



Pre-Algebra

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STANDARDS	PAGE REFERENCES
NUMBER AND OPERATIONS	
Understand derived quantities	
N.MR.07.02 Solve problems involving derived quantities such as density, velocity, and weighted averages.*	Student Edition: 184 #70, 213 #70, 286 #1 (averages), 473 #53, 587 #29
Understand and solve problems involving rates, ratios, and proportions	
N.FL.07.03 Calculate rates of change including speed.	Student Edition: 371-375, 376-381, 800 #7, #8, #9 <i>Graphing Calculator Lab</i> 390 <i>Mid-Chapter Quiz</i> 382 #11-#16
N.MR.07.04 Convert ratio quantities between different systems of units, such as feet per second to miles per hour.	Student Edition: 293-295, 304-305 <i>Mid-Chapter Quiz</i> 319
N.FL.07.05 Solve proportion problems using such methods as unit rate, scaling, finding equivalent fractions, and solving the proportion equation $a/b = c/d$; know how to see patterns about proportional situations in tables.*	Student Edition: 293-295, 297-300, 302-306, 308-312, 497-502 <i>Algebra Lab</i> 307 <i>Mid-Chapter Quiz</i> 319
Recognize irrational numbers	
N.MR.07.06 Understand the concept of square root and cube root, and estimate using calculators.	Student Edition: 464-468 (square root), 482, 504 <i>Algebra Lab</i> 462-463

STANDARDS	PAGE REFERENCES
Compute with rational numbers	
N.FL.07.07 Solve problems involving operations with integers.	Student Edition: 89, 95, 96, 100, 103, 104, 109, 117 <i>Standardized Test Practice</i> 120, 121 #10
N.FL.07.08 Add, subtract, multiply, and divide positive and negative rational numbers fluently.*	Student Edition: 86-90, 93-97, 100-104, 106-110, 239-244, 245-249, 250-254, 745, 747-750 <i>Mid-Chapter Quiz</i> 256 <i>Practice Test</i> 119, 285 <i>Standardized Test Practice</i> 287
N.FL.07.09 Estimate results of computations with rational numbers.	Student Edition: 215, 230, 328-331, 332-335, 351 #42-#47, 481 #56-#59, 593 #36 <i>Algebra Lab</i> 307
ALGEBRA	
Understand and apply directly proportional relationships and relate to linear relationships	
A.PA.07.01 Recognize when information given in a table, graph, or formula suggests a directly proportional or linear relationship.*	Student Edition: 297-300, 322-326, 349, 371-375 <i>Graphing Calculator Lab</i> 390
A.RP.07.02 Represent directly proportional and linear relationships using verbal descriptions, tables, graphs, and formulas, and translate among these representations.	Student Edition: 297-300, 322-326, 349, 371-375 <i>Graphing Calculator Lab</i> 390
A.PA.07.03 Given a directly proportional or other linear situation, graph and interpret the slope and intercept(s) in terms of the original situation; evaluate $y = mx + b$ for specific x values, e.g., weight vs. volume of water, base cost plus cost per unit.*	Student Edition: 384-389, 391-394, 397-402 <i>Algebra Lab</i> 383, 390 <i>Graphing Calculator Lab</i> 395-396
A.PA.07.04 For directly proportional or linear situations, solve applied problems using graphs and equations, e.g., the heights and volume of a container with uniform cross-section; height of water in a tank being filled at a constant rate; degrees Celsius and degrees Fahrenheit; distance and time under constant speed.	Student Edition: 365-369, 376-381 <i>Mid-Chapter Quiz</i> 382

STANDARDS	PAGE REFERENCES
<p>A.PA.07.05 Recognize and use directly proportional relationships of the form $y = mx$, and distinguish from linear relationships of the form $y = mx + b$, b non-zero; understand that in a directly proportional relationship between two quantities one quantity is a constant multiple of the other quantity.*</p>	<p>Student Edition: 365-369, 376-381</p>
<p>Understand and represent linear functions</p>	
<p>A.PA.07.06 Calculate the slope from the graph of a linear function as the ratio of “rise/run” for a pair of points on the graph, and express the answer as a fraction and a decimal; understand that linear functions have slope that is a constant rate of change.</p>	<p>Student Edition: 384-389 <i>Algebra Lab</i> 383</p>
<p>A.PA.07.07 Represent linear functions in the form $y = x + b$, $y = mx$, and $y = mx + b$, and graph, interpreting slope and y-intercept.</p>	<p>Student Edition: 365-369, 391-394, 397-402 <i>Graphing Calculator Lab</i> 395-396 <i>Practice Test</i> 413</p>
<p>A.FO.07.08 Find and interpret the x and/or y intercepts of a linear equation or function. Know that the solution to a linear equation of the form $ax+b=0$ corresponds to the point at which the graph of $y=ax+b$ crosses the x axis.*</p>	<p>Student Edition: 359-362, 365-369, 397-402, 409, 411 <i>Practice Test</i> 413</p>
<p>Understand and solve problems about inversely proportional relationships</p>	
<p>A.PA.07.09 Recognize inversely proportional relationships in contextual situations; know that quantities are inversely proportional if their product is constant, e.g., the length and width of a rectangle with fixed area, and that an inversely proportional relationship is of the form $y = k/x$ where k is some non-zero number.</p>	<p>Student Edition: 297-300 (limited explanation), 722, 723 #7</p>
<p>A.RP.07.10 Know that the graph of $y = k/x$ is not a line, know its shape, and know that it crosses neither the x nor the y-axis.</p>	<p>Student Edition: 297-300 (limited explanation), 722</p>
<p>Apply basic properties of real numbers in algebraic contexts</p>	
<p>A.PA.07.11 Understand and use basic properties of real numbers: additive and multiplicative identities, additive and multiplicative inverses, commutativity, associativity, and the distributive property of multiplication over addition.</p>	<p>Student Edition: 43-47, 71, 85, 100, 124-128, 136, 155, 170, 245-249, 424, 425, 716 <i>Mid-Chapter Quiz</i> 48, 146, 256</p>

STANDARDS	PAGE REFERENCES
Combine algebraic expressions and solve equations	
A.FO.07.12 Add, subtract, and multiply simple algebraic expressions of the first degree, e.g., $(92x + 8y) - 5x + y$, or $x(x+2)$ and justify using properties of real numbers.*	Student Edition: 129-133, 146, 170
A.FO.07.13 From applied situations, generate and solve linear equations of the form $ax + b = c$ and $ax + b = cx + d$, and interpret solutions.	Student Edition: 136-140, 141-145, 147-151, 153-157, 420-423
GEOMETRY	
Draw and construct geometric objects	
G.SR.07.01 Use a ruler and other tools to draw squares, rectangles, triangles, and parallelograms with specified dimensions.	Student Edition: 497, 516 #26, 531, 534 #31, 550 #31
G.SR.07.02 Use compass and straightedge to perform basic geometric constructions: the perpendicular bisector of a segment, an equilateral triangle, and the bisector of an angle; understand informal justifications.	See Glencoe's <i>Geometry</i> © 2008 Lesson 2-5, Lesson 4-4, and Lesson 5-1.
Understand the concept of similar polygons, and solve related problems	
G.TR.07.03 Understand that in similar polygons, corresponding angles are congruent and the ratios of corresponding sides are equal; understand the concepts of similar figures and scale factor.	Student Edition: 310, 312, 497-502, 506, 518-523 <i>Mid-Chapter Quiz</i> 319, 537 #6 <i>Practice Test</i> 507 #20
G.TR.07.04 Solve problems about similar figures and scale drawings.	Student Edition: 310, 312, 479-502, 506 <i>Mid-Chapter Quiz</i> 319 <i>Practice Test</i> 507 #20
G.TR.07.05 Show that two triangles are similar using the criteria: corresponding angles are congruent (AAA similarity); the ratios of two pairs of corresponding sides are equal and the included angles are congruent (SAS similarity); ratios of all pairs of corresponding sides are equal (SSS similarity); use these criteria to solve problems and to justify arguments.	Student Edition: 479-502, 506 <i>Practice Test</i> 569 #5 Note: Geometry theorems, AAA, SAS, SSS, are not included in this text.

STANDARDS	PAGE REFERENCES
G.TR.07.06 Understand and use the fact that when two triangles are similar with scale factor of r , their areas are related by a factor of r^2 .	Student Edition: 497-500, 501 #23
DATA AND PROBABILITY	
Represent and interpret data	
D.RE.07.01 Represent and interpret data using circle graphs, stem and leaf plots, histograms, and box-and-whisker plots, and select appropriate representation to address specific questions.	Student Edition: 325 #27, #28, 555, 626-631, 633-637, 638-642, 644-649, 651-656, 691-693, 760 <i>Graphing Calculator Lab</i> 632, 643, 650 <i>Spreadsheet Lab</i> 557
D.AN.07.02 Create and interpret scatter plots and find line of best fit; use an estimated line of best fit to answer questions about the data.	Student Edition: 61-66, 403-407, 412, 468 #59 <i>Algebra Lab</i> 60 <i>Graphing Calculator Lab</i> 67-68 <i>Practice Test</i> 73, 413 <i>Standardized Test Practice</i> 75 #13
Compute statistics about data sets	
D.AN.07.03 Calculate and interpret relative frequencies and cumulative frequencies for given data sets.	Student Edition: 645-647 (terms defined) Also see Glencoe's <i>Algebra 1</i> © 2008 Lesson 12-6.
D.AN.07.04 Find and interpret the median, quartiles, and interquartile range of a given set of data.	Student Edition: 633-637, 691