



**CORRELATION
SUNSHINE STATE STANDARDS
& GRADE LEVEL EXPECTATIONS**

SUBJECT: M/J Mathematics Series 1, 2, 3

SUBMISSION TITLE: Mathematics: Applications and Concepts – Course 2 © 2004

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GRADE: 7

STRAND A: Number Sense, Concepts, and Operations

STANDARD 1: The student understands the different ways numbers are represented and used in the real world.

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
Benchmark MA.A.1.3.1: The student associates verbal names, written word names, and standard numerals with integers, fractions, decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios. The student:	1. knows word names and standard numerals for integers, fractions, decimals, ratios, numbers expressed as percents, numbers with exponents, numbers expressed in scientific notation, and numbers expressed using the square root radical.	SE: 10–13, 43–45, 46, 106–108, 109–111, 116, 142, 145, 146, 210, 212, 216, 235, 262, 471, 472, 486, 504, 507, 555 TWE: 10–13, 43–45, 46, 106–108, 109–111, 116, 142, 145, 146, 210, 212, 216, 235, 262, 471, 472, 486, 504, 507, 555	I
	2. reads and writes whole numbers and decimals in expanded form, including exponential notation.	SE: 10–13, 555 TWE: 10–13, 555	I

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
<p>Benchmark MA.A.1.3.2: The student understands the relative size of integers, fractions, and decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios. The student:</p> <p>Benchmark MA.A.1.3.3: The student understands concrete and symbolic representations of rational numbers and irrational numbers in real-world situations. The student:</p>	<p>1. compares and orders integers, fractions, decimals, numbers with exponents, and numbers expressed as percents or in scientific notation, including ordering on a number line.</p>	<p>SE: 12, 79, 100, 108, 109–111, 115, 116, 124, 143, 145, 147, 169, 226, 227–231, 234, 235, 243, 251, 556</p> <p>TWE: 12, 79, 100, 108, 109–111, 115, 116, 124, 143, 145, 147, 169, 226, 227–231, 234, 235, 243, 251, 556</p>	I
	<p>1. knows examples of rational and irrational numbers in real-world situations, including the irrational numbers π and $\sqrt{2}$.</p>	<p>SE: 229, 230, 274, 275, 276, 477</p> <p>TWE: 229, 230, 274, 275, 276, 477</p>	
	<p>2. describes the meanings of rational and irrational numbers using physical or graphical displays.</p>	<p>SE: 229, 474</p> <p>TWE: 229, 474</p>	I
	<p>3. constructs models to represent rational numbers.</p>	<p>The opportunity to address this objective is available. See the following:</p> <p>SE: 229</p> <p>TWE: 229</p>	

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
Benchmark MA.A.1.3.4: The student understands that numbers can be represented in a variety of equivalent forms, including integers, fractions, decimals, percents, scientific notation, exponents, radicals, and absolute value. The student:	1. knows the relationships among fractions, decimals, and percents.	SE: 210–213, 214, 216–219, 220, 223, 227, 233, 234, 235, 251, 312–315, 316–318, 321, 323, 353 TWE: 210–213, 214, 216–219, 220, 223, 227, 233, 234, 235, 251, 312–315, 316–318, 321, 323, 353	I
	2. expresses a given quantity in a variety of ways (for example, integers, fractions, decimals, numbers expressed as a percent, numbers expressed in scientific notation, ratios).	SE: 106–108, 111, 116, 142, 210–213, 214, 216–219, 220–223, 227, 233, 234, 235, 283, 288–291, 295, 312–315, 316–318, 321, 323, 326, 328, 329, 353 TWE: 106–108, 111, 116, 142, 210–213, 214, 216–219, 220–223, 227, 233, 234, 235, 283, 288–291, 295, 312–315, 316–318, 321, 323, 326, 328, 329, 353	
	3. knows whether numbers expressed in different forms are equal.	SE: 5–13, 107, 108, 210–213, 214, 216–219, 220–223, 227, 233, 234, 235, 251, 288–291, 295, 312–315, 316–318, 321, 323, 326, 328, 329, 353 TWE: 5–13, 107, 108, 210–213, 214, 216–219, 220–223, 227, 233, 234, 235, 251, 288–291, 295, 312–315, 316–318, 321, 323, 326, 328, 329, 353	I
	4. converts a number expressed in one form to its equivalent in another form.	SE: 2–13, 210–213, 214, 216–219, 220–223, 227, 233, 234, 235, 288–291, 295, 310, 312–315, 316–318, 321, 323, 326, 328, 329, 353, 373 TWE: 2–13, 210–213, 214, 216–219, 220–223, 227, 233, 234, 235, 288–291, 295, 310, 312–315, 316–318, 321, 323, 326, 328, 329, 353, 373	I

*Indepth/Mentioned

STANDARD 2: The student understands number systems.

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*	
<p>Benchmark MA.A.2.3.1: The student understands and uses exponential and scientific notation. The student:</p>	<p>1. expresses whole numbers in exponential notation (for example, $36 = 6^2$).</p>	<p>SE: 12–13, 223 TWE: 12–13, 223</p>	<p>I</p>	
	<p>2. evaluates numerical expressions that contain exponential notation.</p>	<p>SE: 11–13, 15–17, 28, 47 TWE: 11–13, 15–17, 28, 47</p>		<p>I</p>
	<p>3. expresses numbers greater than one in scientific notation.</p>	<p>SE: 43–45, 48, 49, 63, 100 TWE: 43–45, 48, 49, 63, 100</p>	<p>I</p>	
	<p>4. expresses numbers in scientific notation as numbers in standard form.</p>	<p>SE: 43–45, 57 TWE: 43–45, 57</p>	<p>I</p>	
	<p>Benchmark MA.A.2.3.2: The student understands the structure of number systems other than the decimal number system. The student:</p>	<p>1. applies knowledge of the decimal number system and of non-place-value systems.</p>	<p>SE: 38–41, 43–45, 57, 220–223 TWE: 38–41, 43–45, 57, 220–223</p>	<p>I</p>

*Indepth/Mentioned

STANDARD 3: The student understands the effects of operations on numbers and the relationships among these operations, selects appropriate operations, and computes for problem solving.

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
<p>Benchmark MA.A.3.3.1: The student understands and explains the effects of addition, subtraction, multiplication, and division on whole numbers, fractions, including mixed numbers, and decimals, including the inverse relationships of positive and negative numbers. The student:</p>	<p>1. knows the effects of the four basic operations on whole numbers, fractions, mixed numbers, and decimals.</p>	<p>SE: 118, 126, 134, 138, 150, 244, 254, 264 TWE: 118, 126, 134, 138, 150, 244, 254, 264</p>	<p>I</p>
	<p>2. uses models or pictures to show the effects of addition, subtraction, multiplication, and division on whole numbers, decimals, fractions, mixed numbers, and integers.</p>	<p>SE: 118–119, 120–121, 124, 126–127, 128, 131, 134, 135, 138, 144, 244–245, 248–249, 254–255, 262, 264–265 TWE: 118–119, 120–121, 124, 126–127, 128, 131, 134, 135, 138, 144, 244–245, 248–249, 254–255, 262, 264–265</p>	<p>I</p>
	<p>3. applies the properties of rational numbers to solve problems (commutative, associative, distributive, identity, equality, inverse).</p>	<p>SE: 30–33, 36, 41, 48, 49, 50, 118–119, 121–123, 124, 128–131, 134, 135, 155, 156–157, 160–161, 170, 186, 258–261, 264–266, 279, 280 TWE: 30–33, 36, 41, 48, 49, 50, 118–119, 121–123, 124, 128–131, 134, 135, 155, 156–157, 160–161, 170, 186, 258–261, 264–266, 279, 280</p>	<p>I</p>
	<p>4. knows the inverse relationship of positive and negative numbers.</p>	<p>SE: 118–119, 121–123, 156, 170, 186 TWE: 118–119, 121–123, 156, 170, 186</p>	<p>I</p>
<p>Benchmark MA.A.3.3.2: The student selects the appropriate operation to solve problems involving addition, subtraction, multiplication, and division of rational numbers, ratios, proportions, and percents, including the appropriate application of the algebraic order of operations.</p>	<p>1. knows the appropriate operation to solve real-world problems involving fractions, decimals, and integers.</p>	<p>SE: 7, 8, 9, 15, 23, 28, 30, 40–41, 46, 50–51, 59, 122, 123, 124, 129, 133, 141, 144, 150, 153, 159, 161, 162–163, 164–165, 170, 202, 208, 245, 247, 253, 279, 303, 339, 392, 445, 497, 519 TWE: 7, 8, 9, 15, 23, 28, 30, 40–41, 46, 50–51, 59, 122, 123, 124, 129, 133, 141, 144, 150, 153, 159, 161, 162–163, 164–165, 170, 202, 208, 245, 247, 253, 279, 303, 339, 392, 445, 497, 519</p>	<p>I</p>

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
order of operations. The student:	2. solves real-world problems involving decimals and fractions using two- or three-step problems.	SE: 208, 443, 485, 497, 519, 534 TWE: 208, 443, 485, 497, 519, 534	I
	3. solves real-world problems involving percents (for example, discounts, simple interest, taxes, tips).	SE: 319–321, 322, 323, 325, 329, 334, 341, 343, 348, 352–353, 354–357, 358–360, 361, 363, 364, 365, 373, 377, 445 TWE: 319–321, 322, 323, 325, 329, 334, 341, 343, 348, 352–353, 354–357, 358–360, 361, 363, 364, 365, 373, 377, 445	I
	4. applies order of operations to solve problems (parentheses, exponents, multiplication, division, addition, and subtraction).	SE: 14–17, 19, 47, 49, 125 TWE: 14–17, 19, 47, 49, 125	I
	5. knows proportional relationships and uses tables, graphs, or “constant ratio” relationships to solve and explain problems.	SE: 292–295, 296, 297–300, 301, 308, 310, 327, 350–353 TWE: 292–295, 296, 297–300, 301, 308, 310, 327, 350–353	I

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
Benchmark MA.A.3.3.3: The student adds, subtracts, multiplies, and divides whole numbers, decimals, and fractions, including mixed numbers, to solve real-world problems, using appropriate methods of computing, such as mental mathematics, paper and pencil, and calculator. The student:	1. solves one- or two-step real-world problems involving whole numbers, fractions or decimals using appropriate methods of computation, such as mental computation, paper and pencil, and calculator.	SE: 7, 8, 9, 15, 23, 28, 30, 32–33, 40–41, 46, 50–51, 59, 122, 123, 124, 133, 141, 159, 161, 162–163, 164–165, 170, 202, 208, 245, 247, 253, 269, 279, 303, 339, 392, 445, 497, 519 TWE: 7, 8, 9, 15, 23, 28, 30, 32–33, 40–41, 46, 50–51, 59, 122, 123, 124, 133, 141, 159, 161, 162–163, 164–165, 170, 202, 208, 245, 247, 253, 269, 279, 303, 339, 392, 445, 497, 519	I

*Indepth/Mentioned

STANDARD 4: The student uses estimation in problem solving and computation.

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
Benchmark MA.A.4.3.1: The student uses estimation strategies to predict results and to check the reasonableness of results. The student:	1. knows an appropriate estimation technique for a given situation using whole numbers and fractions.	SE: 240–243, 245, 248, 249, 250, 262, 278, 281, 308, 313, 318, 319, 334–337, 348, 362, 365, 558 TWE: 240–243, 245, 248, 249, 250, 262, 278, 281, 308, 313, 318, 319, 334–337, 348, 362, 365, 558	I
	2. estimates to predict results and check reasonableness of results.	SE: 7, 240–241, 245, 248, 249, 313, 338–339, 559, 560, 562 TWE: 7, 240–241, 245, 248, 249, 313, 338–339, 559, 560, 562	I
	3. determines whether an exact answer is needed or an estimate would be sufficient.	SE: 242, 250 TWE: 242, 250	I

*Indepth/Mentioned

STANDARD 5: The student understands and applies theories related to numbers.

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
Benchmark MA.A.5.3.1: The student uses concepts about numbers, including primes, factors, and multiples, to build number sequences. The student:	1. knows if numbers are prime or composite.	SE: 197–200, 203–206, 209, 214, 232, 235 TWE: 197–200, 203–206, 209, 214, 232, 235	I
	2. finds the greatest common factor and least common multiple of two or more numbers.	SE: 203–206, 209, 213, 214, 224–226, 231, 233, 235, 257 TWE: 203–206, 209, 213, 214, 224–226, 231, 233, 235, 257	I
	3. determines the prime factorization of a composite number.	SE: 198–200, 204, 205, 209, 214, 223, 225–226, 232, 235 TWE: 198–200, 204, 205, 209, 214, 223, 225–226, 232, 235	I
	4. applies number theory concepts to determine the terms in a sequence.	SE: 13, 33, 34–36, 37, 41, 48 TWE: 13, 33, 34–36, 37, 41, 48	I
	5. applies number theory concepts, including divisibility rules, to solve real-world or mathematical problems.	The opportunity to address this objective is available. See the following: SE: 554 TWE: 554	M

*Indepth/Mentioned

STRAND B: Measurement

STANDARD 1: The student measures quantities in the real world and uses the measures to solve problems.

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
<p>Benchmark MA.B.1.3.1: The student uses concrete and graphic models to derive formulas for finding perimeter, area, surface area, circumference, and volume of two- and three-dimensional shapes, including rectangular solids and cylinders.</p> <p>The student:</p>	<p>1. uses concrete or graphic models to create formulas for finding volumes of solids (prisms and cylinders).</p>	<p>SE: 520, 524</p> <p>TWE: 520, 524</p>	I
	<p>2. uses concrete or graphic models to create formulas for finding surface area of prisms and cylinders.</p>	<p>SE: 530–531, 532, 538</p> <p>TWE: 530–531, 532, 538</p>	I
	<p>3. solves and explains problems involving perimeter, area, and circumference.</p>	<p>SE: 270–273, 274, 275–277, 280, 281, 291, 473, 483–485, 486, 488, 489–492, 493–495, 498–500, 501–503, 505, 506, 507, 517, 527</p> <p>TWE: 270–273, 274, 275–277, 280, 281, 291, 473, 483–485, 486, 488, 489–492, 493–495, 498–500, 501–503, 505, 506, 507, 517, 527</p>	I
	<p>4. solves and explains problems involving the surface area or volume of prisms and cylinders.</p>	<p>SE: 520–522, 524–527, 528, 530–531, 532–535, 538–541, 545, 547, 548, 549</p> <p>TWE: 520–522, 524–527, 528, 530–531, 532–535, 538–541, 545, 547, 548, 549</p>	I

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
<p>Benchmark MA.B.1.3.2: The student uses concrete and graphic models to derive formulas for finding rates, distance, time, and angle measures. The student:</p> <p>Benchmark MA.B.1.3.3: The student understands and describes how the change of a figure in such dimensions as length, width, height, or radius affects its other measurements such as perimeter, area, surface area, and volume. The student:</p>	<p>1. finds the measure of an angle by measuring with a protractor or applying angle relationships (for example, corresponding, complementary, supplementary, interior, exterior).</p>	<p>SE: 412, 414, 422–425, 427, 433, 438, 462, 463, 465</p> <p>TWE: 412, 414, 422–425, 427, 433, 438, 462, 463, 465</p>	I
	<p>2. develops and uses the distance formula in solving real-world problems ($d = rt$).</p>	<p>The opportunity to address this objective is available. See the following:</p> <p>SE: 161, 162, 163</p> <p>TWE: 161, 162, 163</p>	M
	<p>1. given a two- or three-dimensional figure, creates a new figure by increasing or decreasing the original dimensions.</p>	<p>SE: 455, 523, 536–537</p> <p>TWE: 455, 523, 536–537</p>	I
	<p>2. knows the relationships between the perimeters, areas, surface areas, or volumes of the original figure and those of the newly created figure.</p>	<p>SE: 352, 455, 523, 536–537</p> <p>TWE: 352, 455, 523, 536–537</p>	I

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
Benchmark MA.B.1.3.4: The student constructs, interprets, and uses scale drawings such as those based on number lines and maps to solve real-world problems. The student:	1. knows an appropriate scale needed to produce a proportional drawing or model.	SE: 304–308, 309, 310, 327, 329 TWE: 304–308, 309, 310, 327, 329	I
	2. knows proportional relationships used in scale drawings.	SE: 304–308, 309, 310, 315, 318, 327, 329 TWE: 304–308, 309, 310, 315, 318, 327, 329	I
	3. produces a scale drawing.	SE: 306, 309, 401 TWE: 306, 309, 401	I

*Indepth/Mentioned

STANDARD 2: The student compares, contrasts, and converts within systems of measurement (both standard/nonstandard and metric/customary).

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
<p>Benchmark MA.B.2.3.1: The student uses direct (measured) and indirect (not measured) measures to compare a given characteristic in either metric or customary units. The student:</p>	<p>1. measures length, weight or mass, and capacity or volume using customary or metric units.</p>	<p>The opportunity to address this objective is available. See the following: SE: 520–522, 524–527, 528, 530–531, 532–535, 538–541 TWE: 520–522, 524–527, 528, 530–531, 532–535, 538–541</p>	<p>M</p>
	<p>2. knows relationships between metric units of mass and capacity (for example, one cubic centimeter of water weighs one gram).</p>	<p>The opportunity to address this objective is available. See the following: SE: 38–39 TWE: 38–39</p>	<p>M</p>
	<p>3. finds measures of length, weight or mass, and capacity or volume using proportional relationships and properties of similar geometric figures (for example, using shadow measurement and properties of similar triangles to find the height of a flag pole).</p>	<p>SE: 441, 442, 443, 465 TWE: 441, 442, 443, 465</p>	<p>I</p>

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
Benchmark MA.B.2.3.2: The student solves problems involving units of measure and converts answers to a larger or smaller unit within either the metric or customary system. The student:	1. compares units of measurement within a system (metric or customary).	SE: 40 TWE: 40	I
	2. performs operations on measurements within either the metric or customary system (for example, finds three times 27 inches and expresses the answer in yards).	The opportunity to address this objective is available. See the following: SE: 38–41, 267–269 TWE: 38–41, 267–269	M
	3. selects the appropriate unit of measurement when solving real-world problems (for example linear, square, and cubic units).	The opportunity to address this objective is available. See the following: SE: 521, 522, 525, 526, 533, 540 TWE: 521, 522, 525, 526, 533, 540	M
	4. solves problems using the metric or customary system involving conversions within the same system.	SE: 38–41, 49, 57, 146, 267–269, 280, 281, 300 TWE: 38–41, 49, 57, 146, 267–269, 280, 281, 300	I

*Indepth/Mentioned

STANDARD 3: The student estimates measurements in real-world problem situations.

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
<p>Benchmark MA.B.3.3.1: The student solves real-world and mathematical problems involving estimates of measurements including length, time, weight/mass, temperature, money, perimeter, area, and volume, in either customary or metric units.</p> <p>The student:</p>	<p>1. knows whether an exact answer is needed or if an estimate is sufficient.</p>	<p>SE: 543</p> <p>TWE: 543</p>	I
	<p>2. estimates solutions to real-world problems by estimating the length, volume or capacity, weight or mass, perimeter, or area of objects or shapes in either customary and metric units.</p>	<p>The opportunity to address this objective is available. See the following:</p> <p>SE: 483, 484, 489, 490, 497, 498, 500, 524, 549</p> <p>TWE: 483, 484, 489, 490, 497, 498, 500, 524, 549</p>	M
	<p>3. estimates solutions to real-world problems involving measurement, including estimates of time, temperature, and money.</p>	<p>The opportunity to address this objective is available. See the following:</p> <p>SE: 483, 484, 489, 490, 497, 498, 500, 524, 549</p> <p>TWE: 483, 484, 489, 490, 497, 498, 500, 524, 549</p>	M

*Indepth/Mentioned

STANDARD 4: The student selects and uses appropriate units and instruments for measurement to achieve the degree of precision and accuracy required in real-world situations.

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
<p>Benchmark MA.B.4.3.1: The student selects appropriate units of measurement and determines and applies significant digits in a real-world context. (Significant digits should relate to both instrument precision and to the least precise unit of measurement). The student:</p>	1. selects appropriate units of measurement in a real-world context.	SE: 543, 549 TWE: 543, 549	I
	2. knows that measurements are always approximate and that the degree of accuracy of a measurement depends upon the precision of the instrument.	SE: 542–545 TWE: 542–545	I
	3. knows the precision of different measuring instruments.	SE: 542–545, 548 TWE: 542–545, 548	I
	4. determines the appropriate precision unit for a given situation.	SE: 543, 544, 545, 548 TWE: 543, 544, 545, 548	I
	1. selects a measurement tool (for example, scales, rulers, thermometers, measuring cups, protractors, gauges) appropriate to a given situation.	SE: 412, 414, 422, 427, 433, 438, 462 TWE: 412, 414, 422, 427, 433, 438, 462	I
	2. measures accurately with the measurement tools to the specified degree of accuracy for the task and in keeping with the precision of the measurement tool.	SE: 412, 414, 422, 427, 433, 438, 542–545 TWE: 412, 414, 422, 427, 433, 438, 542–545	I

*Indepth/Mentioned

STRAND C: Geometry and Spatial Sense

STANDARD 1: The student describes, draws, identifies, and analyzes two- and three-dimensional shapes.

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
<p>Benchmark MA.C.1.3.1: The student understands the basic properties of, and relationships pertaining to, regular and irregular geometric shapes in two and three dimensions. The student: <i>(continued on next page)</i></p>	<p>1. identifies, draws, and uses symbolic notation to denote the basic properties of geometric terms including lines (intersecting, skew, parallel, perpendicular) and congruent figures.</p>	<p>SE: 412, 413–415, 416–417, 421, 422–425, 426–427, 428–431, 432–433, 434–437, 438, 440–443, 446–450, 451–454, 455, 456–459, 460–461, 462–464, 465</p> <p>TWE: 412, 413–415, 416–417, 421, 422–425, 426–427, 428–431, 432–433, 434–437, 438, 440–443, 446–450, 451–454, 455, 456–459, 460–461, 462–464, 465</p>	<p>I</p>
	<p>2. determines the measure of various types of angles using a protractor or angle relationships (including complementary, supplementary, and vertical angles).</p>	<p>SE: 412, 414, 422–425, 427, 433, 438, 462, 463</p> <p>TWE: 412, 414, 422–425, 427, 433, 438, 462, 463</p>	
	<p>3. compares and describes the attributes of regular and irregular polygons (for example, parallelogram, trapezoid, pentagon, hexagon).</p>	<p>SE: 434–437, 438, 446–450, 463, 464, 465</p> <p>TWE: 434–437, 438, 446–450, 463, 464, 465</p>	<p>I</p>
	<p>4. identifies and classifies triangles and quadrilaterals.</p>	<p>SE: 429–431, 432–433, 434–437, 438, 443, 463, 464, 465</p> <p>TWE: 429–431, 432–433, 434–437, 438, 443, 463, 464, 465</p>	<p>I</p>

STANDARD 2: The student visualizes and illustrates ways in which shapes can be combined, subdivided, and changed.

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
<p>Benchmark MA.C.2.3.1: The student understands the geometric concepts of symmetry, reflections, congruency, similarity, perpendicularity, parallelism, and transformations, including flips, slides, turns, and enlargements. The student:</p>	<p>1. uses manipulatives and drawings to solve problems requiring spatial visualization.</p>	<p>SE: 440, 448, 451–454, 455, 456–459, 460–461, 465, 488, 512–513, 518–519, 528</p> <p>TWE: 440, 448, 451–454, 455, 456–459, 460–461, 465, 488, 512–513, 518–519, 528</p>	<p>I</p>
	<p>2. describes and applies the properties of parallelism, perpendicularity and symmetry in real world contexts.</p>	<p>SE: 436, 458, 459</p> <p>TWE: 436, 458, 459</p>	
	<p>3. recognizes, draws, and describes congruent and similar figures.</p>	<p>SE: 416, 432, 433, 440–443, 455, 464</p> <p>TWE: 416, 432, 433, 440–443, 455, 464</p>	<p>I</p>
	<p>4. creates and describes the attributes of a figure either congruent or similar to a given figure.</p>	<p>SE: 432, 433, 440–443, 455, 464</p> <p>TWE: 432, 433, 440–443, 455, 464</p>	<p>I</p>
	<p>5. identifies and performs the various transformations (reflection, translation, rotation) of a given figure on a coordinate plane.</p>	<p>SE: 451–454, 457, 459, 460–461, 464, 473</p> <p>TWE: 451–454, 457, 459, 460–461, 464, 473</p>	<p>I</p>

*Indepth/Mentioned

STANDARD 3: The student uses coordinate geometry to locate objects in both two and three dimensions and to describe objects algebraically.

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
<p>Benchmark MA.C.3.3.1: The student represents and applies geometric properties and relationships to solve real-world and mathematical problems. The student:</p>	<p>1. observes, explains, and makes conjectures regarding geometric properties and relationships (among angles, lines, regular and irregular polygons).</p>	<p>SE: 412, 417, 422, 424, 427, 428, 430, 431, 433, 435, 438, 440, 442, 443, 448, 450, 454, 456, 458, 461, 488, 578, 581</p> <p>TWE: 412, 417, 422, 424, 427, 428, 430, 431, 433, 435, 438, 440, 442, 443, 448, 450, 454, 456, 458, 461, 488, 578, 581</p>	<p>I</p>
	<p>2. creates and solves angle measurement problems for triangles.</p>	<p>SE: 428–431, 447</p> <p>TWE: 428–431, 447</p>	
	<p>3. demonstrates the Pythagorean relationship in right triangles using models or diagrams (for example, manipulatives, dot, graph, or isometric paper).</p>	<p>SE: 478</p> <p>TWE: 478</p>	<p>I</p>
	<p>4. given two sides of a right triangle, uses the Pythagorean Theorem to find the length of the third side.</p>	<p>SE: 478, 479–482, 486, 505</p> <p>TWE: 478, 479–482, 486, 505</p>	<p>I</p>
<p>Benchmark MA.C.3.3.2: The student identifies and plots ordered pairs in all four quadrants of a rectangular coordinate system (graph) and applies simple properties of lines. The student:</p>	<p>1. identifies each quadrant and the characteristics of points in each quadrant (positive and negative).</p>	<p>SE: 112–115, 116, 117, 131, 143, 145, 146, 147</p> <p>TWE: 112–115, 116, 117, 131, 143, 145, 146, 147</p>	<p>I</p>
	<p>2. identifies and plots ordered pairs in all four quadrants of the coordinate system.</p>	<p>SE: 112–115, 116, 117, 143, 145, 146, 147, 175, 283</p> <p>TWE: 112–115, 116, 117, 143, 145, 146, 147, 175, 283</p>	<p>I</p>

*Indepth/Mentioned

STRAND D: Algebraic Thinking

STANDARD 1: The student describes, analyzes, and generalizes a wide variety of patterns, relations, and functions.

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
<p>Benchmark MA.D.1.3.1: The student describes a wide variety of patterns, relationships, and functions through models, such as manipulatives, tables, graphs, expressions, equations, and inequalities. The student:</p>	<p>1. uses manipulatives and graphic materials to generate tables and charts (for example, input, output) to develop algebraic expressions, equations, or formulas.</p>	<p>SE: 176, 177–181 TWE: 176, 177–181</p>	<p>I</p>
	<p>2. given instances of a pattern, expresses a generalization of the pattern using algebraic expressions.</p>	<p>SE: 178, 180, 181, 188, 191 TWE: 178, 180, 181, 188, 191</p>	<p>I</p>
	<p>3. given an algebraic expression of a relationship or pattern, supplies specific instances of the relationship or pattern.</p>	<p>SE: 177–181, 188, 191 TWE: 177–181, 188, 191</p>	<p>I</p>
	<p>4. predicts outcomes based on a generalization of a pattern or relationship.</p>	<p>SE: 8, 9, 13, 18, 23, 33, 34–36, 37, 41, 48, 60–63, 132–133, 136, 140, 147, 176, 344, 345–347, 363, 365, 392 TWE: 8, 9, 13, 18, 23, 33, 34–36, 37, 41, 48, 60–63, 132–133, 136, 140, 147, 176, 344, 345–347, 363, 365, 392</p>	<p>I</p>

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
Benchmark MA.D.1.3.2: The student creates and interprets tables, graphs, equations, and verbal descriptions to explain cause-and-effect relationships. The student:	1. interprets and creates tables, function tables, and graphs (all four quadrants).	SE: 176, 177–181, 182–185, 190, 191, 274 TWE: 176, 177–181, 182–185, 190, 191, 274	I
	2. writes expressions and equations to describe relationships.	SE: 178, 180, 181, 188, 191 TWE: 178, 180, 181, 188, 191	I
	3. graphs equations to explain cause-and-effect relationships.	SE: 182–185, 274 TWE: 182–185, 274	I

*Indepth/Mentioned

STANDARD 2: The student uses expressions, equations, inequalities, graphs, and formulas to represent and interpret situations.

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
Benchmark MA.D.2.3.1: The student represents and solves real-world problems graphically, with algebraic expressions, equations, and inequalities. The student: <i>(continued on next page)</i>	1. translates verbal expressions and sentences into algebraic expressions and equations.	SE: 18–21, 24–26, 150–152, 153, 159, 161, 163, 170, 186, 189, 231 TWE: 18–21, 24–26, 150–152, 153, 159, 161, 163, 170, 186, 189, 231	I
	2. translates algebraic expressions, equations, or formulas representing real-world relationships into verbal expressions or sentences.	SE: 151–152 TWE: 151–152	I
	3. given an algebraic equation or expression of a real-world application, substitutes integral values for variables and simplifies the results.	SE: 19–21, 139, 140 TWE: 19–21, 139, 140	I

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
<p>Benchmark MA.D.2.3.1: The student represents and solves real-world problems graphically, with algebraic expressions, equations, and inequalities. The student:</p> <p><i>(continued from previous page)</i></p> <p>Benchmark MA.D.2.3.2: The student uses algebraic problem-solving strategies to solve real world problems involving linear equations and inequalities. The student:</p>	<p>4. uses pictures, models, manipulatives or other strategies to solve one-step and simple multistep linear equations.</p>	<p>SE: 25–27, 154–155, 156–159, 160–163, 165, 166–169, 170, 171, 175, 187, 188, 189, 258–261, 281, 295</p> <p>TWE: 25–27, 154–155, 156–159, 160–163, 165, 166–169, 170, 171, 175, 187, 188, 189, 258–261, 281, 295</p>	I
	<p>5. graphs solutions to equations and inequalities on a number line.</p>	<p>SE: 25, 26, 111, 172–175, 187, 189</p> <p>TWE: 25, 26, 111, 172–175, 187, 189</p>	
	<p>6. graphs linear equations on the coordinate plane from a table of values.</p>	<p>SE: 177–181, 185, 188</p> <p>TWE: 177–181, 185, 188</p>	I
	<p>1. knows how to solve linear equations and inequalities representing real-world situations, using pictures, models, manipulatives (such as algebra tiles), or other strategies.</p>	<p>SE: 25–27, 28, 154–155, 156–159, 160–163, 165, 167, 168–169, 170, 172–175, 188, 189</p> <p>TWE: 25–27, 28, 154–155, 156–159, 160–163, 165, 167, 168–169, 170, 172–175, 188, 189</p>	I
	<p>2. simplifies algebraic expressions with one variable.</p>	<p>SE: 24–27, 28, 33, 36, 47, 49, 122, 123, 136</p> <p>TWE: 24–27, 28, 33, 36, 47, 49, 122, 123, 136</p>	I

*Indepth/Mentioned

STRAND E: Data Analysis and Probability

STANDARD 1: The student understands and uses the tools of data analysis for managing information.

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
<p>Benchmark MA.E.1.3.1: The student collects, organizes, and displays data in a variety of forms, including tables, line graphs, charts, bar graphs, to determine how different ways of presenting data can lead to different interpretations. The student:</p>	1. generates and collects data for analysis.	SE: 3, 60, 73, 75, 91, 95, 103, 176, 185, 193, 277, 344, 374, 397, 401	I
		TWE: 3, 60, 73, 75, 91, 95, 103, 176, 185, 193, 277, 344, 374, 397, 401	
	2. interprets and analyzes data presented in a variety of forms, including box-and-whisker graphs and scatter plots.	SE: 54–57, 58–59, 60–63, 64–68, 73, 74, 76–79, 80–83, 84, 85–89, 90–91, 92–95, 96–98, 99, 100–101, 146, 147, 190, 282	I
		TWE: 54–57, 58–59, 60–63, 64–68, 73, 74, 76–79, 80–83, 84, 85–89, 90–91, 92–95, 96–98, 99, 100–101, 146, 147, 190, 282	
	3. constructs, interprets, and explains displays of data, such as tables and graphs (circle graphs, single- and multiple-bar graphs, and single and multiple-line graphs) and explains how different displays of data lead to different interpretations.	SE: 54–57, 58–59, 60, 64, 66, 73, 74, 76–79, 80–81, 83, 84, 85–87, 89, 90–91, 95, 96, 97, 98, 99, 101, 418–421	I
		TWE: 54–57, 58–59, 60, 64, 66, 73, 74, 76–79, 80–81, 83, 84, 85–87, 89, 90–91, 95, 96, 97, 98, 99, 101, 418–421	
<p>Benchmark MA.E.1.3.2: The student understands and applies the concepts of range and central tendency (mean, median, and mode). The student:</p>	1. finds the range, mean, median, and mode of data from a table, chart, or graph.	SE: 65–68, 69–72, 73, 74, 75, 79, 82, 83, 93, 94, 95, 97, 99, 100, 116	I
		TWE: 65–68, 69–72, 73, 74, 75, 79, 82, 83, 93, 94, 95, 97, 99, 100, 116	

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
Benchmark MA.E.1.3.3: The student analyzes real-world data by applying appropriate formulas for measures of central tendency and organizing data in a quality display, using appropriate technology, including calculators and computers. The student:	2. draws conclusions from an analysis of range and central tendency of a set of real-world data.	SE: 66–68, 71, 72, 73, 74, 82, 83, 93, 94 TWE: 66–68, 71, 72, 73, 74, 82, 83, 93, 94	I
	1. applies and analyzes appropriate measures of central tendency (mode, mean, median, range) for a set of data.	SE: 65–68, 69–72, 73, 74, 79, 82, 83, 93, 94, 95, 99, 100, 101, 111, 116, 124, 129 TWE: 65–68, 69–72, 73, 74, 79, 82, 83, 93, 94, 95, 99, 100, 101, 111, 116, 124, 129	I
	2. uses technology, such as graphing calculators and computer spreadsheets, to analyze data and create graphs.	SE: 3, 84, 90–91, 95, 103, 185, 277, 361 TWE: 3, 84, 90–91, 95, 103, 185, 277, 361	I

*Indepth/Mentioned

STANDARD 2: The student identifies patterns and makes predictions from an orderly display of data using concepts of probability and statistics.

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
Benchmark MA.E.2.3.1: The student compares experimental results with mathematical expectations of probabilities. The student:	1. obtains experimental results using manipulatives.	SE: 374, 393, 395, 397 TWE: 374, 393, 395, 397	I
	2. explains observed difference between mathematical and experimental results.	SE: 393–395, 397 TWE: 393–395, 397	I
	3. calculates simple mathematical probabilities for independent and dependent events.	SE: 370–373, 384, 393–396, 397, 398–401, 402, 404, 405 TWE: 370–373, 384, 393–396, 397, 398–401, 402, 404, 405	I

BENCHMARK	GRADE LEVEL EXPECTATIONS	PAGE(S) OR LOCATION(S) WHERE TAUGHT	I/M*
Benchmark MA.E.2.3.2: The student determines odds for and odds against a given situation. The student:	1. computes the mathematical odds for and against a specified outcome in given real-world experiments.	SE: 396 TWE: 396	I

*Indepth/Mentioned