



**North Dakota Mathematics Content and
Achievement Standards
Grades 9-10
Contemporary Mathematics in Context
A Unified Approach Course 1 © 2003**

North Dakota Department of Public Instruction

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Standard 1: Number and Operation

Standard 1: Students understand and use basic and advanced concepts of number and number systems.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
Grades 9-10				
<p>NUMBERS, NUMBER RELATIONSHIPS, AND NUMBER SYSTEMS</p> <p>9-10.1.1. Express numbers between one-billionth and one billion in fraction, decimal, and verbal form; express numbers of all magnitudes in scientific notation</p>	<p>Students express numbers between one-billionth and one billion in fraction, decimal, and verbal form with no errors.</p> <p>Student Edition: 412 #1</p> <p>Teacher's Guide: E T412</p> <p>Students express numbers of all magnitudes in scientific notation with no errors.</p> <p>Student Edition: 426 #7c, 428 #5a, 477 #1d <i>On Your Own</i> 427 part e</p>	<p>Students express numbers between one-billionth and one billion in fraction, decimal, and verbal form with no significant errors.</p> <p>Student Edition: 412 #1</p> <p>Teacher's Guide: E T412</p> <p>Students express numbers of all magnitudes in scientific notation with no significant errors.</p> <p>Student Edition: 426 #7c, 428 #5a, 477 #1d <i>On Your Own</i> 427 part e</p>	<p>Students express numbers between one-billionth and one billion in fraction, decimal, and verbal form with a few significant errors.</p> <p>Student Edition: 412 #1</p> <p>Teacher's Guide: E T412</p> <p>Students express numbers of all magnitudes in scientific notation with a few significant errors.</p> <p>Student Edition: 426 #7c, 428 #5a, 477 #1d <i>On Your Own</i> 427 part e</p>	<p>Students express numbers between one-billionth and one billion in fraction, decimal, and verbal form with many significant errors.</p> <p>Student Edition: 412 #1</p> <p>Teacher's Guide: E T412</p> <p>Students express numbers of all magnitudes in scientific notation with many significant errors.</p> <p>Student Edition: 426 #7c, 428 #5a, 477 #1d <i>On Your Own</i> 427 part e</p>

Standard 1: Students understand and use basic and advanced concepts of number and number systems.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<p>9-10.1.2. Describe the hierarchical relationships (e.g., integers are rationals) among subsets of the real number system; i.e., reals, rationals, irrationals, integers, wholes, and naturals</p>	<p>Students describe with great detail the relationships between subsets of the real number system.</p> <p>This benchmark can be found in Glencoe's <i>Contemporary Mathematics in Context Course 4</i> © 2003 in Unit 9, Lesson 1, Reflecting (page 593).</p>	<p>Students describe with adequate detail the relationships between subsets of the real number system.</p> <p>This benchmark can be found in Glencoe's <i>Contemporary Mathematics in Context Course 4</i> © 2003 in Unit 9, Lesson 1, Reflecting (page 593).</p>	<p>Students describe with some detail the relationships between subsets of the real number system.</p> <p>This benchmark can be found in Glencoe's <i>Contemporary Mathematics in Context Course 4</i> © 2003 in Unit 9, Lesson 1, Reflecting (page 593).</p>	<p>Students describe with minimal detail the relationships between subsets of the real number system.</p> <p>This benchmark can be found in Glencoe's <i>Contemporary Mathematics in Context Course 4</i> © 2003 in Unit 9, Lesson 1, Reflecting (page 593).</p>
<p>9-10.1.3. Identify the properties of the real number system; i.e., commutative, associative, distributive, closure, inverse, and identity properties</p>	<p>Students identify the properties of the real number system with no errors.</p> <p>Student Edition: 220 #4, 239 #1, 240 #2, 241 #1, 247 #5b</p> <p>Teacher Resources: <i>Teaching Resources</i> Unit 3</p>	<p>Students identify the properties of the real number system with no significant errors.</p> <p>Student Edition: 220 #4, 239 #1, 240 #2, 241 #1, 247 #5b</p> <p>Teacher Resources: <i>Teaching Resources</i> Unit 3</p>	<p>Students identify the properties of the real number system with a few significant errors.</p> <p>Student Edition: 220 #4, 239 #1, 240 #2, 241 #1, 247 #5b</p> <p>Teacher Resources: <i>Teaching Resources</i> Unit 3</p>	<p>Students identify the properties of the real number system with many significant errors.</p> <p>Student Edition: 220 #4, 239 #1, 240 #2, 241 #1, 247 #5b</p> <p>Teacher Resources: <i>Teaching Resources</i> Unit 3</p>

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Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
9-10.1.4. Represent a set of data in a matrix	<p>Students represent a set of data in a matrix with no errors.</p> <p>Student Edition: 269 #2, 272 #3b, 274 #3, 275 #3 <i>Checkpoint 270</i></p> <p>Teacher’s Guide: CMT T270</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 100</p>	<p>Students represent a set of data in a matrix with no significant errors.</p> <p>Student Edition: 269 #2, 272 #3b, 274 #3, 275 #3 <i>Checkpoint 270</i></p> <p>Teacher’s Guide: CMT T270</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 100</p>	<p>Students represent a set of data in a matrix with a few significant errors.</p> <p>Student Edition: 269 #2, 272 #3b, 274 #3, 275 #3 <i>Checkpoint 270</i></p> <p>Teacher’s Guide: CMT T270</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 100</p>	<p>Students represent a set of data in a matrix with many significant errors.</p> <p>Student Edition: 269 #2, 272 #3b, 274 #3, 275 #3 <i>Checkpoint 270</i></p> <p>Teacher’s Guide: CMT T270</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 100</p>
OPERATIONS AND THEIR PROPERTIES				
9-10.1.5. Use the order of operations and properties of exponents to simplify an algebraic expression	<p>Students use the order of operations and properties of exponents to simplify an algebraic expression with no errors.</p> <p>Student Edition: 240 #4, 241 #1, 247 #5b, 425 #5c, 433 #1, 480 #5</p> <p>Teacher’s Guide: N T480</p> <p>Teacher Resources: <i>Teaching Resources</i> Unit 3</p>	<p>Students use the order of operations and properties of exponents to simplify an algebraic expression with no significant errors.</p> <p>Student Edition: 240 #4, 241 #1, 247 #5b, 425 #5c, 433 #1, 480 #5</p> <p>Teacher’s Guide: N T480</p> <p>Teacher Resources: <i>Teaching Resources</i> Unit 3</p>	<p>Students use the order of operations and properties of exponents to simplify an algebraic expression with a few significant errors.</p> <p>Student Edition: 240 #4, 241 #1, 247 #5b, 425 #5c, 433 #1, 480 #5</p> <p>Teacher’s Guide: N T480</p> <p>Teacher Resources: <i>Teaching Resources</i> Unit 3</p>	<p>Students use the order of operations and properties of exponents to simplify an algebraic expression with many significant errors.</p> <p>Student Edition: 240 #4, 241 #1, 247 #5b, 425 #5c, 433 #1, 480 #5</p> <p>Teacher’s Guide: N T480</p> <p>Teacher Resources: <i>Teaching Resources</i> Unit 3</p>

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Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<p>9-10.1.6. Analyze the effects of multiplication, division, raising to a power, and extracting a root on the magnitudes of quantities; e.g., when will the square root of a number be greater than the number itself, or what will happen to the magnitude of a number when you multiply it by a negative number?</p>	<p>Students analyze in great detail the effects of multiplication, division, raising to a power, and extracting a root on the magnitudes of quantities.</p> <p>Student Edition: 72 #1, 120 #3, 432 #2, 433 #2, 434 #4, 435 #3, 436 #5, 452 #1</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 35</p>	<p>Students analyze with adequate detail the effects of multiplication, division, raising to a power, and extracting a root on the magnitudes of quantities.</p> <p>Student Edition: 72 #1, 120 #3, 432 #2, 433 #2, 434 #4, 435 #3, 436 #5, 452 #1</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 35</p>	<p>Students analyze with some detail the effects of multiplication, division, raising to a power, and extracting a root on the magnitudes of quantities.</p> <p>Student Edition: 72 #1, 120 #3, 432 #2, 433 #2, 434 #4, 435 #3, 436 #5, 452 #1</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 35</p>	<p>Students analyze with minimal detail the effects of multiplication, division, raising to a power, and extracting a root on the magnitudes of quantities.</p> <p>Student Edition: 72 #1, 120 #3, 432 #2, 433 #2, 434 #4, 435 #3, 436 #5, 452 #1</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 35</p>
<p>9-10.1.7. Apply basic properties of exponents to simplify algebraic expressions; i.e., power of a product, power of a power, products and quotients of powers, zero and negative exponents</p>	<p>Students apply basic properties of exponents to simplify algebraic expressions with no errors.</p> <p>Student Edition: 425 #5c, 433 #1, 434 #4, 436 #5, 480 #5</p> <p>Teacher's Guide: N T480</p>	<p>Students apply basic properties of exponents to simplify algebraic expressions with no significant errors.</p> <p>Student Edition: 425 #5c, 433 #1, 434 #4, 436 #5, 480 #5</p> <p>Teacher's Guide: N T480</p>	<p>Students apply basic properties of exponents to simplify algebraic expressions with a few significant errors.</p> <p>Student Edition: 425 #5c, 433 #1, 434 #4, 436 #5, 480 #5</p> <p>Teacher's Guide: N T480</p>	<p>Students apply basic properties of exponents to simplify algebraic expressions with many significant errors.</p> <p>Student Edition: 425 #5c, 433 #1, 434 #4, 436 #5, 480 #5</p> <p>Teacher's Guide: N T480</p>

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Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
COMPUTATIONAL FLUENCY AND ESTIMATION				
9-10.1.8. Apply estimation skills to predict realistic solutions to problems	<p>Students apply estimation skills with ease to predict a realistic solution to a problem.</p> <p>Student Edition: 35 #4g, 46 #4, 50 #6, 55 #1c-#1d, 225 #2, 373 #2b</p>	<p>Students apply estimation skills with minimal difficulty to predict a realistic solution to a problem.</p> <p>Student Edition: 35 #4g, 46 #4, 50 #6, 55 #1c-#1d, 225 #2, 373 #2b</p>	<p>Students apply estimation skills with difficulty to predict a realistic solution to a problem.</p> <p>Student Edition: 35 #4g, 46 #4, 50 #6, 55 #1c-#1d, 225 #2, 373 #2b</p>	<p>Students apply estimation skills with great difficulty to predict a realistic solution to a problem.</p> <p>Student Edition: 35 #4g, 46 #4, 50 #6, 55 #1c-#1d, 225 #2, 373 #2b</p>
9-10.1.9. Select and use a computational technique (i.e., mental calculation, paper-and-pencil, or technology) to solve problems involving real numbers	<p>Students select and use a computational technique with ease.</p> <p>Student Edition: 35 #4h, 46 #2b, 53 #4a, 61 #1, 63 #2a, 77 #3, 148 #3, 150 #3, 214 #6, 221 #3</p>	<p>Students select and use a computational technique with minimal difficulty.</p> <p>Student Edition: 35 #4h, 46 #2b, 53 #4a, 61 #1, 63 #2a, 77 #3, 148 #3, 150 #3, 214 #6, 221 #3</p>	<p>Students select and use a computational technique with difficulty.</p> <p>Student Edition: 35 #4h, 46 #2b, 53 #4a, 61 #1, 63 #2a, 77 #3, 148 #3, 150 #3, 214 #6, 221 #3</p>	<p>Students select and use a computational technique with great difficulty.</p> <p>Student Edition: 35 #4h, 46 #2b, 53 #4a, 61 #1, 63 #2a, 77 #3, 148 #3, 150 #3, 214 #6, 221 #3</p>
9-10.1.10. Explain the reasonableness of a problem's solution and the process used to obtain it	<p>Students explain in great detail the reasonableness of a problem's solution along with the process used to obtain it.</p> <p>Student Edition: 35 #4h, 44 #4, 45 #1d, 63 #2b, 67 #3, 220 #1, 225 #4, 232 #4, 436 #5 <i>Think About This Situation</i> 47</p>	<p>Students explain with adequate detail the reasonableness of a problem's solution along with the process used to obtain it.</p> <p>Student Edition: 35 #4h, 44 #4, 45 #1d, 63 #2b, 67 #3, 220 #1, 225 #4, 232 #4, 436 #5 <i>Think About This Situation</i> 47</p>	<p>Students explain with some detail the reasonableness of a problem's solution along with the process used to obtain it.</p> <p>Student Edition: 35 #4h, 44 #4, 45 #1d, 63 #2b, 67 #3, 220 #1, 225 #4, 232 #4, 436 #5 <i>Think About This Situation</i> 47</p>	<p>Students explain with minimal detail the reasonableness of a problem's solution along with the process used to obtain it.</p> <p>Student Edition: 35 #4h, 44 #4, 45 #1d, 63 #2b, 67 #3, 220 #1, 225 #4, 232 #4, 436 #5 <i>Think About This Situation</i> 47</p>

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Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
9-10.1.11. Add, subtract, and perform scalar multiplication on matrices	Students add, subtract, and perform scalar multiplication on matrices with no errors. Student Edition: <i>Checkpoint 270</i>	Students add, subtract, and perform scalar multiplication on matrices with no significant errors. Student Edition: <i>Checkpoint 270</i>	Students add, subtract, and perform scalar multiplication on matrices with a few significant errors. Student Edition: <i>Checkpoint 270</i>	Students add, subtract, and perform scalar multiplication on matrices with many significant errors. Student Edition: <i>Checkpoint 270</i>

Standard 2: Geometry and Spatial Sense

Standard 2: Student understands and applies geometric concepts and spatial relationships to represent and solve problems in mathematical and nonmathematical situations.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
Grades 9-10				
<p>TWO- AND THREE-DIMENSIONAL SHAPES, GEOMETRIC PROPERTIES AND RELATIONSHIPS</p> <p>9-10.2.1. Identify the properties and attributes of two- and three-dimensional objects that distinguish one from another; e.g., a cylinder has two parallel circular bases</p>	<p>Students identify the properties and attributes of two- and three-dimensional objects that distinguish one from another with no errors.</p> <p>Student Edition: 151 #5, 326-328, 329-334, 336 #1, 337 #3, 338 #2, 339 #1, 340 #3, 383-388</p> <p>Teacher's Guide: N T329, T331</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 135, 137, 138, 140, 142</p>	<p>Students identify the properties and attributes of two- and three-dimensional objects that distinguish one from another with no significant errors.</p> <p>Student Edition: 151 #5, 326-328, 329-334, 336 #1, 337 #3, 338 #2, 339 #1, 340 #3, 383-388</p> <p>Teacher's Guide: N T329, T331</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 135, 137, 138, 140, 142</p>	<p>Students identify the properties and attributes of two- and three-dimensional objects that distinguish one from another with a few significant errors.</p> <p>Student Edition: 151 #5, 326-328, 329-334, 336 #1, 337 #3, 338 #2, 339 #1, 340 #3, 383-388</p> <p>Teacher's Guide: N T329, T331</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 135, 137, 138, 140, 142</p>	<p>Students identify the properties and attributes of two- and three-dimensional objects that distinguish one from another with many significant errors.</p> <p>Student Edition: 151 #5, 326-328, 329-334, 336 #1, 337 #3, 338 #2, 339 #1, 340 #3, 383-388</p> <p>Teacher's Guide: N T329, T331</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 135, 137, 138, 140, 142</p>

Standard 2: Student understands and applies geometric concepts and spatial relationships to represent and solve problems in mathematical and nonmathematical situations.

Benchmark Expectations		PROFICIENCY DESCRIPTOR			
		ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
9-10.2.2.	Determine congruence and similarity among geometric objects	<p>Students determine congruence and similarity among geometric objects with no errors.</p> <p>This benchmark can be found in Glencoe's <i>Contemporary Mathematics in Context Course 3</i> © 2003 in Unit 4, Lesson 2 (pages 297-324).</p>	<p>Students determine congruence and similarity among geometric objects with no significant errors.</p> <p>This benchmark can be found in Glencoe's <i>Contemporary Mathematics in Context Course 3</i> © 2003 in Unit 4, Lesson 2 (pages 297-324).</p>	<p>Students determine congruence and similarity among geometric objects with a few significant errors.</p> <p>This benchmark can be found in Glencoe's <i>Contemporary Mathematics in Context Course 3</i> © 2003 in Unit 4, Lesson 2 (pages 297-324).</p>	<p>Students determine congruence and similarity among geometric objects with many significant errors.</p> <p>This benchmark can be found in Glencoe's <i>Contemporary Mathematics in Context Course 3</i> © 2003 in Unit 4, Lesson 2 (pages 297-324).</p>
9-10.2.3.	Use trigonometric relationships and the Pythagorean Theorem to determine side lengths and angle measures in right triangles	<p>Students use trigonometric relationships and the Pythagorean Theorem to determine side lengths and angle measures in right triangles with no errors.</p> <p>Student Edition: 362-365, 366-372</p> <p>Teacher's Guide: CMT T365; I T362</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 145 Unit 5</p>	<p>Students use trigonometric relationships and the Pythagorean Theorem to determine side lengths and angle measures in right triangles with no significant errors.</p> <p>Student Edition: 362-365, 366-372</p> <p>Teacher's Guide: CMT T365; I T362</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 145 Unit 5</p>	<p>Students use trigonometric relationships and the Pythagorean Theorem to determine side lengths and angle measures in right triangles with a few significant errors.</p> <p>Student Edition: 362-365, 366-372</p> <p>Teacher's Guide: CMT T365; I T362</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 145 Unit 5</p>	<p>Students use trigonometric relationships and the Pythagorean Theorem to determine side lengths and angle measures in right triangles with many significant errors.</p> <p>Student Edition: 362-365, 366-372</p> <p>Teacher's Guide: CMT T365; I T362</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 145 Unit 5</p>

Standard 2: Student understands and applies geometric concepts and spatial relationships to represent and solve problems in mathematical and nonmathematical situations.

Benchmark Expectations		PROFICIENCY DESCRIPTOR			
		ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
9-10.2.4.	Using given information, establish the validity of a conjecture using a two-column or paragraph proof	<p>Students use given information in great detail and make no errors in using it to establish the validity of a conjecture.</p> <p>Student Edition: 263 #3, 328 #3, 339 #2, 363-364 #3, 368 #1</p>	<p>Students use given information in adequate detail and make no significant errors in using it to establish the validity of a conjecture.</p> <p>Student Edition: 263 #3, 328 #3, 339 #2, 363-364 #3, 368 #1</p>	<p>Students use given information in some detail and make a few significant errors in using it to establish the validity of a conjecture.</p> <p>Student Edition: 263 #3, 328 #3, 339 #2, 363-364 #3, 368 #1</p>	<p>Students use given information in minimal detail and make many significant errors in using it to establish the validity of a conjecture.</p> <p>Student Edition: 263 #3, 328 #3, 339 #2, 363-364 #3, 368 #1</p>
COORDINATE GEOMETRY					
9-10.2.5.	Use Cartesian coordinates to determine distance, midpoint, and slope	<p>Students use Cartesian coordinates to determine distance, midpoint, and slope with no errors.</p> <p>Student Edition: 183 #2c, 184 #3c, 185 #4c, 186 #6b, 190 #2a, 195 #2b, 196 #3, 205 #1 <i>Checkpoint 187</i> <i>On Your Own 201</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 78, 81, 82 Unit 3</p>	<p>Students use Cartesian coordinates to determine distance, midpoint, and slope with no significant errors.</p> <p>Student Edition: 183 #2c, 184 #3c, 185 #4c, 186 #6b, 190 #2a, 195 #2b, 196 #3, 205 #1 <i>Checkpoint 187</i> <i>On Your Own 201</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 78, 81, 82 Unit 3</p>	<p>Students use Cartesian coordinates to determine distance, midpoint, and slope with a few significant errors.</p> <p>Student Edition: 183 #2c, 184 #3c, 185 #4c, 186 #6b, 190 #2a, 195 #2b, 196 #3, 205 #1 <i>Checkpoint 187</i> <i>On Your Own 201</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 78, 81, 82 Unit 3</p>	<p>Students use Cartesian coordinates to determine distance, midpoint, and slope with many significant errors.</p> <p>Student Edition: 183 #2c, 184 #3c, 185 #4c, 186 #6b, 190 #2a, 195 #2b, 196 #3, 205 #1 <i>Checkpoint 187</i> <i>On Your Own 201</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 78, 81, 82 Unit 3</p>

Standard 2: Student understands and applies geometric concepts and spatial relationships to represent and solve problems in mathematical and nonmathematical situations.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<p>9-10.2.6. Use distance, midpoint, and slope to determine relationships between points, lines, and plane figures in the Cartesian coordinate system; e.g., determine whether a triangle is scalene, isosceles, or equilateral given the coordinates of its vertices</p>	<p>Students use distance, midpoint, and slope to determine the relationships between points, lines, and plane figures in the Cartesian coordinate system with no errors.</p> <p>Student Edition: 183 #2c, 184 #3c, 185 #4c, 186 #6b, 190 #2a, 195 #2b, 196 #3, 205 #1 <i>Checkpoint 187</i> <i>On Your Own 201</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 78, 81, 82 Unit 3</p>	<p>Students use distance, midpoint, and slope to determine the relationships between points, lines, and plane figures in the Cartesian coordinate system with no significant errors.</p> <p>Student Edition: 183 #2c, 184 #3c, 185 #4c, 186 #6b, 190 #2a, 195 #2b, 196 #3, 205 #1 <i>Checkpoint 187</i> <i>On Your Own 201</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 78, 81, 82 Unit 3</p>	<p>Students use distance, midpoint, and slope to determine the relationships between points, lines, and plane figures in the Cartesian coordinate system with a few significant errors.</p> <p>Student Edition: 183 #2c, 184 #3c, 185 #4c, 186 #6b, 190 #2a, 195 #2b, 196 #3, 205 #1 <i>Checkpoint 187</i> <i>On Your Own 201</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 78, 81, 82 Unit 3</p>	<p>Students use distance, midpoint, and slope to determine the relationships between points, lines, and plane figures in the Cartesian coordinate system with many significant errors.</p> <p>Student Edition: 183 #2c, 184 #3c, 185 #4c, 186 #6b, 190 #2a, 195 #2b, 196 #3, 205 #1 <i>Checkpoint 187</i> <i>On Your Own 201</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 78, 81, 82 Unit 3</p>

Standard 2: Student understands and applies geometric concepts and spatial relationships to represent and solve problems in mathematical and nonmathematical situations.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
TRANSFORMATION AND SYMMETRY				
9-10.2.7. Identify and perform transformations of objects in the plane using sketches (translations, reflections, rotations, and dilations) and coordinates (translations, reflections, and dilations)	<p>Students identify and perform transformations of objects in the plane with no errors.</p> <p>Student Edition: 387 #6, 403-404 #3, 405 #1, 406 #2, 410 #5, 414 #4 <i>Checkpoint 407</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 158, 159 Unit 5</p>	<p>Students identify and perform transformations of objects in the plane with no significant errors.</p> <p>Student Edition: 387 #6, 403-404 #3, 405 #1, 406 #2, 410 #5, 414 #4 <i>Checkpoint 407</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 158, 159 Unit 5</p>	<p>Students identify and perform transformations of objects in the plane with a few significant errors.</p> <p>Student Edition: 387 #6, 403-404 #3, 405 #1, 406 #2, 410 #5, 414 #4 <i>Checkpoint 407</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 158, 159 Unit 5</p>	<p>Students identify and perform transformations of objects in the plane with many significant errors.</p> <p>Student Edition: 387 #6, 403-404 #3, 405 #1, 406 #2, 410 #5, 414 #4 <i>Checkpoint 407</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 158, 159 Unit 5</p>

Standard 2: Student understands and applies geometric concepts and spatial relationships to represent and solve problems in mathematical and nonmathematical situations.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<p>9-10.2.8. Describe the effects of combining basic transformations in a plane; e.g., two reflections over parallel lines results in a translation</p>	<p>Students describe, in great detail, the results of combining basic transformations in a plane.</p> <p>Student Edition: 403 #3c, 404 #4, 405 #1, 414 #3b</p> <p>Teacher's Guide: CMT T404</p>	<p>Students describe, in adequate detail, the results of combining basic transformations in a plane.</p> <p>Student Edition: 403 #3c, 404 #4, 405 #1, 414 #3b</p> <p>Teacher's Guide: CMT T404</p>	<p>Students describe, in some detail, the results of combining basic transformations in a plane.</p> <p>Student Edition: 403 #3c, 404 #4, 405 #1, 414 #3b</p> <p>Teacher's Guide: CMT T404</p>	<p>Students describe, with minimal detail, the results of combining basic transformations in a plane.</p> <p>Student Edition: 403 #3c, 404 #4, 405 #1, 414 #3b</p> <p>Teacher's Guide: CMT T404</p>
<p>VISUALIZATION, SPATIAL REASONING, AND GEOMETRIC MODELING</p>				
<p>9-10.2.9. Construct plane figures using traditional and/or technological tools; i.e., congruent segments, congruent angles, angle and segment bisectors, perpendicular and parallel lines</p>	<p>Students construct plane figures with no errors using traditional and/or technological tools.</p> <p>Student Edition: 333 #7, 346 #3-#5, 352 #1, 354 #5, 393-394 #7, 400 #2, 401 #6</p> <p>Teacher's Guide: N T342</p>	<p>Students construct plane figures with no significant errors using traditional and/or technological tools.</p> <p>Student Edition: 333 #7, 346 #3-#5, 352 #1, 354 #5, 393-394 #7, 400 #2, 401 #6</p> <p>Teacher's Guide: N T342</p>	<p>Students construct plane figures with a few significant errors using traditional and/or technological tools.</p> <p>Student Edition: 333 #7, 346 #3-#5, 352 #1, 354 #5, 393-394 #7, 400 #2, 401 #6</p> <p>Teacher's Guide: N T342</p>	<p>Students construct plane figures with many significant errors using traditional and/or technological tools.</p> <p>Student Edition: 333 #7, 346 #3-#5, 352 #1, 354 #5, 393-394 #7, 400 #2, 401 #6</p> <p>Teacher's Guide: N T342</p>

Standard 2: Student understands and applies geometric concepts and spatial relationships to represent and solve problems in mathematical and nonmathematical situations.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
9-10.2.10. Recognize images of the same object shown from different perspectives; i.e., a two-dimensional image of a three-dimensional object	<p>Students recognize images of the same object shown from different perspectives with no errors.</p> <p>Student Edition: 341 #1, 342 #2, 343 #3, 344 #5, 347 #3, 348 #4, 350 #4, 352 #1, 354 #5</p> <p>Teacher's Guide: N T342</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 139</p>	<p>Students recognize images of the same object shown from different perspectives with no significant errors.</p> <p>Student Edition: 341 #1, 342 #2, 343 #3, 344 #5, 347 #3, 348 #4, 350 #4, 352 #1, 354 #5</p> <p>Teacher's Guide: N T342</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 139</p>	<p>Students recognize images of the same object shown from different perspectives with a few significant errors.</p> <p>Student Edition: 341 #1, 342 #2, 343 #3, 344 #5, 347 #3, 348 #4, 350 #4, 352 #1, 354 #5</p> <p>Teacher's Guide: N T342</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 139</p>	<p>Students recognize images of the same object shown from different perspectives with many significant errors.</p> <p>Student Edition: 341 #1, 342 #2, 343 #3, 344 #5, 347 #3, 348 #4, 350 #4, 352 #1, 354 #5</p> <p>Teacher's Guide: N T342</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 139</p>
9-10.2.11. Use geometric models to find solutions to problems in mathematics and other disciplines; e.g., art and architecture	<p>Students use geometric models to find solutions to problems in mathematics and other disciplines with no errors.</p> <p>Student Edition: 327-329, 335 #2, 338 #1, 339 #3, 347 #1, 350 #4, 353 #1, 397 #5</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 136</p>	<p>Students use geometric models to find solutions to problems in mathematics and other disciplines with no significant errors.</p> <p>Student Edition: 327-329, 335 #2, 338 #1, 339 #3, 347 #1, 350 #4, 353 #1, 397 #5</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 136</p>	<p>Students use geometric models to find solutions to problems in mathematics and other disciplines with a few significant errors.</p> <p>Student Edition: 327-329, 335 #2, 338 #1, 339 #3, 347 #1, 350 #4, 353 #1, 397 #5</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 136</p>	<p>Students use geometric models to find solutions to problems in mathematics and other disciplines with many significant errors.</p> <p>Student Edition: 327-329, 335 #2, 338 #1, 339 #3, 347 #1, 350 #4, 353 #1, 397 #5</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 136</p>

Standard 3: Data Analysis, Statistics, and Probability

Standard 3: Students use data collection and analysis techniques, statistical methods, and probability to solve problems.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
Grades 9-10				
<p>DATA COLLECTION, DISPLAY, AND INTERPRETATION</p> <p>9-10.3.1. Construct appropriate displays of given data; i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots</p>	<p>Students construct a display for a given set of data with no errors.</p> <p>Student Edition: 9 #4, 10 #5, 17 #5, 20 #1, 21 #2, 23 #6, 24 #1 <i>Checkpoint 18</i> <i>On Your Own 11</i> <i>Think About This Situation 15</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 7, 9a, 9b, 10, 13a-13b</p>	<p>Students construct a display for a given set of data with no significant errors.</p> <p>Student Edition: 9 #4, 10 #5, 17 #5, 20 #1, 21 #2, 23 #6, 24 #1 <i>Checkpoint 18</i> <i>On Your Own 11</i> <i>Think About This Situation 15</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 7, 9a, 9b, 10, 13a-13b</p>	<p>Students construct a display for a given set of data with a few significant errors.</p> <p>Student Edition: 9 #4, 10 #5, 17 #5, 20 #1, 21 #2, 23 #6, 24 #1 <i>Checkpoint 18</i> <i>On Your Own 11</i> <i>Think About This Situation 15</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 7, 9a, 9b, 10, 13a-13b</p>	<p>Students construct a display for a given set of data with many significant errors.</p> <p>Student Edition: 9 #4, 10 #5, 17 #5, 20 #1, 21 #2, 23 #6, 24 #1 <i>Checkpoint 18</i> <i>On Your Own 11</i> <i>Think About This Situation 15</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 7, 9a, 9b, 10, 13a-13b</p>

Standard 3: Students use data collection and analysis techniques, statistical methods, and probability to solve problems.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<p>9-10.3.2. Interpret a given visual representation (i.e., circle graphs, bar graphs, histograms, stem-and-leaf plots, box-and-whisker plots, and scatter plots) of a set of data</p>	<p>Students interpret, with great detail, a given visual representation of a data set.</p> <p>Student Edition: 9 #4, 12 #8-#9, 16 #2, 17 #4, 28 #2, 35 #4, 41 #4, 42 #5, 44 #4 <i>On Your Own</i> 18</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 7, 9a, 9b, 10, 13a-13b</p>	<p>Students interpret, with adequate detail, a given visual representation of a data set.</p> <p>Student Edition: 9 #4, 12 #8-#9, 16 #2, 17 #4, 28 #2, 35 #4, 41 #4, 42 #5, 44 #4 <i>On Your Own</i> 18</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 7, 9a, 9b, 10, 13a-13b</p>	<p>Students interpret, with some detail, a given visual representation of a data set.</p> <p>Student Edition: 9 #4, 12 #8-#9, 16 #2, 17 #4, 28 #2, 35 #4, 41 #4, 42 #5, 44 #4 <i>On Your Own</i> 18</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 7, 9a, 9b, 10, 13a-13b</p>	<p>Students interpret, with minimal detail, a given visual representation of a data set.</p> <p>Student Edition: 9 #4, 12 #8-#9, 16 #2, 17 #4, 28 #2, 35 #4, 41 #4, 42 #5, 44 #4 <i>On Your Own</i> 18</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 7, 9a, 9b, 10, 13a-13b</p>
<p>9-10.3.3. Identify the variable, sample, and population in a well-designed study; e.g., in an exit poll for a tax increase, the variable is the outcome of the vote, the sample is the set of people surveyed, the population is the set of all voters</p>	<p>Students identify the variable, sample, and population in a well-designed study with no errors.</p> <p>Student Edition: 47-51, 52-54, 55-62, 63-65, 66-73 <i>Checkpoint</i> 6</p> <p>Teacher's Guide: CMT T51; I T48, T52; LO T47</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 21, 30, 31, 32</p>	<p>Students identify the variable, sample, and population in a well-designed study with no significant errors.</p> <p>Student Edition: 47-51, 52-54, 55-62, 63-65, 66-73 <i>Checkpoint</i> 6</p> <p>Teacher's Guide: CMT T51; I T48, T52; LO T47</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 21, 30, 31, 32</p>	<p>Students identify the variable, sample, and population in a well-designed study with a few significant errors.</p> <p>Student Edition: 47-51, 52-54, 55-62, 63-65, 66-73 <i>Checkpoint</i> 6</p> <p>Teacher's Guide: CMT T51; I T48, T52; LO T47</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 21, 30, 31, 32</p>	<p>Students identify the variable, sample, and population in a well-designed study with many significant errors.</p> <p>Student Edition: 47-51, 52-54, 55-62, 63-65, 66-73 <i>Checkpoint</i> 6</p> <p>Teacher's Guide: CMT T51; I T48, T52; LO T47</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 21, 30, 31, 32</p>

Standard 3: Students use data collection and analysis techniques, statistical methods, and probability to solve problems.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
PROBABILITY				
9-10.3.4. Determine the number of possible outcomes for a given event, using appropriate counting techniques; e.g., fundamental counting principle, factorials, combinations, permutations	<p>Students determine the number of possible outcomes for an event with no errors.</p> <p>Student Edition: 421 #1, 422 #3, 424-427, 485 #1, 487 #3, 489 #7, 495 #4, 509 #4 <i>On Your Own</i> 423</p> <p>Teacher's Guide: N T422</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 181</p>	<p>Students determine the number of possible outcomes for an event with no significant errors.</p> <p>Student Edition: 421 #1, 422 #3, 424-427, 485 #1, 487 #3, 489 #7, 495 #4, 509 #4 <i>On Your Own</i> 423</p> <p>Teacher's Guide: N T422</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 181</p>	<p>Students determine the number of possible outcomes for an event with a few significant errors.</p> <p>Student Edition: 421 #1, 422 #3, 424-427, 485 #1, 487 #3, 489 #7, 495 #4, 509 #4 <i>On Your Own</i> 423</p> <p>Teacher's Guide: N T422</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 181</p>	<p>Students determine the number of possible outcomes for an event with many significant errors.</p> <p>Student Edition: 421 #1, 422 #3, 424-427, 485 #1, 487 #3, 489 #7, 495 #4, 509 #4 <i>On Your Own</i> 423</p> <p>Teacher's Guide: N T422</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 181</p>
9-10.3.5. Calculate experimental and theoretical probabilities with and without replacement	<p>Students calculate experimental and theoretical probabilities with and without replacement with no errors.</p> <p>Student Edition: 492 #3, 495 #4, 496 #2, 497 #6, 505 #1, 506 #2, 507 #3, 511 #4, 512 #5 <i>Think About This Situation</i> 484</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 177 Unit 7</p>	<p>Students calculate experimental and theoretical probabilities with and without replacement with no significant arithmetic errors.</p> <p>Student Edition: 492 #3, 495 #4, 496 #2, 497 #6, 505 #1, 506 #2, 507 #3, 511 #4, 512 #5 <i>Think About This Situation</i> 484</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 177 Unit 7</p>	<p>Students calculate experimental or theoretical probabilities with and without replacement with a few significant errors.</p> <p>Student Edition: 492 #3, 495 #4, 496 #2, 497 #6, 505 #1, 506 #2, 507 #3, 511 #4, 512 #5 <i>Think About This Situation</i> 484</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 177 Unit 7</p>	<p>Students calculate experimental and theoretical probabilities with and without replacement with many significant errors.</p> <p>Student Edition: 492 #3, 495 #4, 496 #2, 497 #6, 505 #1, 506 #2, 507 #3, 511 #4, 512 #5 <i>Think About This Situation</i> 484</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 177 Unit 7</p>

Standard 3: Students use data collection and analysis techniques, statistical methods, and probability to solve problems.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<p>9-10.3.6. Calculate probabilities of compound events using addition and multiplication rules</p>	<p>Students use addition and multiplication rules to calculate probabilities of compound events with no errors.</p> <p>Student Edition: 516 #10, 525 #2, 543 #5 <i>Checkpoint 517</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Unit 7</p>	<p>Students use addition and multiplication rules to calculate probabilities of compound events with no significant errors.</p> <p>Student Edition: 516 #10, 525 #2, 543 #5 <i>Checkpoint 517</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Unit 7</p>	<p>Students use addition and multiplication rules to calculate probabilities of compound events with a few significant errors.</p> <p>Student Edition: 516 #10, 525 #2, 543 #5 <i>Checkpoint 517</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Unit 7</p>	<p>Students use addition and multiplication rules to calculate probabilities of compound events with many significant errors.</p> <p>Student Edition: 516 #10, 525 #2, 543 #5 <i>Checkpoint 517</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Unit 7</p>
<p>STATISTICAL METHODS</p>				
<p>9-10.3.7. Calculate measures of central tendency and spread; i.e., mean, median, mode, range, and quartiles</p>	<p>Students calculate measures of central tendency and spread with no errors.</p> <p>Student Edition: 33 #2, 35 #3, 36 #6, 39 #2, 41 #4, 42 #5, 43 #1, 44 #1 <i>On Your Own 34, 37</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 18, 19, 20, 21, 22, 23 Unit 1</p>	<p>Students calculate measures of central tendency and spread with no significant errors.</p> <p>Student Edition: 33 #2, 35 #3, 36 #6, 39 #2, 41 #4, 42 #5, 43 #1, 44 #1 <i>On Your Own 34, 37</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 18, 19, 20, 21, 22, 23 Unit 1</p>	<p>Students calculate measures of central tendency and spread with a few significant errors.</p> <p>Student Edition: 33 #2, 35 #3, 36 #6, 39 #2, 41 #4, 42 #5, 43 #1, 44 #1 <i>On Your Own 34, 37</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 18, 19, 20, 21, 22, 23 Unit 1</p>	<p>Students calculate measures of central tendency and spread with many significant errors.</p> <p>Student Edition: 33 #2, 35 #3, 36 #6, 39 #2, 41 #4, 42 #5, 43 #1, 44 #1 <i>On Your Own 34, 37</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 18, 19, 20, 21, 22, 23 Unit 1</p>

Standard 3: Students use data collection and analysis techniques, statistical methods, and probability to solve problems.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<p>9-10.3.8. Discuss relationships among measures of central tendency and spread; i.e., mean, median, mode, range, and quartiles</p>	<p>Students discuss, in great detail, the relationships among measures of central tendency and spread.</p> <p>Student Edition: 33 #2, 35 #3, 36 #6, 39 #2, 41 #4, 42 #5, 43 #1, 44 #1 <i>On Your Own</i> 34, 37</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 18, 19, 20, 21, 22, 23 Unit 1</p>	<p>Students discuss, in adequate detail, the relationships among measures of central tendency and spread.</p> <p>Student Edition: 33 #2, 35 #3, 36 #6, 39 #2, 41 #4, 42 #5, 43 #1, 44 #1 <i>On Your Own</i> 34, 37</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 18, 19, 20, 21, 22, 23 Unit 1</p>	<p>Students discuss, in some detail, the relationships among measures of central tendency and spread.</p> <p>Student Edition: 33 #2, 35 #3, 36 #6, 39 #2, 41 #4, 42 #5, 43 #1, 44 #1 <i>On Your Own</i> 34, 37</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 18, 19, 20, 21, 22, 23 Unit 1</p>	<p>Students discuss, in minimal detail, the relationships among measures of central tendency and spread.</p> <p>Student Edition: 33 #2, 35 #3, 36 #6, 39 #2, 41 #4, 42 #5, 43 #1, 44 #1 <i>On Your Own</i> 34, 37</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 18, 19, 20, 21, 22, 23 Unit 1</p>
PREDICTIONS, DATA ANALYSIS, AND INFERENCES				
<p>9-10.3.9. Select two points and approximate an equation for the line of best fit (if appropriate) for a set of data</p>	<p>Students select two points, and determine an equation that approximates the line of best fit with no errors.</p> <p>Student Edition: 76 #2, 77 #3, 195 #2, 196 #3, 197 #4-#5, 202 #2, 203 #3, 204 #4, 207 #1, 208 #3, 209 #4 <i>Checkpoint</i> 78</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 79, 80, 81, 83 Unit 3</p>	<p>Students select two points, and determine an equation that approximates the line of best fit with no significant errors.</p> <p>Student Edition: 76 #2, 77 #3, 195 #2, 196 #3, 197 #4-#5, 202 #2, 203 #3, 204 #4, 207 #1, 208 #3, 209 #4 <i>Checkpoint</i> 78</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 79, 80, 81, 83 Unit 3</p>	<p>Students select two points, and determine an equation that approximates the line of best fit with a few significant errors.</p> <p>Student Edition: 76 #2, 77 #3, 195 #2, 196 #3, 197 #4-#5, 202 #2, 203 #3, 204 #4, 207 #1, 208 #3, 209 #4 <i>Checkpoint</i> 78</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 79, 80, 81, 83 Unit 3</p>	<p>Students select two points, and determine an equation that approximates the line of best fit with many significant errors.</p> <p>Student Edition: 76 #2, 77 #3, 195 #2, 196 #3, 197 #4-#5, 202 #2, 203 #3, 204 #4, 207 #1, 208 #3, 209 #4 <i>Checkpoint</i> 78</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 79, 80, 81, 83 Unit 3</p>

Standard 3: Students use data collection and analysis techniques, statistical methods, and probability to solve problems.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
9-10.3.10. Identify the trend of a set of data and estimate the strength of the correlation between two variables; e.g., strong vs. weak, positive vs. negative	<p>Students identify the trend of a set of data and provide an estimate of the strength of the correlation between two variables with no errors.</p> <p>Student Edition: 76 #2, 77 #3, 195 #2, 196 #3, 197 #4-#5, 202 #2, 203 #3, 204 #4, 207 #1, 208 #3, 209 #4 <i>Checkpoint 78</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 79, 80, 81, 83 Unit 3</p>	<p>Students identify the trend of a set of data and provide an estimate of the strength of the correlation between two variables with no significant errors.</p> <p>Student Edition: 76 #2, 77 #3, 195 #2, 196 #3, 197 #4-#5, 202 #2, 203 #3, 204 #4, 207 #1, 208 #3, 209 #4 <i>Checkpoint 78</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 79, 80, 81, 83 Unit 3</p>	<p>Students identify the trend of a set of data and provide an estimate of the strength of the correlation between two variables with a few significant errors.</p> <p>Student Edition: 76 #2, 77 #3, 195 #2, 196 #3, 197 #4-#5, 202 #2, 203 #3, 204 #4, 207 #1, 208 #3, 209 #4 <i>Checkpoint 78</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 79, 80, 81, 83 Unit 3</p>	<p>Students identify the trend of a set of data and provide an estimate of the strength of the correlation between two variables with many significant errors.</p> <p>Student Edition: 76 #2, 77 #3, 195 #2, 196 #3, 197 #4-#5, 202 #2, 203 #3, 204 #4, 207 #1, 208 #3, 209 #4 <i>Checkpoint 78</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 79, 80, 81, 83 Unit 3</p>

Standard 4: Measurement

Standard 4: Students use concepts and tools of measurement to describe and quantify the world.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
Grades 9-10				
MEASURABLE ATTRIBUTES, MEASUREMENT SYSTEMS AND UNITS 9-10.4.1. Select appropriate units and scales for problem situations involving measurement	<p>Students select appropriate units and scales for problem situations involving measurement with ease.</p> <p>Student Edition: 356 #1, 357 #4, 358 #5, 373 #2, 378 #4, 379 #2 <i>Checkpoint 358</i> <i>On Your Own 359</i> <i>Think About This Situation 355</i></p> <p>Teacher's Guide: I T373</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 142</p>	<p>Students select appropriate units and scales for problem situations involving measurement with minimal difficulty.</p> <p>Student Edition: 356 #1, 357 #4, 358 #5, 373 #2, 378 #4, 379 #2 <i>Checkpoint 358</i> <i>On Your Own 359</i> <i>Think About This Situation 355</i></p> <p>Teacher's Guide: I T373</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 142</p>	<p>Students select appropriate units and scales for problem situations involving measurement with difficulty.</p> <p>Student Edition: 356 #1, 357 #4, 358 #5, 373 #2, 378 #4, 379 #2 <i>Checkpoint 358</i> <i>On Your Own 359</i> <i>Think About This Situation 355</i></p> <p>Teacher's Guide: I T373</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 142</p>	<p>Students select appropriate units and scales for problem situations involving measurement with great difficulty.</p> <p>Student Edition: 356 #1, 357 #4, 358 #5, 373 #2, 378 #4, 379 #2 <i>Checkpoint 358</i> <i>On Your Own 359</i> <i>Think About This Situation 355</i></p> <p>Teacher's Guide: I T373</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 142</p>

Standard 4: Students use concepts and tools of measurement to describe and quantify the world.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<p>9-10.4.2. Describe the effects of scalar change on the area and volume of a figure; e.g., the effect of doubling one or more edges of a solid on its surface area and volume</p>	<p>Students describe with great detail the effects of scalar change on area and volume.</p> <p>Student Edition: 376 #9, 377 #1, 379 #3, 380 #2, 381 #1, 382 #5</p> <p>Teacher's Guide: N T381</p>	<p>Students describe with adequate detail the effects of scalar change on area and volume.</p> <p>Student Edition: 376 #9, 377 #1, 379 #3, 380 #2, 381 #1, 382 #5</p> <p>Teacher's Guide: N T381</p>	<p>Students describe with some detail the effects of scalar change on area and volume.</p> <p>Student Edition: 376 #9, 377 #1, 379 #3, 380 #2, 381 #1, 382 #5</p> <p>Teacher's Guide: N T381</p>	<p>Students describe with minimal detail the effects of scalar change on area and volume.</p> <p>Student Edition: 376 #9, 377 #1, 379 #3, 380 #2, 381 #1, 382 #5</p> <p>Teacher's Guide: N T381</p>
<p>9-10.4.3. Use approximations to compare the standard and metric systems of measurement; e.g., a five-kilometer race is about three miles long</p>	<p>Students use approximations to compare the standard and metric systems of measurement with ease.</p> <p>Student Edition: 67 #4, 241 #4</p>	<p>Students use approximations to compare the standard and metric systems of measurement with minimal difficulty.</p> <p>Student Edition: 67 #4, 241 #4</p>	<p>Students use approximations to compare the standard and metric systems of measurement with difficulty.</p> <p>Student Edition: 67 #4, 241 #4</p>	<p>Students use approximations to compare the standard and metric systems of measurement with great difficulty.</p> <p>Student Edition: 67 #4, 241 #4</p>
<p>9-10.4.4. Given a conversion factor, convert between standard and metric measurements</p>	<p>Students convert between standard and metric measurements with no errors.</p> <p>Student Edition: 67 #4, 241 #4</p>	<p>Students convert between standard and metric measurements with no significant errors.</p> <p>Student Edition: 67 #4, 241 #4</p>	<p>Students convert between standard and metric measurements with a few significant errors.</p> <p>Student Edition: 67 #4, 241 #4</p>	<p>Students convert between standard and metric measurements with many significant errors.</p> <p>Student Edition: 67 #4, 241 #4</p>

Standard 4: Students use concepts and tools of measurement to describe and quantify the world.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<p>MEASUREMENT TOOLS, TECHNIQUES, AND FORMULAS</p> <p>9-10.4.5. Use methods necessary to achieve a specified degree of precision and accuracy (i.e., appropriate number of significant digits) in measurement situations</p>	<p>Students use methods necessary to achieve a specified degree of precision and accuracy in a measurement situation with no errors.</p> <p>Student Edition: 4-6</p> <p>Teacher's Guide: N T5</p>	<p>Students use methods necessary to achieve a specified degree of precision and accuracy in a measurement situation with no significant errors.</p> <p>Student Edition: 4-6</p> <p>Teacher's Guide: N T5</p>	<p>Students use methods necessary to achieve a specified degree of precision and accuracy in a measurement situation with a few significant errors.</p> <p>Student Edition: 4-6</p> <p>Teacher's Guide: N T5</p>	<p>Students use methods necessary to achieve a specified degree of precision and accuracy in a measurement situation with many significant errors.</p> <p>Student Edition: 4-6</p> <p>Teacher's Guide: N T5</p>
<p>9-10.4.6. Employ estimation techniques to evaluate reasonableness of results in measurement situations</p>	<p>Students employ estimation techniques to evaluate the reasonableness of results in measurement situations with ease.</p> <p>Student Edition: 357 #4, 370 #1, 374 #4, 378 #4 <i>On Your Own</i> 359</p>	<p>Students employ estimation techniques to evaluate the reasonableness of results in measurement situations with minimal difficulty.</p> <p>Student Edition: 357 #4, 370 #1, 374 #4, 378 #4 <i>On Your Own</i> 359</p>	<p>Students employ estimation techniques to evaluate the reasonableness of results in measurement situations with difficulty.</p> <p>Student Edition: 357 #4, 370 #1, 374 #4, 378 #4 <i>On Your Own</i> 359</p>	<p>Students employ estimation techniques to evaluate the reasonableness of results in measurement situations with great difficulty.</p> <p>Student Edition: 357 #4, 370 #1, 374 #4, 378 #4 <i>On Your Own</i> 359</p>
<p>9-10.4.7. Use unit analysis to track units during computations</p>	<p>Students use unit analysis to track units during computations with no errors.</p> <p>Student Edition: 366 #2, 376 #9</p>	<p>Students use unit analysis to track units during computations with no significant errors.</p> <p>Student Edition: 366 #2, 376 #9</p>	<p>Students use unit analysis to track units during computations with a few significant errors.</p> <p>Student Edition: 366 #2, 376 #9</p>	<p>Students use unit analysis to track units during computations with many significant errors.</p> <p>Student Edition: 366 #2, 376 #9</p>

Standard 4: Students use concepts and tools of measurement to describe and quantify the world.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
9-10.4.8. Given a formula list, compute the area of a regular polygon	<p>Students compute the area of a regular polygon with no errors.</p> <p>Student Edition: 135 #1, 240 #3, 359 #6, 360 #7 <i>Checkpoint</i> 358, 361 <i>On Your Own</i> 361</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 143, 144 Unit 5</p>	<p>Students compute the area of a regular polygon with no significant errors.</p> <p>Student Edition: 135 #1, 240 #3, 359 #6, 360 #7 <i>Checkpoint</i> 358, 361 <i>On Your Own</i> 361</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 143, 144 Unit 5</p>	<p>Students compute the area of a regular polygon with a few significant errors.</p> <p>Student Edition: 135 #1, 240 #3, 359 #6, 360 #7 <i>Checkpoint</i> 358, 361 <i>On Your Own</i> 361</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 143, 144 Unit 5</p>	<p>Students compute the area of a regular polygon, with many significant errors.</p> <p>Student Edition: 135 #1, 240 #3, 359 #6, 360 #7 <i>Checkpoint</i> 358, 361 <i>On Your Own</i> 361</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 143, 144 Unit 5</p>
9-10.4.9. Given a formula list, compute the surface area and volume of a right prism, right cylinder, right pyramid, right cone, and sphere	<p>Students compute the surface area and volume of a right prism, right cylinder, right pyramid, right cone, and sphere with no errors.</p> <p>Student Edition: 373 #2, 374 #3, 375 #4d, 379 #2, 380 #3 <i>Checkpoint</i> 376</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 146 Unit 5</p>	<p>Students compute the surface area and volume of a right prism, right cylinder, right pyramid, right cone, and sphere with no significant errors.</p> <p>Student Edition: 373 #2, 374 #3, 375 #4d, 379 #2, 380 #3 <i>Checkpoint</i> 376</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 146 Unit 5</p>	<p>Students compute the surface area and volume of a right prism, right cylinder, right pyramid, right cone, and sphere with a few significant errors.</p> <p>Student Edition: 373 #2, 374 #3, 375 #4d, 379 #2, 380 #3 <i>Checkpoint</i> 376</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 146 Unit 5</p>	<p>Students compute the surface area and volume of a right prism, right cylinder, right pyramid, right cone, and sphere with many significant errors.</p> <p>Student Edition: 373 #2, 374 #3, 375 #4d, 379 #2, 380 #3 <i>Checkpoint</i> 376</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 146 Unit 5</p>

Standard 4: Students use concepts and tools of measurement to describe and quantify the world.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
9-10.4.10. Apply indirect measurement techniques to solve problems involving irregular shapes or inaccessible objects; e.g., calculate the distance across a lake, triangulate an irregular region to find its approximate area	<p>Students apply indirect measurement techniques with ease to solve problems involving irregular shapes or inaccessible objects.</p> <p>Student Edition: 158, 159-161, 172 #4, 177 #4, 357 #4 <i>On Your Own</i> 359</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 67</p>	<p>Students apply indirect measurement techniques with minimal difficulty to solve problems involving irregular shapes or inaccessible objects.</p> <p>Student Edition: 158, 159-161, 172 #4, 177 #4, 357 #4 <i>On Your Own</i> 359</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 67</p>	<p>Students apply indirect measurement techniques with difficulty to solve problems involving irregular shapes or inaccessible objects.</p> <p>Student Edition: 158, 159-161, 172 #4, 177 #4, 357 #4 <i>On Your Own</i> 359</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 67</p>	<p>Students apply indirect measurement techniques with great difficulty to solve problems involving irregular shapes or inaccessible objects.</p> <p>Student Edition: 158, 159-161, 172 #4, 177 #4, 357 #4 <i>On Your Own</i> 359</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 67</p>

Standard 5: Algebra, Functions and Patterns

Standard 5: Students use algebraic concepts, functions, patterns, and relationships to solve problems.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
Grades 9-10				
PATTERNS, RELATIONS, AND FUNCTIONS				
9-10.5.1. Given the explicit and/or the recursive definition of a sequence, generate a specific term (explicit formula only) or a specified number of terms	<p>Given an explicit and/or a recursive definition of a sequence, students generate the specified number of terms with no errors.</p> <p>Student Edition: 119 #3, 183 #2, 337 #4, 422 #4, 435 #5, 441 #2-#3 <i>Checkpoint 112</i></p> <p>Teacher's Guide: N T422</p>	<p>Given an explicit and/or a recursive definition of a sequence, students generate the specified number of terms with no significant errors.</p> <p>Student Edition: 119 #3, 183 #2, 337 #4, 422 #4, 435 #5, 441 #2-#3 <i>Checkpoint 112</i></p> <p>Teacher's Guide: N T422</p>	<p>Given an explicit and/or a recursive definition of a sequence, students generate the specified number of terms with a few significant errors.</p> <p>Student Edition: 119 #3, 183 #2, 337 #4, 422 #4, 435 #5, 441 #2-#3 <i>Checkpoint 112</i></p> <p>Teacher's Guide: N T422</p>	<p>Given an explicit and/or a recursive definition of a sequence, students generate the specified number of terms with many significant errors.</p> <p>Student Edition: 119 #3, 183 #2, 337 #4, 422 #4, 435 #5, 441 #2-#3 <i>Checkpoint 112</i></p> <p>Teacher's Guide: N T422</p>
9-10.5.2. Express relations and functions using a variety of representations; i.e., numeric, graphic, symbolic, and verbal	<p>Students express relations and functions using a variety of representations with no errors.</p> <p>Student Edition: 105 #5, 106-107 #3, 109 #2, 122 #1, 123 #6, 124 #7, 128 #4, 131 #8 <i>On Your Own 101, 125</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 48</p>	<p>Students express relations and functions using a variety of representations with no significant errors.</p> <p>Student Edition: 105 #5, 106-107 #3, 109 #2, 122 #1, 123 #6, 124 #7, 128 #4, 131 #8 <i>On Your Own 101, 125</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 48</p>	<p>Students express relations and functions using a variety of representations with a few significant errors.</p> <p>Student Edition: 105 #5, 106-107 #3, 109 #2, 122 #1, 123 #6, 124 #7, 128 #4, 131 #8 <i>On Your Own 101, 125</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 48</p>	<p>Students express relations and functions using a variety of representations with many significant errors.</p> <p>Student Edition: 105 #5, 106-107 #3, 109 #2, 122 #1, 123 #6, 124 #7, 128 #4, 131 #8 <i>On Your Own 101, 125</i></p> <p>Teacher Resources: <i>Teaching Resources</i> Master 48</p>

Standard 5: Students use algebraic concepts, functions, patterns, and relationships to solve problems.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<p>9-10.5.3. Determine whether a relation is a function by examining various representations of the relation; e.g., table, graph, equation, set of ordered pairs</p>	<p>Students determine whether a relation is a function with ease.</p> <p>Student Edition: <i>On Your Own</i> 101</p> <p>Teacher's Guide: C T101</p>	<p>Students determine whether a relation is a function with minimal difficulty.</p> <p>Student Edition: <i>On Your Own</i> 101</p> <p>Teacher's Guide: C T101</p>	<p>Students determine whether a relation is a function with difficulty.</p> <p>Student Edition: <i>On Your Own</i> 101</p> <p>Teacher's Guide: C T101</p>	<p>Students determine whether a relation is a function with great difficulty.</p> <p>Student Edition: <i>On Your Own</i> 101</p> <p>Teacher's Guide: C T101</p>
<p>9-10.5.4. Perform the operations of addition, subtraction, multiplication, and division on algebraic functions; e.g., given $f(x) = 2x$ and $g(x) = 5x - 7$, find $f(x) + g(x)$</p>	<p>Students perform the four basic operations on algebraic functions with no errors.</p> <p>Student Edition: 236 #5, 239 #1, 240 #4, 241 #1 <i>Checkpoint</i> 237</p>	<p>Students perform the four basic operations on algebraic functions with no significant errors.</p> <p>Student Edition: 236 #5, 239 #1, 240 #4, 241 #1 <i>Checkpoint</i> 237</p>	<p>Students perform the four basic operations on algebraic functions with a few significant errors.</p> <p>Student Edition: 236 #5, 239 #1, 240 #4, 241 #1 <i>Checkpoint</i> 237</p>	<p>Students perform the four basic operations on algebraic functions with many significant errors.</p> <p>Student Edition: 236 #5, 239 #1, 240 #4, 241 #1 <i>Checkpoint</i> 237</p>
<p>9-10.5.5. Identify the independent variable, dependent variable, domain, and range of a function</p>	<p>Students identify the independent variable, dependent variable, domain, and range of a function with ease.</p> <p>Student Edition: 127, 175 #1, 178 #4-#5, 188 #1, 206 #3, 213 #3</p>	<p>Students identify the independent variable, dependent variable, domain, and range of a function with minimal difficulty.</p> <p>Student Edition: 127, 175 #1, 178 #4-#5, 188 #1, 206 #3, 213 #3</p>	<p>Students identify the independent variable, dependent variable, domain, and range of a function with difficulty.</p> <p>Student Edition: 127, 175 #1, 178 #4-#5, 188 #1, 206 #3, 213 #3</p>	<p>Students identify the independent variable, dependent variable, domain, and range of a function with great difficulty.</p> <p>Student Edition: 127, 175 #1, 178 #4-#5, 188 #1, 206 #3, 213 #3</p>

Standard 5: Students use algebraic concepts, functions, patterns, and relationships to solve problems.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<p>9-10.5.6. Draw graphs of linear and quadratic functions using paper and pencil, labeling key features; e.g., graph a line and label its x-intercept and y-intercept, graph a parabola and label its vertex and one point on each side of the vertex</p>	<p>Students graph linear and quadratic functions with no errors, labeling all key features.</p> <p>Student Edition: 186 #6, 190 #2, 191 #3, 193 #3, 195 #2, 196 #3, 197 #5, 200 #2 <i>Checkpoint 198</i> <i>On Your Own 187</i></p>	<p>Students graph linear and quadratic functions with no significant errors, labeling most key features.</p> <p>Student Edition: 130 #7, 131 #8, 138 #2, 139 #2c, 188 #1, 189 #4, 191 #5, 203 #3b, 205 #3 <i>Checkpoint 187</i></p>	<p>Students graph linear and quadratic functions with a few significant errors, labeling some key features.</p> <p>Student Edition: 130 #7, 131 #8, 138 #2, 139 #2c, 188 #1, 189 #4, 191 #5, 203 #3b, 205 #3 <i>Checkpoint 187</i></p>	<p>Students graph linear and quadratic functions with many significant errors, labeling very few key features.</p> <p>Student Edition: 130 #7, 131 #8, 138 #2, 139 #2c, 188 #1, 189 #4, 191 #5, 203 #3b, 205 #3 <i>Checkpoint 187</i></p>
<p>NUMERIC AND ALGEBRAIC REPRESENTATIONS</p>				
<p>9-10.5.7. Use algebraic expressions, equations, or inequalities involving one or two variables to represent relationships (e.g., given a verbal statement, write an equivalent algebraic expression or equation) found in various contexts (e.g., time and distance problems, mixture problems)</p>	<p>Students use algebraic expressions, equations, or inequalities involving one or two variables to represent relationships with no errors.</p> <p>Student Edition: 122 #4, 123 #5, 124 #7, 131 #8, 133 #2, 134 #5, 135 #1, 137 #4 <i>On Your Own 125, 132</i></p>	<p>Students use algebraic expressions, equations, or inequalities involving one or two variables to represent relationships with no significant errors.</p> <p>Student Edition: 122 #4, 123 #5, 124 #7, 131 #8, 133 #2, 134 #5, 135 #1, 137 #4 <i>On Your Own 125, 132</i></p>	<p>Students use algebraic expressions, equations, or inequalities involving one or two variables to represent relationships with a few significant errors.</p> <p>Student Edition: 122 #4, 123 #5, 124 #7, 131 #8, 133 #2, 134 #5, 135 #1, 137 #4 <i>On Your Own 125, 132</i></p>	<p>Students use algebraic expressions, equations, or inequalities involving one or two variables to represent relationships with many significant errors.</p> <p>Student Edition: 122 #4, 123 #5, 124 #7, 131 #8, 133 #2, 134 #5, 135 #1, 137 #4 <i>On Your Own 125, 132</i></p>

Standard 5: Students use algebraic concepts, functions, patterns, and relationships to solve problems.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
9-10.5.8. Manipulate algebraic expressions and equations using properties of real numbers; e.g., simplify, factor	<p>Students manipulate algebraic expressions and equations using properties of real numbers with no errors.</p> <p>Student Edition: 236 #5, 239 #1, 240 #4, 241 #1, 247 #5b, 425 #5c, 433 #1, 480 #5 <i>Checkpoint 237</i></p> <p>Teacher’s Guide: N T480</p>	<p>Students manipulate algebraic expressions and equations using properties of real numbers with no significant errors.</p> <p>Student Edition: 236 #5, 239 #1, 240 #4, 241 #1, 247 #5b, 425 #5c, 433 #1, 480 #5 <i>Checkpoint 237</i></p> <p>Teacher’s Guide: N T480</p>	<p>Students manipulate algebraic expressions and equations using properties of real numbers with a few significant errors.</p> <p>Student Edition: 236 #5, 239 #1, 240 #4, 241 #1, 247 #5b, 425 #5c, 433 #1, 480 #5 <i>Checkpoint 237</i></p> <p>Teacher’s Guide: N T480</p>	<p>Students manipulate algebraic expressions and equations using properties of real numbers with many significant errors.</p> <p>Student Edition: 236 #5, 239 #1, 240 #4, 241 #1, 247 #5b, 425 #5c, 433 #1, 480 #5 <i>Checkpoint 237</i></p> <p>Teacher’s Guide: N T480</p>
9-10.5.9. Solve linear equations and inequalities, systems of two linear equations or inequalities, and quadratic equations having rational solutions; e.g., factoring, quadratic formula	<p>Students solve linear equations and inequalities, systems of linear equations and inequalities, and quadratic equations with no errors.</p> <p>Student Edition: 213 #3, 214 #5-#6, 216 #1, 218 #1-#2, 219 #2, 220 #2, 221 #4-#6, 222 #7 <i>On Your Own 215</i></p> <p>Teacher’s Guide: CMT T222</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 84, 85, 86, 87 Unit 3</p>	<p>Students solve linear equations and inequalities, systems of linear equations and inequalities, and quadratic equations with no significant errors.</p> <p>Student Edition: 213 #3, 214 #5-#6, 216 #1, 218 #1-#2, 219 #2, 220 #2, 221 #4-#6, 222 #7 <i>On Your Own 215</i></p> <p>Teacher’s Guide: CMT T222</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 84, 85, 86, 87 Unit 3</p>	<p>Students solve linear equations and inequalities, systems of linear equations and inequalities, and quadratic equations with a few significant errors.</p> <p>Student Edition: 213 #3, 214 #5-#6, 216 #1, 218 #1-#2, 219 #2, 220 #2, 221 #4-#6, 222 #7 <i>On Your Own 215</i></p> <p>Teacher’s Guide: CMT T222</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 84, 85, 86, 87 Unit 3</p>	<p>Students solve linear equations and inequalities, systems of linear equations and inequalities, and quadratic equations with many significant errors.</p> <p>Student Edition: 213 #3, 214 #5-#6, 216 #1, 218 #1-#2, 219 #2, 220 #2, 221 #4-#6, 222 #7 <i>On Your Own 215</i></p> <p>Teacher’s Guide: CMT T222</p> <p>Teacher Resources: <i>Teaching Resources</i> Master 84, 85, 86, 87 Unit 3</p>

Standard 5: Students use algebraic concepts, functions, patterns, and relationships to solve problems.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
<p>9-10.5.10. Solve a literal equation for a specified variable; e.g., solve $l = prt$ for r, or solve $7n + p = t$ for n</p>	<p>Students solve a literal equation for a specified variable with no errors.</p> <p>Student Edition: 136 #2e, 218 #3, 219 #3, 224 #2-#3, 225 #2, 226 #1, 364 #3e, 375 #7, 379 #2, 381-382 #4</p>	<p>Students solve a literal equation for a specified variable with no significant errors.</p> <p>Student Edition: 136 #2e, 218 #3, 219 #3, 224 #2-#3, 225 #2, 226 #1, 364 #3e, 375 #7, 379 #2, 381-382 #4</p>	<p>Students solve a literal equation for a specified variable with a few significant errors.</p> <p>Student Edition: 136 #2e, 218 #3, 219 #3, 224 #2-#3, 225 #2, 226 #1, 364 #3e, 375 #7, 379 #2, 381-382 #4</p>	<p>Students solve a literal equation for a specified variable with many significant errors.</p> <p>Student Edition: 136 #2e, 218 #3, 219 #3, 224 #2-#3, 225 #2, 226 #1, 364 #3e, 375 #7, 379 #2, 381-382 #4</p>
<p>MATHEMATICAL MODELING</p>				
<p>9-10.5.11. Use essential quantitative relationships in a situation to determine whether the relationship can be modeled by a linear function; e.g., simple interest is linear, compound interest is not linear</p>	<p>Students determine with ease whether a quantitative relationship can be modeled by a linear function.</p> <p>Student Edition: 163 #2, 167 #2, 172 #4, 174 #6, 176 #2, 177 #5, 178 #1, 216 #2, 230-231 #1 <i>On Your Own</i> 169</p>	<p>Students determine with minimal difficulty whether a quantitative relationship can be modeled by a linear function.</p> <p>Student Edition: 163 #2, 167 #2, 172 #4, 174 #6, 176 #2, 177 #5, 178 #1, 216 #2, 230-231 #1 <i>On Your Own</i> 169</p>	<p>Students determine with difficulty whether a quantitative relationship can be modeled by a linear function.</p> <p>Student Edition: 163 #2, 167 #2, 172 #4, 174 #6, 176 #2, 177 #5, 178 #1, 216 #2, 230-231 #1 <i>On Your Own</i> 169</p>	<p>Students determine with great difficulty whether a quantitative relationship can be modeled by a linear function.</p> <p>Student Edition: 163 #2, 167 #2, 172 #4, 174 #6, 176 #2, 177 #5, 178 #1, 216 #2, 230-231 #1 <i>On Your Own</i> 169</p>

Standard 5: Students use algebraic concepts, functions, patterns, and relationships to solve problems.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
9-10.5.12. Graphically represent the solution or solutions to an equation, inequality, or system	<p>Students graphically represent the solution or solutions to an equation, inequality, or system with no errors.</p> <p>Student Edition: 213, 214 #6, 217 #3, 218 #1-#2, 219 #1, 223 #3, 224 #4, 226 #2, 227 #3 <i>Checkpoint 214</i></p>	<p>Students graphically represent the solution or solutions to an equation, inequality, or system with no significant errors.</p> <p>Student Edition: 213, 214 #6, 217 #3, 218 #1-#2, 219 #1, 223 #3, 224 #4, 226 #2, 227 #3 <i>Checkpoint 214</i></p>	<p>Students graphically represent the solution or solutions to an equation, inequality, or system with a few significant errors.</p> <p>Student Edition: 213, 214 #6, 217 #3, 218 #1-#2, 219 #1, 223 #3, 224 #4, 226 #2, 227 #3 <i>Checkpoint 214</i></p>	<p>Students graphically represent the solution or solutions to an equation, inequality, or system with many significant errors.</p> <p>Student Edition: 213, 214 #6, 217 #3, 218 #1-#2, 219 #1, 223 #3, 224 #4, 226 #2, 227 #3 <i>Checkpoint 214</i></p>
9-10.5.13. Interpret a graphical representation of a real-world situation	<p>Students interpret a graphical representation of a real-world situation with no errors.</p> <p>Student Edition: 162 #1, 163 #2, 167 #2, 170 #1, 171 #3, 172 #4, 173 #5, 216 #2, 230-231 #1 <i>On Your Own 169</i></p>	<p>Students interpret a graphical representation of a real-world situation with no significant errors.</p> <p>Student Edition: 162 #1, 163 #2, 167 #2, 170 #1, 171 #3, 172 #4, 173 #5, 216 #2, 230-231 #1 <i>On Your Own 169</i></p>	<p>Students interpret a graphical representation of a real-world situation with a few significant errors.</p> <p>Student Edition: 162 #1, 163 #2, 167 #2, 170 #1, 171 #3, 172 #4, 173 #5, 216 #2, 230-231 #1 <i>On Your Own 169</i></p>	<p>Students interpret a graphical representation of a real-world situation with many significant errors.</p> <p>Student Edition: 162 #1, 163 #2, 167 #2, 170 #1, 171 #3, 172 #4, 173 #5, 216 #2, 230-231 #1 <i>On Your Own 169</i></p>

Standard 5: Students use algebraic concepts, functions, patterns, and relationships to solve problems.

Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
9-10.5.14. Draw conclusions about a situation being modeled	<p>Students draw conclusions about a modeled situation with no errors.</p> <p>Student Edition: 162 #1, 163 #2, 167 #2, 170 #1, 171 #3, 172 #4, 173 #5, 216 #2, 230-231 #1 <i>On Your Own</i> 169</p>	<p>Students draw conclusions about a modeled situation with no significant errors.</p> <p>Student Edition: 162 #1, 163 #2, 167 #2, 170 #1, 171 #3, 172 #4, 173 #5, 216 #2, 230-231 #1 <i>On Your Own</i> 169</p>	<p>Students draw conclusion about a modeled situation with a few significant errors.</p> <p>Student Edition: 162 #1, 163 #2, 167 #2, 170 #1, 171 #3, 172 #4, 173 #5, 216 #2, 230-231 #1 <i>On Your Own</i> 169</p>	<p>Students draw conclusions about a modeled situation with many significant errors.</p> <p>Student Edition: 162 #1, 163 #2, 167 #2, 170 #1, 171 #3, 172 #4, 173 #5, 216 #2, 230-231 #1 <i>On Your Own</i> 169</p>
RATES OF CHANGE				
9-10.5.15. Approximate and interpret rates of change from graphical and numerical data	<p>Students approximate and interpret rates of change from graphical and numerical data with no errors.</p> <p>Student Edition: 150 #5, 182 #1, 183 #2g, 185 #5, 186 #6, 191 #3, 192 #2, 193 #3 <i>Checkpoint</i> 187</p> <p>Teacher's Guide: CMT T125</p>	<p>Students approximate and interpret rates of change from graphical and numerical data with no significant errors.</p> <p>Student Edition: 150 #5, 182 #1, 183 #2g, 185 #5, 186 #6, 191 #3, 192 #2, 193 #3 <i>Checkpoint</i> 187</p> <p>Teacher's Guide: CMT T125</p>	<p>Students approximate and interpret rates of change from graphical and numerical data with a few significant errors.</p> <p>Student Edition: 150 #5, 182 #1, 183 #2g, 185 #5, 186 #6, 191 #3, 192 #2, 193 #3 <i>Checkpoint</i> 187</p> <p>Teacher's Guide: CMT T125</p>	<p>Students approximate and interpret rates of change from graphical and numerical data with many significant errors.</p> <p>Student Edition: 150 #5, 182 #1, 183 #2g, 185 #5, 186 #6, 191 #3, 192 #2, 193 #3 <i>Checkpoint</i> 187</p> <p>Teacher's Guide: CMT T125</p>