5, 355 #8, #11</i></p> <p>Teacher Wraparound Edition: AE 215; DI 215</p>
<p>Objective 3: Identify relationships among rational numbers and operations involving these numbers.</p>	
<p>a. Compare and order rational numbers.</p>	<p>Student Edition: 78, 79, 81, 117, 216, 230-232, 237 #42-#49, 258, 259, 272 #55-#58, 315, 742 <i>Mid-Chapter Quiz 98</i> <i>Practice Test 119, 223</i> <i>Standardized Test Practice 354, 415 #9</i></p> <p>Teacher Wraparound Edition: COI 79; CON 216; FMC 231</p>
<p>b. Identify the effects of arithmetic operations among fractions, decimals, percents, and integers; e.g., multiplying or dividing by a number larger or smaller than 1.</p>	<p>Student Edition: 86-90, 93-97, 100-104, 106-110, 117-118, 239-244, 245-249, 250-254, 263-267, 282-283, 322-326, 745, 747, 748, 749-750 <i>Mid-Chapter Quiz 98, 256</i> <i>Practice Test 119, 353</i> <i>Spreadsheet Lab 337</i> <i>Standardized Test Practice 286</i></p> <p>Teacher Wraparound Edition: AE 87, 101; FMC 94, 101, 107, 241</p>
<p>c. Recognize and use the special multiplication properties of zero.</p>	<p>Student Edition: 44, 46 #30, 103 #58</p> <p>Teacher Wraparound Edition: FMC 24F, 247</p>
<p>d. Recognize that division by zero is not defined.</p>	<p>See Glencoe's <i>Algebra: Concepts and Applications</i> © 2006</p> <p>Student Edition: 85 #46</p>

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e. Recognize and use the inverse relationships of addition and subtraction, multiplication and division, and perfect square roots and squares.	<p>Student Edition: 88-89, 94-95, 245-249, 464-468, 504, 781, 802 <i>Algebra Lab</i> 462-463 <i>Practice Test</i> 507</p> <p>Teacher Wraparound Edition: A 463; FMC 94, 107; PA 244; T 462</p>
f. Add or multiply numbers using the Commutative and Associative Properties of Addition or Multiplication.	<p>Student Edition: 43-47, 71, 88, 102, 762 <i>Algebra Lab</i> 85 <i>Practice Test</i> 73 #5-#7 <i>Standardized Test Practice</i> 75 #9</p> <p>Teacher Wraparound Edition: FMC 24F</p>
Objective 4: Solve problems involving rational numbers using addition, subtraction, multiplication, and division.	
a. Recognize absolute value of a rational number as the value of its distance from zero.	<p>Student Edition: 78-80, 89 #43-#45, 97 #65, 117</p> <p>Teacher Wraparound Edition: AV 80</p>
b. Evaluate numerical and algebraic expressions containing absolute value.	<p>Student Edition: 32-36, 37-41, 53 #43-#46, 66 #38-#40, 70-71, 77 #1-#5, 90 #60-#63, 97 #70-#72 <i>Mid-Chapter Quiz</i> 48 #4-#18 <i>Practice Test</i> 73 #3-#4 <i>Spreadsheet Lab</i> 42</p> <p>Teacher Wraparound Edition: AE 33</p>
c. Compute with percents, including those greater than 100% and less than 1%.	<p>Student Edition: 316-317, 332-336, 338-342, 351, 352, 799 <i>Practice Test</i> 353 <i>Spreadsheet Lab</i> 337</p>
d. Solve problems using simple proportions.	<p>Student Edition: 302-306, 308-312, 349-350, 799 <i>Algebra Lab</i> 307 <i>Practice Test</i> 353 <i>Standardized Test Practice</i> 354 #1</p> <p>Teacher Wraparound Edition: AE 304, 309; FMC 303, 309</p>

STANDARDS	PAGE REFERENCES
<p>Standard 2: Students will represent and analyze mathematical situations and properties using patterns, relations, functions, and algebraic symbols.</p>	
<p>Objective 1: Use patterns, relations, and functions to represent mathematical situations.</p>	
<p>a. Represent a variety of relations and functions using tables, graphs, manipulatives, verbal rules, or algebraic rules.</p>	<p>Student Edition: 29 #8, #9, 30 #29, 52 #26, #27, 56 #3, 58, 180, 189 #47, 203, 206 #43-#44, 209, 263, 359-363, 365-369, 409 <i>Algebra Lab</i> 358 Teacher Wraparound Edition: DI 181; PA 59, 369</p>
<p>b. Describe simple patterns using a mathematical rule or algebraic expression.</p>	<p>Student Edition: 27 #2, 29 #10-#17, 36 #55-#60, 158-161, 180, 209 <i>Practice Test</i> 173 #23 <i>Standardized Test Practice</i> 75 #7, 120 #6, 224 #6 Teacher Wraparound Edition: AE 27, 159; FMC 181</p>
<p>c. Create and extend simple numeric and visual patterns, including those that have a recursive nature (e.g., Fibonacci numbers, triangular and square numbers).</p>	<p>Student Edition: 27, 29, 36 #55-#60, 158-161, 180, 203, 206 #43, #44, 209, 464-468, 523 #24 <i>Algebra Lab</i> 462-463 Teacher Wraparound Edition: AE 27, 159; DI 181; FMC 181; PA 530</p>
<p>Objective 2: Represent, solve, and analyze mathematical situations and properties using algebraic symbols.</p>	
<p>a. Evaluate algebraic expressions when given values for the variable(s).</p>	<p>Student Edition: 37-40, 47 #55-#58, 59 #63-#66, 71 <i>Mid-Chapter Quiz</i> 48 #13-#18 Teacher Wraparound Edition: AE 38</p>
<p>b. Identify the x- and-y intercepts of a linear relation from an equation, graph, or table.</p>	<p>Student Edition: 391-394, 402 #42-#44, 411, 800 <i>Graphing Calculator Lab</i> 395-396 <i>Practice Test</i> 413 #14-#15 Teacher Wraparound Edition: PA 389</p>
<p>c. Determine the slope of a linear relation from a graph or ordered pairs.</p>	<p>Student Edition: 384-389, 410, 800 <i>Practice Test</i> 413 #17-#18 Teacher Wraparound Edition: A 389; AE 385, 386</p>

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<p>d. Solve one- and two-step single-variable equations and inequalities.</p>	<p>Student Edition: 49-53, 71 #35-#40, 136-140, 141-145, 147-151, 161 #44-#46, 170, 171 <i>Algebra Lab</i> 134-135 <i>Mid-Chapter Quiz</i> 146 #11-#14 <i>Practice Test</i> 173 #8-#19 Teacher Wraparound Edition: FMC 143; PA 53</p>
<p>Objective 3: Represent quantitative relationships using mathematical models and symbols.</p>	
<p>a. Create a table, graph, or algebraic expression to represent the relationship between two variables.</p>	<p>Student Edition: 37-41, 365-369, 371-375, 384-389, 409 <i>Graphing Calculator Lab</i> 364 Teacher Wraparound Edition: AE 38, 373, 386</p>
<p>b. Graph ordered pairs of rational numbers on a rectangular coordinate system.</p>	<p>Student Edition: 111-115, 524-529 <i>Practice Test</i> 119 #29-#32 Teacher Wraparound Edition: DI 525; EA 369</p>
<p>c. Identify approximate rational coordinates when given the graph of a point on a rectangular coordinate system.</p>	<p>Student Edition: 111 <i>Cross-Curricular Project</i> 23</p>
<p>d. Model real-world problems using various representations, such as graphs, tables, equations, manipulatives, and pictures.</p>	<p>Student Edition: 111, 114 #45, 115 #58, 529 #32 <i>Cross-Curricular Project</i> 23, 289, 623 Teacher Wraparound Edition: DI 525; EA 369; PA 381</p>
<p>e. Identify information as pertinent or extraneous within the context of the original problem.</p>	<p>Student Edition: 529 #32 <i>Cross-Curricular Project</i> 23, 289, 623 <i>Start Smart</i> 6, 7 Teacher Wraparound Edition: EA 369; PA 381; PC 356H</p>

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<p>Standard 3: Students will recognize, describe, and identify geometric shapes, and solve problems using spatial and logical reasoning, applications of geometric principles, and modeling.</p>	
<p>Objective 1: Analyze characteristics and properties of two- and three-dimensional shapes and develop mathematical arguments about geometric relationships.</p>	
<p>a. Identify congruent and similar shapes.</p>	<p>Student Edition: 478, 497-502, 506, 518-523, 526, 530 #34-#37, 565, 608-613, 803 #2, #3 <i>Geometry Lab</i> 607 <i>Mid-Chapter Quiz</i> 537 #6 <i>Practice Test</i> 507 #20, 569 #5 <i>Reading Math</i> 478, 513 <i>Standardized Test Practice</i> 508 #1, 571 #9, 620 #4 Teacher Wraparound Edition: AE 498, 519, 520; FMC 460F, 498, 526; PA 502, 523</p>
<p>b. Find missing lengths of similar plane figures using proportions.</p>	<p>Student Edition: 497-502, 505, 506 <i>Practice Test</i> 507 #20 <i>Standardized Test Practice</i> 508 #1 Teacher Wraparound Edition: AE 499; I 498</p>
<p>c. Classify two- and three-dimensional objects according to the defining characteristics.</p>	<p>Student Edition: 476-481, 490 #48-#50, 505, 532-536, 539-543, 575-581 <i>Geometry Lab</i> 574 <i>Mid-Chapter Quiz</i> 482 #26-#29, 595 #1-#4 Teacher Wraparound Edition: A 536, 543; FMC 477, 533; I 478</p>
<p>d. Identify relationships among the angles, side lengths, perimeters, areas, and volumes of similar objects.</p>	<p>Student Edition: 312 #20, #21, 497-502, 506, 524, 526, 530 <i>Geometry Lab</i> 582, 607 <i>Mid-Chapter Quiz</i> 537 #10 <i>Spreadsheet Lab</i> 563 <i>Standardized Test Practice</i> 508 #1, 571 #9 Teacher Wraparound Edition: AA 507; AE 527; FCA 563; FMC 526</p>

STANDARDS	PAGE REFERENCES
Objective 2: Specify locations and describe spatial relationships using coordinate geometry.	
a. Create and interpret scale drawings.	Student Edition: 308-312, 350, 524, 526, 527, 530, 799 <i>Mid-Chapter Quiz</i> 319 #13, #14, 326 #42 <i>Practice Test</i> 353 #23 Teacher Wraparound Edition: AE 309, 527; FMC 309; PA 312
b. Represent and explain numerical and algebraic relationships using geometric models, e.g., rectangular models for multiplication.	Student Edition: 27 #2, 124, 132 #48, #49, 163-166, 183 #59-#61, 184 #63-#65, 191, 206 #36, #37, 263, 312 #20, #21, 338, 347 #20, 469 <i>Practice Test</i> 173 #24, #25 <i>Standardized Test Practice</i> 174 #2 Teacher Wraparound Edition: AE 27, 163
Objective 3: Apply transformations and use symmetry to analyze mathematical situations.	
a. Reflect a geometric shape across a line in a coordinate plane and identify the coordinates of the vertices.	Student Edition: 525 #1, 526, 527 #2, #3, 528 #5-#12, 529 #28, 566, 803 #4 Teacher Wraparound Edition: AE 526
b. Translate a geometric shape a given distance on a coordinate plane and identify the vertices.	Student Edition: 114 #41-#45, 524-530, 566 <i>Geometry Lab</i> 531 <i>Practice Test</i> 569 #6 <i>Standardized Test Practice</i> 571 #12 Teacher Wraparound Edition: AE 525; DI 525
Standard 4: Students will understand and apply measurement tools, formulas, and techniques.	
Objective 1: Understand measurable attributes of objects and the units, systems, and processes of measurement.	
a. Estimate measurable quantities in both standard and metric units, e.g., a vase holds a little less than a quart or about a liter; a 10K run is about 6 miles.	Student Edition: 51 #4, 133 #69, 217 #34-#36, 295 #47, 303-304 #2, 330 #32, 427 #36, 467 #29-#30, 497-502 <i>Algebra Lab</i> 307 <i>Cross-Curricular Project</i> 177 <i>Practice Test</i> 507 #16-#20

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<p>b. Convert from one unit of measure to an equivalent unit of measure using a given conversion factor, e.g., 60 miles/hour \times 1 hour/3600 sec \times 5280 ft/1mile = 88 ft/sec.</p>	<p>Student Edition: 58 #37-#40, 109 #33, 144 #40-#42, 243 #55-#62, 295 #31-#38, 304 #3, 423 #37, 587 #26-#28, #30, #31, 753-755 <i>Cross-Curricular Project</i> 177 <i>Practice Test</i> 223 #20 Teacher Wraparound Edition: PA 588</p>
<p>c. Measure angles, perimeters, areas, and volumes using the correct size and type of units.</p>	<p>Student Edition: 53 #35, 163-167, 325 #26, 428 #39 Teacher Wraparound Edition: A 167; AE 163; DI 514; UU 163</p>
<p>Objective 2: Determine measurements using appropriate techniques, tools, and formulas.</p>	
<p>a. Determine an approximate distance between two points using map scales.</p>	<p>Student Edition: 114 #25, 308, 326 #42, 350 #24, 499 #3 <i>Cross-Curricular Project</i> 23 <i>Mid-Chapter Quiz</i> 319 #13 Teacher Wraparound Edition: AE 499</p>
<p>b. Solve problems involving scale factors using ratios and proportions.</p>	<p>Student Edition: 300 #18, 302-306, 308-312, 326 #42, 350, 799 <i>Algebra Lab</i> 307 <i>Mid-Chapter Quiz</i> 319 #14 <i>Reading Math</i> 301 Teacher Wraparound Edition: AE 309; FMC 303</p>
<p>c. Solve problems involving rates and derived measures, e.g., miles per hour, liters per kiloliter, cubic feet.</p>	<p>Student Edition: 102 #11, 103 #51, #52, 104 #62, #63, 144 #43, 150 #29, 162, 292-296, 375 #24, 799 <i>Mid-Chapter Quiz</i> 319 #5 <i>Standardized Test Practice</i> 224 #9 Teacher Wraparound Edition: AE 163</p>
<p>d. Measure inaccessible heights or distances using similar triangles.</p>	<p>Student Edition: 497-502, 802 #6 <i>Practice Test</i> 507 Teacher Wraparound Edition: AA 507; DI 499</p>

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e. Calculate surface area and volume of right prisms and cylinders using appropriate units.	Student Edition: 583-588, 597-601, 606 #30, #31 <i>Geometry Lab</i> 582 <i>Mid-Chapter Quiz</i> 595 #7, #11, #12 Teacher Wraparound Edition: AE 584, 585, 586; FMC 598; PC 572H
f. Develop formulas for calculating the circumference of circles and the areas of triangles, parallelograms, and trapezoids.	Student Edition: 271, 545-550, 551-556, 567, 568, 803 <i>Practice Test</i> 569 #11-#14 Teacher Wraparound Edition: AE 547, 548
g. Calculate the circumference of circles and the areas of triangles, parallelograms, and trapezoids using formulas.	Student Edition: 271, 545-550, 551-556, 567, 568, 803 <i>Practice Test</i> 569 #11-#14 Teacher Wraparound Edition: AE 548; FMC 547, 553; TNT 547
Standard 5: Students will draw conclusions using concepts of probability after collecting, organizing, and analyzing a data set.	
Objective 1: Formulate and answer questions by collecting, organizing, and analyzing data.	
a. Conduct a survey or experiment to collect data.	Student Edition: 648 #23 <i>Algebra Lab</i> 273 <i>Cross-Curricular Project</i> 23, 167, 623 Teacher Wraparound Edition: AE 276; DI 345
b. Organize and display data using graphical representations such as line plots, bar graphs, stem-and-leaf plots, histograms, scatter plots, circle graphs, box plots (box-and-whisker plots) , and pictographs.	Student Edition: 61-66, 213 #75, #76, 325 #27, 403-406, 555 #34, 626-631, 638-642, 644-649, 651-656, 805 <i>Algebra Lab</i> 60, 273 <i>Cross-Curricular Project</i> 23, 167, 623 <i>Graphing Calculator Lab</i> 67-68, 632, 643, 650 <i>Practice Test</i> 413 #19 <i>Standardized Test Practice</i> 75 #13, 697 #14 Teacher Wraparound Edition: AE 62, 645; DI 652; USD 649

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c. Make conjectures from a graphical representation.	Student Edition: 199 #37, 325 #27, #28, 345 #4, 661 #3, #4 <i>Algebra Lab</i> 208 <i>Cross-Curricular Project</i> 23, 623 <i>Spreadsheet Lab</i> 337, 657
d. Calculate the mean, median, mode, and range for a data set.	Student Edition: 274-279, 284, 300 #28, #29, 628 #3, #4, 630 #20, #27-#29, 633-637 <i>Graphing Calculator Lab</i> 280 <i>Practice Test</i> 285 #24, #25 <i>Standardized Test Practice</i> 287 #13 Teacher Wraparound Edition: AE 275
e. Choose a measure of central tendency most appropriate to analyze a particular set of data.	Student Edition: 274-279, 296 #54 <i>Graphing Calculator Lab</i> 280 Teacher Wraparound Edition: AE 276
f. Describe how an individual data point may affect the measures of central tendency.	Student Edition: <i>Cross-Curricular Project</i> 279 <i>Graphing Calculator Lab</i> 280 <i>Standardized Test Practice</i> 354 #4 Teacher Wraparound Edition: A 279
g. Interpret and describe the spread of a set of data, e.g., range, box plot (box-and-whisker).	Student Edition: 633-637, 638-642, 691 <i>Graphing Calculator Lab</i> 643 <i>Mid-Chapter Quiz</i> 658 <i>Practice Test</i> 695 Teacher Wraparound Edition: A 642
h. Make predictions and describe the limitations of the predictions when using data samples.	Student Edition: 343-347, 352, 403-407, 629 #12-#16, 660, 667 #4 <i>Algebra Lab</i> 208, 307 <i>Cross-Curricular Project</i> 289 <i>Practice Test</i> 413 #19, #20 <i>Spreadsheet Lab</i> 557 <i>Standardized Test Practice</i> 456 #2 Teacher Wraparound Edition: AE 405; DI 344, 404; PA 663

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i. Evaluate reported inferences or predictions based on a data set.	Student Edition: 343-347, 352, 403-407, 629 #12-#16, 631 #31, 660 <i>Algebra Lab</i> 307 <i>Cross-Curricular Project</i> 289 <i>Spreadsheet Lab</i> 557 Teacher Wraparound Edition: AE 661; DI 344; FCA 557
Objective 2: Apply basic concepts of probability.	
a. Conduct experiments to approximate the probability of simple events.	Student Edition: 665, 686 #35, 693, 805 #6 <i>Cross-Curricular Project</i> 623 Teacher Wraparound Edition: PA 669
b. Recognize that results of an experiment more closely approximate the actual or theoretical probability of an event as the number of trials increases.	Student Edition: 666 #3, 667 #7 <i>Algebra Lab</i> 675 <i>Graphing Calculator Lab</i> 681 Teacher Wraparound Edition: FMC 667; T 675
c. Derive the probability of an event mathematically, e.g., building a table or tree diagram, creating an area model, making a list, or using the basic counting principle.	Student Edition: 665-669, 670-674, 693 <i>Algebra Lab</i> 675 <i>Practice Test</i> 695 <i>Standardized Test Practice</i> 697 #9 Teacher Wraparound Edition: AE 671; DI 671; PA 669
d. Represent the probability of an event as a fraction, percent, ratio, or decimal.	Student Edition: 665-669, 672-673, 679 #20-#22, 682-687, 693, 694 <i>Practice Test</i> 695 Teacher Wraparound Edition: AE 666, 672; PA 669
e. Identify mutually exclusive events .	Student Edition: 684, 686 #30, #33 Teacher Wraparound Edition: DI 683

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f. Recognize that the sum of the probability of an event and the probability of its complement is equal to one.	Student Edition: 665 <i>Algebra Lab 675 #4, #6</i>
g. Determine whether a game or process is fair.	Student Edition: 683 #1 <i>Algebra Lab 689 #8</i> <i>Graphing Calculator Lab 681</i>