



COURSE 2

Core-Plus Mathematics

Contemporary Mathematics in Context

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STANDARDS	PAGE REFERENCES
M11.A Numbers and Operations	
ASSESSMENT ANCHOR	
M11.A.1 Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems.	
M11.A.1.1 Represent and/or use numbers in equivalent forms (e.g., integers, fractions, decimals, percents, square roots, exponents and scientific notation). <i>Reference: 2.1.8.A, 2.1.8.B, 2.1.11.A</i>	
M11.A.1.1.1 Find the square root of an integer to the nearest tenth using either a calculator or estimation.	Student Edition: 24 #25, 48 #36, 193 #33, 321 #32, 352 #24, 356 #45, 451 #24, 485 #33, 585 #30 Teacher's Guide: IN T352
M11.A.1.1.2 Express numbers and/or simplify expressions using scientific notation (including numbers less than 1).	Student Edition: 376 #29, 379 #1, 387 #12 Teacher's Guide: IN T376
M11.A.1.1.3 Simplify square roots. (e.g., $\sqrt{24} = 2\sqrt{6}$)	Student Edition: 24 #25, 48 #36, 193 #33, 321 #32, 352 #24, 356 #45, 451 #24, 485 #33, 558 #18, 585 #30 Teacher's Guide: IN T352

STANDARDS	PAGE REFERENCES
<p>M11.A.1.2 Apply number theory concepts to show relationships between real numbers in problem-solving settings. <i>Reference: 2.1.8.E</i></p>	
<p>M11.A.1.2.1 Find the Greatest Common Factor (GCF) and/or the Least Common Multiple (LCM) for sets of monomials.</p>	<p>This standard can be met in Glencoe's <i>Algebra 1</i> © 2008 Student Edition: 420-425 (Lesson 8-1), 614-619 (Lesson 11-7)</p>
<p>M11.A.1.3 Estimate the value of an irrational number. <i>Reference: 2.2.8.C</i></p>	
<p>M11.A.1.3.1 Locate/identify irrational numbers at the approximate location on a number line.</p>	<p>Student Edition: 356 #43</p>
<p>M11.A.1.3.2 Compare and/or order any real numbers (rational and irrational may be mixed).</p>	<p>Student Edition: 130 #28</p>
<p>ASSESSMENT ANCHOR</p>	
<p>M11.A.2 Understand the meanings of operations, use operations and understand how they relate to each other.</p>	
<p>M11.A.2.1 Apply ratio and/or proportion in problem-solving situations. <i>Reference: 2.2.11.A, 2.8.11.P</i></p>	
<p>M11.A.2.1.1 Solve problems using operations with rational numbers including rates and percents (single and multi-step and multiple procedure operations) (e.g., distance, work and mixture problems, etc.).</p>	<p>Student Edition: 131 #31, 321 #31, 418 #2</p>
<p>M11.A.2.1.2 Solve problems using direct and inverse proportions.</p>	<p>Student Edition: 2-9, 16-24 <i>Check Your Understanding</i> 15 Teacher's Guide: I T3; IN T5, T6; LL T2; MT T9; PM T5, T7, T9</p>
<p>M11.A.2.1.3 Identify and/or use proportional relationships in problem-solving settings.</p>	<p>Student Edition: 2-9, 16-24 <i>Check Your Understanding</i> 15 Teacher's Guide: I T3; IN T5, T6; LL T2; MT T9; PM T5, T7, T9</p>

STANDARDS	PAGE REFERENCES
<p>M11.A.2.2 Use exponents, roots and/or absolute value to solve problems. <i>Reference: 2.1.11.A</i></p>	
<p>M11.A.2.2.1 Simplify/evaluate expressions involving positive and negative exponents, roots and/or absolute value (may contain all types of real numbers - exponents should not exceed power of 10).</p>	<p>Student Edition: 379 #1, 382 #1, 386 #10, 390 #23 <i>Summarize the Mathematics</i> 383 Teacher’s Guide: MT T383</p>
<p>M11.A.2.2.2 Simplify/evaluate expressions involving multiplying with exponents (e.g., $x^6 * x^7 = x^{13}$), powers of powers (e.g., $(x^6)^7 = x^{42}$) and powers of products ($(2x^2)^3 = 8x^6$ (positive exponents only)).</p>	<p>Student Edition: 24 #22, 357 #48, 387 #14, 390 #26, 559 #21</p>
ASSESSMENT ANCHOR	
<p>M11.A.3 Compute accurately and fluently and make reasonable estimates.</p>	
<p>M11.A.3.1 Apply the order of operations in computation and in problem-solving situations. <i>Reference: 2.2.8.A</i></p>	
<p>M11.A.3.1.1 Simplify/evaluate expressions using the order of operations to solve problems (any rational numbers may be used).</p>	<p>Student Edition: 278 #21, 279 #25, 432 #24</p>
<p>M11.A.3.2 Use estimation strategies in problem-solving situations. <i>Reference: 2.2.11.B, 2.2.11.D</i></p>	
<p>M11.A.3.2.1 Use estimation to solve problems.</p>	<p>Student Edition: 432 #27</p>
M11.B Measurement	
ASSESSMENT ANCHOR	
<p>M11.B.1 Demonstrate an understanding of measurable attributes of objects and figures, and the units, systems and processes of measurement. Not assessed at grade 11.</p>	
ASSESSMENT ANCHOR	
<p>M11.B.2 Apply appropriate techniques, tools and formulas to determine measurements.</p>	
<p>M11.B.2.1 Use and/or compare measurements of angles. <i>Reference: 2.3.11.A, 2.3.11.B</i></p>	
<p>M11.B.2.1.1 Measure and/or compare angles in degrees (up to 360°) (protractor must be provided or drawn).</p>	<p>Student Edition: 101 #27, 130 #25</p>

STANDARDS	PAGE REFERENCES
<p>M11.B.2.2 Use and/or develop procedures to determine or describe measures of perimeter, circumference, area, surface area and/or volume. (May require conversions within the same system.)</p> <p>Reference: 2.3.8.A, 2.3.8.D</p>	
<p>M11.B.2.2.1 Calculate the surface area of prisms, cylinders, cones, pyramids and/or spheres. Formulas are provided on the reference sheet.</p>	<p>Student Edition: 18 #5a, 24 #27b, 102 #29c, 130 #26b</p>
<p>M11.B.2.2.2 Calculate the volume of prisms, cylinders, cones, pyramids and/or spheres. Formulas are provided on the reference sheet.</p>	<p>Student Edition: 18 #5c, 24 #27c, 39 #13d, 130 #26a, 376 #28b, 391 #29, 481 #18e</p>
<p>M11.B.2.2.3 Estimate area, perimeter or circumference of an irregular figure.</p>	<p>Student Edition: 6 #5e, 7 #7, 39 #13b-#13c, 218 #4c, 433 #28, 480 #17, 514 #31</p>
<p>M11.B.2.2.4 Find the measurement of a missing length given the perimeter, circumference, area or volume.</p>	<p>Student Edition: 39 #13c</p>
<p>M11.B.2.3 Describe how a change in one dimension of a figure (2 or 3 dimensional) affects other measurements of that figure.</p> <p>Reference: 2.3.8.E</p>	
<p>M11.B.2.3.1 Describe how a change in the linear dimension of a figure affects its perimeter, circumference, area or volume.</p> <ul style="list-style-type: none"> • How does changing the length of the radius of a circle affect the circumference of the circle? • How does changing the length of the edge of a cube affect the volume of the cube? • How does changing the length of the base of a triangle affect the area of the triangle? 	<p>Student Edition: 206 #1d, 207 #3c, 208 #5d, 211 #2c, 212 #3c, 214 #6a, 221 #10e, 228 #33f</p> <p>Teacher's Guide: I T206; IN T208</p>

STANDARDS		PAGE REFERENCES
M11.C Geometry		
ASSESSMENT ANCHOR		
M11.C.1	Analyze characteristics and properties of two- and three-dimensional geometric shapes and demonstrate understanding of geometric relationships.	
M11.C.1.1	Identify and/or use parts of circles and segments associated with circles. Reference: 2.9.11.F	
M11.C.1.1.1 Identify and/or use the properties of a radius, diameter and/or tangent of a circle (given numbers should be whole).		Student Edition: 6 #5e, 11 #2b, 18 #5e, 176 #2d, 187 #17, 234 #4a, 351 #22, 356 #42 <i>Summarize the Mathematics</i> 180
M11.C.1.1.2 Identify and/or use the properties of arcs, semicircles, inscribed angles and/or central angles.		Student Edition: 176 #1, 178 #7, 234 #4, 463 #6, 478 #10-#11, 479 #13 Teacher's Guide: MT T176; TN T178
	M11.C.1.2 Recognize and/or apply properties of angles, triangles and quadrilaterals. Reference: 2.9.8.D, 2.9.11.C	
M11.C.1.2.1 Identify and/or use properties of triangles (e.g., medians, altitudes, angle bisectors, side/angle relationships, Triangle Inequality Theorem).		Student Edition: 174 #8, 189 #20, 211 #1b, 217 #2b, 485 #34, 513 #26 <i>Check Your Understanding</i> 205, 216 Teacher's Guide: IN T459, T460
M11.C.1.2.2 Identify and/or use properties of quadrilaterals (e.g., parallel sides, diagonals, bisectors, congruent sides/angles and supplementary angles).		Student Edition: 154 #22, 165 #2-#3, 167 #8, 170 #1, 171 #2, 173 #7, 183 #7-#8, 189 #25, 191 #29, 354 #36a <i>Check Your Understanding</i> 175 <i>Summarize the Mathematics</i> 174 Teacher's Guide: IN T170, T171; MT T174; SS T172
M11.C.1.2.3 Identify and/or use properties of isosceles and equilateral triangles.		Student Edition: 47 #30, 146 #4, 172 #6, 189 #24, 230 #42, 245 #7, 358 #50b, 512 #24 Teacher's Guide: SS T172

STANDARDS		PAGE REFERENCES
M11.C.1.3 Use properties of congruence, correspondence and similarity in problem-solving settings involving two- and three-dimensional figures. Reference: 2.9.11.B		
M11.C.1.3.1 Identify and/or use properties of congruent and similar polygons or solids.	Student Edition: 165 #2, 174 #8, 183 #6, 189 #20, 211 #1b, 217 #2b, 485 #34 <i>Check Your Understanding</i> 205, 216	
M11.C.1.4 Solve problems involving right triangles using the Pythagorean Theorem. Reference: 2.10.11.B		
M11.C.1.4.1 Find the measure of a side of a right triangle using the Pythagorean Theorem (Pythagorean Theorem included on the reference sheet).	Student Edition: 171 #3, 355 #39, 480 #14, 490 #1, 493 #1 Teacher's Guide: IN T171	
ASSESSMENT ANCHOR M11.C.2 Identify and/or apply concepts of transformations or symmetry. Not assessed at grade 11.		
ASSESSMENT ANCHOR M11.C.3 Locate points or describe relationships using the coordinate plane.		
M11.C.3.1 Solve problems using analytic geometry. Reference: 2.9.11.G		
M11.C.3.1.1 Calculate the distance and/or midpoint between 2 points on a number line or on a coordinate plane (formula provided on the reference sheet).	Student Edition: 164, 167 #8, 168 #9, 171 #3, 181 #1, 182 #5, 183 #8d, 184 #9a, 186 #15, 188 #18, 189 #23, 191 #28, 228 #33, 229 #34, 251 #23, 253 #2c, 514 #31c <i>Summarize the Mathematics</i> 169 Teacher's Guide: IN T168; MT T169	
M11.C.3.1.2 Relate slope to perpendicularity and/or parallelism (limit to linear algebraic expressions; slope formula provided on the reference sheet).	Student Edition: 170-174, 183 #8b, 184 #10b, 188 #18, 189 #26, 251 #23 <i>Check Your Understanding</i> 175 Teacher's Guide: IN T171; MT T174; N T172	

STANDARDS		PAGE REFERENCES
M11.D Algebraic Concepts		
ASSESSMENT ANCHOR		
M11.D.1 Demonstrate an understanding of patterns, relations and functions.		
M11.D.1.1 Analyze and/or use patterns or relations. Reference: 2.8.11.Q, 2.8.11.A, 2.8.11.O		
M11.D.1.1.1 Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.	Student Edition: 5 #2, 19 #8, 20 #10, 21 #12, 22 #13, 23 #19, 28 #5, 42 #19, 77 #4, 84 #3, 89 #3	
M11.D.1.1.2 Determine if a relation is a function given a set of points or a graph.	Student Edition: 345 #2, 349 #16	
M11.D.1.1.3 Identify the domain, range or inverse of a relation (may be presented as ordered pairs or a table).	Student Edition: 330 #6, 345 #1, 346 #6, 353 #34, 387 #13, 394 #1, 480 #14 Teacher's Guide: IN T330; MN T480	
ASSESSMENT ANCHOR		
M11.D.2 Represent and/or analyze mathematical situations using numbers, symbols, words, tables and/or graphs.		
M11.D.2.1 Write, solve and/or graph linear equations and inequalities using various methods. Reference: 2.8.8.F, 2.8.11.D, 2.8.11.H, 2.8.11.J, 2.8.11.N, 2.8.11.L, 2.8.11.K		
M11.D.2.1.1 Solve compound inequalities and/or graph their solution sets on a number line (may include absolute value inequalities).	Student Edition: 375 #24	
M11.D.2.1.2 Identify or graph functions, linear equations or linear inequalities on a coordinate plane.	Student Edition: 32 #6, 42 #22, 45 #27, 68 #29, 155 #24, 193 #36	
M11.D.2.1.3 Write, solve and/or apply a linear equation (including problem situations).	Student Edition: 24 #23, 30-33, 37 #7, 38 #10, 47 #32, 156 #28 <i>Check Your Understanding</i> 33 <i>Summarize the Mathematics</i> 9, 33 Teacher's Guide: IN T5; MT T33; PM T7	

STANDARDS	PAGE REFERENCES
<p>M11.D.2.1.4 Write and/or solve systems of equations using graphing, substitution and/or elimination (limit systems to 2 equations).</p>	<p>Student Edition: 50-53, 54-57, 58-60, 61-68, 71 #4, 130 #27, 360-363, 364-367, 368-376, 514 #29 <i>Summarize the Mathematics 72</i></p> <p>Teacher's Guide: IN T54, T55, T361, T372; MT T53, T57, T363, T367; N T55; PM T60</p>
<p>M11.D.2.1.5 Solve quadratic equations using factoring (integers only – not including completing the square or the Quadratic Formula).</p>	<p>Student Edition: 340-344, 348 #13, 349 #15, 352 #28, 353 #32, 433 #31, 451 #22, 486 #36</p> <p>Teacher's Guide: IN T342</p>
<p>M11.D.2.2 Simplify expressions involving polynomials. <i>Reference: 2.8.11.S</i></p>	
<p>M11.D.2.2.1 Add, subtract and/or multiply polynomial expressions (express answers in simplest form – nothing larger than a binomial multiplied by a trinomial).</p>	<p>Student Edition: 193 #37, 278 #21, 279 #25, 432 #26, 515 #33, 543 #24</p>
<p>M11.D.2.2.2 Factor algebraic expressions, including difference of squares and trinomials (trinomials limited to the form ax^2+bx+c where a is not equal to 0).</p>	<p>Student Edition: 336-340, 340-344, 348 #13, 349 #15, 352 #28, 353 #32, 433 #31, 451 #22, 486 #36, 514 #32, 543 #25</p> <p>Teacher's Guide: IN T337, T342; MT T336, T340; P T340</p>
<p>M11.D.2.2.3 Simplify algebraic fractions.</p>	<p>This standard can be met in Glencoe's <i>Algebra 1</i> © 2008</p> <p>Student Edition: 583-588 (Lesson 11-2), 590-594 (Lesson 11-3), 595-599 (Lesson 11-4)</p>
<p>ASSESSMENT ANCHOR</p>	
<p>M11.D.3 Analyze change in various contexts.</p>	
<p>M11.D.3.1 Describe and/or determine change. <i>Reference: 2.8.8.J, 2.11.8.B</i></p>	
<p>M11.D.3.1.1 Identify, describe and/or use constant or varying rates of change.</p>	<p>Student Edition: 37 #7, 38 #10, 42 #19, 48 #37</p> <p>Teacher's Guide: PM T38</p>

STANDARDS	PAGE REFERENCES
<p>M11.D.3.1.2 Determine how a change in one variable relates to a change in a second variable (e.g., $y=4/x$, if x doubles, what happens to y?).</p>	<p>Student Edition: 4 #1, 8 #9, 12 #4, 27 #4, 40 #15 <i>Check Your Understanding</i> 29 <i>Summarize the Mathematics</i> 9, 14, 29 <i>Think About the Situation</i> 26 Teacher's Guide: PM T5, T9</p>
<p>M11.D.3.2 Compute and/or use the slope of a line. Reference: 2.8.11.J, 2.8.11.L</p>	
<p>M11.D.3.2.1 Apply the formula for the slope of a line to solve problems (formula given on reference sheet).</p>	<p>Student Edition: 37 #7, 38 #10, 42 #19, 48 #37 Teacher's Guide: PM T38</p>
<p>M11.D.3.2.2 Given the graph of the line, 2 points on the line, or the slope and a point on a line, write or identify the linear equation in point-slope, standard and/or slope-intercept form.</p>	<p>Student Edition: 24 #24, 47 #33, 100 #23, 155 #23, 193 #35, 194 #41, 251 #23-#24, 375 #25</p>
<p>M11.D.3.2.3 Compute the slope and/or y-intercept represented by a linear equation or graph.</p>	<p>Student Edition: 37 #7, 38 #10, 40 #6, 42 #22, 165 #3, 170 #1, 171 #3, 172 #5, 179 #8e, 189 #26, 194 #41, 251 #23, 279 #26b, 320 #29, 358 #50 <i>Check Your Understanding</i> 169, 175 <i>Summarize the Mathematics</i> 169, 174 Teacher's Guide: MTI T169, T174</p>
<p>ASSESSMENT ANCHOR</p>	
<p>M11.D.4 Describe or use models to represent quantitative relationships.</p>	
<p>M11.D.4.1 Interpret and/or use linear, quadratic and/or exponential functions and their equations, graphs or tables. Reference: 2.8.11.K, 2.8.11.Q</p>	
<p>M11.D.4.1.1 Match the graph of a given function to its table or equation.</p>	<p>Student Edition: 194 #41, 278 #20</p>

STANDARDS	PAGE REFERENCES
M11.E Data Analysis and Probability	
ASSESSMENT ANCHOR	
M11.E.1 Formulate or answer questions that can be addressed with data and/or organize, display, interpret or analyze data.	
M11.E.1.1 Appropriately display and/or use data in problem-solving settings. <i>Reference: 2.6.11.A, 2.6.8.E</i>	
M11.E.1.1.1 Create and/or use appropriate graphical representations of data, including box-and-whisker plots, stem-and-leaf plots or scatter plots.	Student Edition: 258-263, 264-268, 269-274, 275 #10, 276 #14, 277 #18, 281-285, 286-290, 291-297, 299-304, 305-311, 315 #15 <i>Check Your Understanding</i> 298 Teacher’s Guide: IN T270, T284, T296; MT T263A, T268, T285, T290
M11.E.1.1.2 Analyze data and/or answer questions based on displayed data (box-and-whisker plots, stem-and-leaf plots or scatter plots).	Student Edition: 258-263, 264-268, 269-274, 275 #10, 276 #14, 277 #18, 281-285, 286-290, 291-297, 299-304, 305-311, 315 #15 <i>Check Your Understanding</i> 298 Teacher’s Guide: IN T270, T284, T296; MT T263A, T268, T285, T290
ASSESSMENT ANCHOR	
M11.E.2 Select and/or use appropriate statistical methods to analyze data.	
M11.E.2.1 Use measures of central tendency to describe a set of data. <i>Reference: 2.6.8.A, 2.6.11.A</i>	
M11.E.2.1.1 Calculate or select the appropriate measure of central tendency (mean, mode or median) of a set of data given or represented on a table, line plot or stem-and-leaf plot.	Student Edition: 20 #9, 48 #34, 131 #31, 155 #26, 186 #14, 230 #43, 250 #22, 291 #1, 588 #4 Teacher’s Guide: IN T291
M11.E.2.1.2 Calculate and/or interpret the range, quartiles and interquartile range of data.	Student Edition: 48 #34, 277 #18

STANDARDS	PAGE REFERENCES
<p>M11.E.2.1.3 Describe how outliers affect measures of central tendency.</p>	<p>Student Edition: 77 #4, 155 #26, 266 #3, 272 #4, 287, 288 #3, 289 #4, 296 #6 <i>Check Your Understanding</i> 268 <i>Summarize the Mathematics</i> 268, 290, 297</p> <p>Teacher’s Guide: CM T266; IN T287, T296</p>
<p>ASSESSMENT ANCHOR</p>	
<p>M11.E.3 Understand and/or apply basic concepts of probability or outcomes.</p>	
<p>M11.E.3.1 Apply probability and/or odds to practical situations. <i>Reference: 2.7.11.A, 2.7.11.E</i></p>	
<p>M11.E.3.1.1 Find probabilities for independent, dependent or compound events and represent as a fraction, decimal or percent).</p>	<p>Student Edition: 102 #28, 188 #19, 392 #33, 515 #34, 523-527, 528-530, 532-534 <i>Check Your Understanding</i> 528, 531, 535 <i>Summarize the Mathematics</i> 528, 531, 535</p> <p>Teacher’s Guide: IN T525, T527, T530, T534; KI T529; MT T528, T531; PM T529</p>
<p>M11.E.3.1.2 Find, convert and/or compare the probability and/or odds of a simple event.</p>	<p>Student Edition: 102 #28, 230 #41, 515 #34</p>
<p>M11.E.3.2 Apply counting techniques in problem-solving settings. <i>Reference: 2.7.8.A</i></p>	
<p>M11.E.3.2.1 Determine the number of permutations and/or combinations or apply the fundamental counting principle (formula provided on the reference sheet).</p>	<p>Student Edition: 539 #9-#10</p>
<p>ASSESSMENT ANCHOR</p>	
<p>M11.E.4 Develop and/or evaluate inferences and predictions or draw conclusions based on data or data displays.</p>	
<p>M11.E.4.1 Make predictions using data displays and probability. <i>Reference: 2.7.8.E, 2.6.11.D</i></p>	
<p>M11.E.4.1.1 Estimate or calculate to make predictions based on a circle, line, bar graph or given situation.</p>	<p>Student Edition: 48 #34, 77 #4, 79 #1, 80 #5, 121 #7, 155 #26, 433 #30, 553 #6, 578 #15, 579 #18, 580 #19 <i>Summarize the Mathematics</i> 81</p>

STANDARDS	PAGE REFERENCES
<p>M11.E.4.1.2 Use probability to predict outcomes.</p>	<p>Student Edition: 102 #28, 188 #19, 193 #38, 392 #33, 526 #4, 533 #3, 536 #1, 537 #5, 538 #6, 541 #15, 542 #21</p> <p>Teacher’s Guide: IN T525</p>
<p>M11.E.4.2 Analyze and/or interpret data on a scatter plot and/or use a scatter plot to make predictions. <i>Reference: 2.6.11.C, 2.6.11.D</i></p>	
<p>M11.E.4.2.1 Draw, find and/or write an equation for a line of best fit for a scatter plot.</p>	<p>Student Edition: 19 #8, 21 #12, 259-262, 264-267, 281-284, 286-289</p> <p><i>Check Your Understanding</i> 264, 268, 285, 291 <i>Summarize the Mathematics</i> 263, 268, 285, 290 <i>Think About This Situation</i> 281</p> <p>Teacher’s Guide: CM T260, T263A; IN T282, T284; MT T263A, T268</p>
<p>M11.E.4.2.2 Make predictions using the equations or graphs of best-fit lines of scatter plots.</p>	<p>Student Edition: 19 #8, 21 #12, 259-262, 264-267, 281-284, 286-289</p> <p><i>Check Your Understanding</i> 264, 268, 285, 291 <i>Summarize the Mathematics</i> 263, 268, 285, 290 <i>Think About</i> 281</p> <p>Teacher’s Guide: CM T260, T263A; IN T282, T284; MT T263A, T268</p>