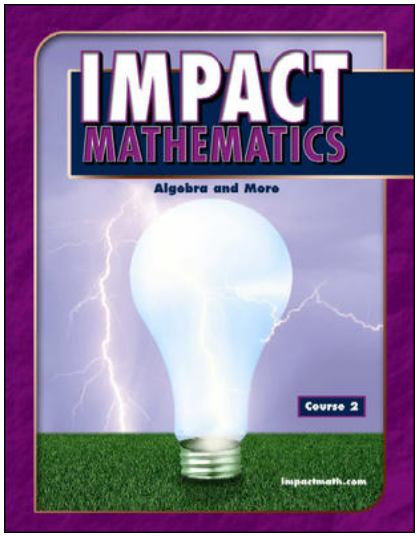
Glencoe

Math Grade 7
Assessment Anchors and
Eligible Content

Pennsylvania



IMPACT MATHEMATICS

Algebra and More

Course 2
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STANDARDS	PAGE REFERENCES
M7.A Numbers and Operations	
ASSESSMENT ANCHOR **M7.A.1** **Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems.**	
M7.A.1.1 Express numbers in equivalent forms.	
M7.A.1.1.1 Convert between fractions, decimals and/or percents (e.g., 20% = 0.2 = 1/5) (terminating decimals only).	**Student Edition:** 51 #30, 126 #24-25, 496 #24, 562-565, 575 #2-6 *Share and Summarize* 565 *Think and Discuss* 219, 562, 563
M7.A.1.2 Compare quantities and/or magnitudes of numbers.	
M7.A.1.2.1 Compare and/or order whole numbers, mixed numbers, fractions and decimals (fractions and decimals may be mixed – no more than 5 numbers in a set to be ordered).	**Student Edition** 175 #74-77, 232 #4-10, 233 #4-10, 320 #13-14, 418 #45-46, 433 #63, 524-526, 527-529, 529-531, 532 #1 *Share and Summarize* 233, 526 *Think and Discuss* 219, 525, 527, 563
M7.A.1.2.2 Compare and/or order integers (no more than five numbers in a set to be ordered).	**Student Edition:** 175 #75-76, 232 #4-10, 233 #4-10 *Lab Investigation* 220-222 *Share and Summarize* 233 *Think and Discuss* 219, 525

Codes used for Teacher's Guide pages are the initial caps of headings on that page.

STANDARDS	PAGE REFERENCES
M7.A.1.2.3 Locate/identify decimals, fractions, mixed numbers and/or integers on a number line (a mix of these number forms may be on the same number line).	**Student Edition:** 222-225, 225-227, 228-229 *Share and Summarize* 227 *Think and Discuss* 225
ASSESSMENT ANCHOR **M7.A.2 Understand the meanings of operations, use operations and understand how they relate to each other.**	
M7.A.2.1 Complete calculations by applying the order of operations.	
M7.A.2.1.1 Use the order of operations to simplify numerical expressions (may use parentheses, brackets, +, -, x, ÷, squares up to 102 and cubes up to 43; whole numbers only).	**Student Edition:** 15-17, 425 #1-3 *Share and Summarize* 18 *Think and Discuss* 14, 15
M7.A.2.2 Solve problems using ratios, proportions, percents and/or rates.	
M7.A.2.2.1 Write ratios to compare quantities (e.g., ratio of boys to girls).	**Student Edition:** 521-523, 523-524, 527-529 *Explore* 521 *Share and Summarize* 524 *Think and Discuss* 527, 529
M7.A.2.2.2 Solve for a variable in a given proportion.	**Student Edition:** 543-545, 545-548, 554-556 #4-12, 566-568, 568-571 *Share and Summarize* 545 *Think and Discuss* 570
M7.A.2.2.3 Use proportions to determine if two quantities are equivalent (e.g., similar figures, prices of different sized items, etc).	**Student Edition:** 529-530, 530-531, 532-539, 541-542, 560 #39-42 *Share and Summarize* 531, 542 *Think and Discuss* 530
M7.A.2.2.4 Calculate and/or apply unit rates or unit prices (terminating decimals through the hundredth place only).	**Student Edition:** 529-530, 530-531, 535 #14-23 *Share and Summarize* 531 *Think and Discuss* 530, 562, 563
M7.A.2.2.5 Select and/or use ratios or proportions to solve problems.	**Student Edition:** 529-530, 530-531, 532-539, 541-542, 554-559 *Share and Summarize* 542

STANDARDS	PAGE REFERENCES
M7.A.2.2.6 Use proportions to find the missing length of a side in similar figures.	**Student Edition:** 548-551, 555 #9, 556 #10, 559 #22 *Lab Investigation* 551-553 *Share and Summarize* 551
ASSESSMENT ANCHOR **M7.A.3 Compute accurately and fluently and make reasonable estimates.**	
M7.A.3.1 Apply estimation strategies to a variety of problems.	
M7.A.3.1.1 Estimate answers to problems involving whole numbers, decimals, fractions or mixed numbers.	The teacher could integrate this objective into lessons in Chapters 1, 2.3, 4.1, and 4.2
M7.A.3.2 Compute accurately with and without use of a calculator.	
M7.A.3.2.1 Solve problems involving operations (+, -, x, ÷) of whole numbers, decimals, fractions, or mixed numbers (straight computation or word problems).	**Student Edition:** 15 #7, 16 #2, 17 #1-2, 18-20, 25 #24-26, 26 #28-33, 38-41, 52-53, 58 #4-5, 62 #1-14, 73 #56-61, 112-114 *Lab Investigation* 119-121 *Share and Summarize* 18, 42 *Think and Discuss* 14, 32, 33
M7.A.3.2.2 Solve problems involving addition and subtraction of integers.	**Student Edition:** 222-224, 225-227, 228-230, 231-233, 234-235, 236-240 *Lab Investigation* 220-222 *Share and Summarize* 227, 230, 233, 235 *Think and Discuss* 225, 228, 229

STANDARDS	PAGE REFERENCES
M7.B Measurement	
ASSESSMENT ANCHOR **M7.B.1 Demonstrate an understanding of measurable attributes of objects and figures, and the units, systems and processes of measurement.**	
M7.B.1.1 Add, subtract, or convert measurements.	
M7.B.1.1.1 Add, subtract, or convert measurements, using only the units below, with and without regrouping (e.g., 4ft – 2ft 5in = 1ft 7in). Answer should be converted to the largest whole unit (e.g., 37oz = 2 Lb 5oz or 39 in = 1 yd 3 in. Conversion chart provided on the reference sheet. • in, ft, yd • fl oz, cup, pint, quart, gallon • oz, Lb • sec, min, hours, days • metric units including milli, centi and kilo (m, g or L)	**Student Edition:** 174 #47-51, 314 #1-2, 318 #8-10, 334 #1, 653 #29-31 *Think and Discuss* 302
ASSESSMENT ANCHOR **M7.B.2 Apply appropriate techniques, tools and formulas to determine measurements.**	
M7.B.2.1 Develop, use and/or describe strategies to find the measure of length, perimeter, circumference, area or volume.	
M7.B.2.1.1 Develop and/or use strategies to find the perimeter and/or area of compound figures (compound figures should only include quadrilaterals and triangles). Area formulas provided on the reference sheet.	**Student Edition:** 87 #11, 88 #12, 98, 495 #15
M7.B.2.1.2 Find the circumference and/or area of circles (formulas provided on the reference sheet).	**Student Edition:** 39 #5, 489 #1
M7.B.2.1.3 Find the area of triangles and/or all types of parallelograms (formulas provided on the reference sheet).	**Student Edition:** 122 #3-4, 133, 488 #2, 492 #1-4
M7.B.2.2 Construct, interpret and/or use scale drawings to solve real-world problems.	
M7.B.2.2.1 Interpret and/or apply scales shown on maps, blueprints, models, etc.	**Student Edition:** 468 #23, 482-484, 485-488, 489-491, 492-496 *Share and Summarize* 491

STANDARDS	PAGE REFERENCES
M7.B.2.2.2 Determine and/or apply an appropriate scale for reduction or enlargement.	**Student Edition:** 468 #23, 482-484, 485-488, 489-491, 492-496, 498, 499-500, 501-502, 503-504, 506-513 *Share and Summarize* 491, 500, 504
M7.C Geometry	
ASSESSMENT ANCHOR **M7.C.1 Analyze characteristics and properties of two- and three- dimensional geometric shapes and demonstrate understanding of geometric relationships.**	
M7.C.1.1 Define and/or apply basic properties of two- and three-dimensional geometric shapes.	
M7.C.1.1.1 Identify, describe and/or define diameter, radius, chord and/or circumference in circles.	This standard falls outside the scope of this text. See Glencoe's *MathScape: Seeing and Thinking Mathematically Course 2* © 2005.
M7.C.1.1.2 Solve problems involving the relationship between the radius and diameter of the same circle.	**Student Edition:** 39
M7.C.1.1.3 Identify parallel, perpendicular and/or skew line segments within three-dimensional figures.	This standard falls outside the scope of this text. See Glencoe's *MathScape: Seeing and Thinking Mathematically Course 2* © 2005.
M7.C.1.2 Identify congruence and/or similarity in polygons.	
M7.C.1.2.1 Identify and/or use polygons that are similar and/or congruent, given either measurements or tic and angle marks.	**Student Edition:** 451-452, 452-453, 454-455, 461-463, 464-467, 472, 473-474 *Share and Summarize* 453, 455, 463, 473, 474 *Think and Discuss* 452, 474
M7.C.1.2.2 Identify corresponding sides and/or angles of congruent or similar polygons.	**Student Edition:** 456-460, 461-463, 465-467
M7.C.2.1 Locate, plot and/or describe points on a coordinate plane.	
M7.C.2.1.1 Plot and/or identify ordered pairs on a coordinate plane (all four quadrants).	**Student Edition:** 255-258, 259-262, 262-263, 264-267 *Share and Summarize* 258, 262 *Think and Discuss* 254, 255
M7.C.2.1.2 Identify Quadrants I, II, III, IV, the x- and y-axes and the origin on a coordinate plane.	**Student Edition:** 259-262, 262-263, 265 #4 *Share and Summarize* 262, 263

STANDARDS	PAGE REFERENCES
M7.D Algebraic Concepts	
ASSESSMENT ANCHOR **M7.D.1 Demonstrate an understanding of patterns, relations and functions.**	
M7.D.1.1 Recognize, reproduce, extend and/or describe patterns.	
M7.D.1.1.1 Describe, extend or find a missing element of a pattern (show 3 repetitions of the pattern) • fractions or decimals - may use only one operation from +, – or x • whole numbers – may use only one operation from +, -, x, ÷ or squares	**Student Edition:** 56, 58, 71 #42-43, 77, 78, 79-81, 82-83, 84-90, 362-364, 365-367, 368-370, 371-377 *Lab Investigation* 203-205 *Share and Summarize* 80, 83, 364, 368, 370 *Think and Discuss* 81, 82
ASSESSMENT ANCHOR **M7.D.2 Represent and/or analyze mathematical situations using numbers, symbols, words, tables and/or graphs.**	
M7.D.2.1 Select and/or use appropriate strategies to solve or represent equations or expressions.	
M7.D.2.1.1 Select and/or use appropriate strategies to solve one-step equations (no negative numbers).	**Student Edition:** 18-21, 26 #31-33, 384, 385-387, 392-394, 395-397, 398-400, 404-408, 409-412, 413-414, 415-418, 419-421 *Lab Investigation* 388-391 *Share and Summarize* 21, 387, 421 *Think and Discuss* 385, 400
M7.D.2.1.2 Use substitution of one and/or two variables to simplify expressions (whole numbers only – use order of operations).	**Student Edition:** 15 #13, 16 #2-6, 17, 18-21, 22-31, 37-39, 40-42, 49 #10 *Lab Investigation* 42-45 *Share and Summarize* 18 #3 *Think and Discuss* 32, 35, 37
M7.D.2.2 Create and/or interpret expressions, equations or inequalities that model problem situations.	
M7.D.2.2.1 Identify expressions, equations or inequalities that model mathematical situations (using whole numbers or decimals, no more than two operations and one variable).	**Student Edition:** 5-9, 10-12, 18-21, 32-33, 34-36, 46-51, 386-387, 392 #11, 406 #11, 413 #9, 415 #16, 417 #33, 420-421 *Share and Summarize* 9, 13, 36, 387 *Think and Discuss* 32, 33

STANDARDS	PAGE REFERENCES
ASSESSMENT ANCHOR **M7.D.3 Analyze change in various contexts.**	
M7.D.3.1 Describe the relationship between two variables (e.g., time, temperature).	
M7.D.3.1.1 Solve problems involving a constant rate of change (e.g., word problems, graphs or data tables).	**Student Edition:** 301-302, 303-304, 306-308, 309-311, 314-320, 321-324 *Lab Investigation* 312-313 *Share and Summarize* 305, 308, 311, 325 *Think and Discuss* 302, 305, 310, 323, 325
M7.D.3.1.2 Describe and/or use the relationship of data displayed on a rate of change graph (e.g., how does the x-axis data relate to the y-axis data).	**Student Edition:** 304 #5-6, 307, 308 #5, 309, 316 #5-7, 321-323, 323-325, 326-327 *Lab Investigation* 312-313 *Share and Summarize* 308, 325, 329 *Think and Discuss* 305, 323, 325, 326, 327
M7.E Data Analysis and Probability	
ASSESSMENT ANCHOR **M7.E.1 Formulate or answer questions that can be addressed with data and/or organize, display, interpret or analyze data.**	
M7.E.1.1 Interpret data shown in complex data displays.	
M7.E.1.1.1 Analyze data and/or answer questions pertaining to data represented in histograms, double bar graphs, multiple line graphs or stem-and-leaf plots.	**Student Edition:** 709, 710-714, 714-717, 718-723 *Share and Summarize* 714, 717 *Think and Discuss* 709
ASSESSMENT ANCHOR **M7.E.2 Select and/or use appropriate statistical methods to analyze data.**	
M7.E.2.1 Describe, compare and/or contrast data using measures of mean, median, mode or range.	
M7.E.2.1.1 Identify/calculate the mean (average), median, mode or range of a set of data.	**Student Edition:** 703 #11, 710-714
M7.E.2.1.2 Decide/choose which measure of central tendency (mean, median, mode or range) would be most appropriate for a given situation.	This standard falls outside the scope of this text. See Glencoe's *MathScape: Seeing and Thinking Mathematically Course 2* © 2005.

STANDARDS	PAGE REFERENCES
ASSESSMENT ANCHOR **M7.E.3 Understand and/or apply basic concepts of probability or outcomes.**	
M7.E.3.1 Determine theoretical or experimental probability.	
M7.E.3.1.1 Find the theoretical probability of a simple and/or compound event (answer written as a fraction in lowest terms – any compound events should be independent).	**Student Edition:** 666-667, 668-671, 672-675, 676-677, 680-682, 683-685, 686-690 *Share and Summarize* 668, 682, 685 *Think and Discuss* 668, 681
M7.E.3.1.2 Find the theoretical probability of an event **not** occurring (e.g., what is the probability of not rolling a 1 on a number cube).	This standard falls outside the scope of this text. See Glencoe's *MathScape: Seeing and Thinking Mathematically Course 2* © 2005.
M7.E.3.1.3 Use data displayed in charts, graphs or tallies to find experimental probability.	**Student Edition:** 668-671 *Share and Summarize* 671
ASSESSMENT ANCHOR **M7.E.4 Develop and/or evaluate inferences and predictions or draw conclusions based on data or data displays.**	
M7.E.4.1 Draw conclusions and/or make predictions based on data displays.	
M7.E.4.1.1 Formulate predictions and/or draw conclusions based on data displays (bar graphs, circle graphs or line graphs) or probability.	**Student Edition:** 697-699, 700-708, 709-714, 714-716, 718-723 *Share and Summarize* 699, 717 *Think and Discuss* 697