Course: Integrated I, Text, Integrated Mathematics, McDougal Littel
Standard: M:Functions and Algebra (F&A):10-1-Assessed

Knowledge & Skills	Content	Activities (numbers refer to book pages) Resources & Materials	Assessments
Identifies, extends, and generalizes a variety of patterns (linear and nonlinear) represented by models, tables, sequences, or graphs in problem solving situations.	Patterns--models tables sequences graphs	p. 17, 248, 486, 530, 532, 569, 570, 571, 596 (exercise 29) 10, 12, 131 (Ex. 7), 279 (Ex. 25), 359, 365 (Ex. 17), 367, 375, 387, 404 (Exs. 8,9), 462, 596 (Ex 29). Covered in Integrated II 229, 555, 563, 447-450, 455-459, 594-595.	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard:M:F&A-10-2-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Demonstrates conceptual understanding of linear and nonlinear functions and relations (including characteristics of classes of functions) through an analysis of constant, variable, or average rates of change, intercepts, domain, range, maximum and minimum values, increasing and decreasing intervals and rates of change (e.g., the height is increasing at a decreasing rate); describes how change in the value of one variable relates to change in the value of a second variable; or works between and among different representations of functions and relations (e.g., graphs, tables, equations, function notation).	- An analysis of constant, variable, or average rates of change - Intercepts - Domain and range -Maximum and minimum values -Increasing and decreasing intervals -Rates of change (e.g., the height is increasing at a decreasing rate) -Describe how change in the value of one variable relates to change in the value of a second variable; or works between and among different representations of functions and relations (e.g., graphs, tables, equations, function notation).	420, covered in integrated 2 Covered in integrated 2 220-221, 230, 225-226, 555	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard: MF&A:-10-3-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Demonstrates conceptual understanding of algebraic expressions by solving problems involving algebraic expressions, by simplifying expressions (e.g., simplifying polynomial or rational expressions, or expressions involving integer exponents, square roots, or absolute values), by evaluating expressions, or by translating problem situations into algebraic expressions.	- Simplifying and evaluating: polynomial expressions - rational expressions - integer exponents -square roots -Translates problem situations into algebraic expressions using: polynomial expressions - rational expressions - integer exponents - square roots -Absolute values	10-13, 20-21, 26-28, 32-33, 66, 93-95, 247-248, 577 12, 20, 66 115, 488-489 247-248 247-248 247-248 488-489 **Teacher created Lesson**	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard:MF&A-10-4-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Demonstrates conceptual understanding of equality by solving problems involving algebraic reasoning about equality; by translating problem situations into equations; by solving linear equations (symbolically and graphically) and expressing the solution set symbolically or graphically, or provides the meaning of the graphical interpretations of solution(s) in problem-solving situations; or by solving problems involving systems of linear equations in a context (using equations or graphs) or using models or representations. -	-Translating problem situations into equations; by solving linear equations symbolically -Translating problem situations into equations by solving linear equations graphically -Express the solution set of a linear equation symbolically -Express the solution set of a linear equation graphically -Provide the meaning of the graphical interpretations of solution(s) in problem solving situations -Solving problems involving systems of linear equations in a context of using equations, graphs, or using models and representations	P 427-428 p. 429 Teacher lesson in Integrated 2 p. 429 p. 429 289-291, 447-450	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I

Standard: Data, Statistics, and Probability (DSP)-10-1-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Interprets a given representation(s) (e.g., box-and-whisker plots, scatter plots, bar graphs, line graphs, circle graphs, histograms, frequency charts) to make observations, to answer questions, to analyze the data to formulate or justify conclusions, critique conclusions, make predictions, or to solve problems within mathematics or across disciplines or contexts (e.g., media, workplace, social and environmental situations).	box-and-whisker plots scatter plot bar graph line graphs circle graph histogram frequency charts	158, 164 212-214, 460, 472, 369, 439-440 130, 164, 661 662 164,663 150,153,164 151	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard:DSP-10-2-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Analyzes patterns, trends, or distributions in data in a variety of contexts by determining, using, or analyzing measures of central tendency (mean, median, or mode), dispersion (range or variation), outliers, quartile values, estimated line of best fit, regression line, or correlation (strong positive, strong negative, or no correlation) to solve problems; and solve problems involving conceptual understanding of the sample from which the statistics were developed.	Mean, median, mode Range Outliers Quartile values Estimated line of best fit Regression line or correlation and understanding positive, negative, or no correlation Solve problems involving conceptual understanding of the sample from which the statistics were developed.	136 137 137 158,164 212,369, 439-440 212,214 321	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard:DSP-10-4-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Uses counting techniques to solve problems in context involving combinations or permutations using a variety of strategies (e.g., organized lists, tables, tree diagrams, models, Fundamental Counting Principle, or[sc] others).	combinations permutations Varied strategies including: organized lists tables tree diagrams, models Fundamental Counting Principle	These concepts are covered in Integrated 2	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard:DSP-10-5-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Solves problems involving experimental or theoretical probability.	**experimental probability** **theoretical probability**	308 309	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I

Standard:Numbers and Operations (N&0)-10-2-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Demonstrates understanding of the relative magnitude of real numbers by solving problems involving ordering or comparing rational numbers, common irrational numbers (e.g., $\sqrt{2}$, π), rational bases with integer exponents, square roots, absolute values, integers, or numbers represented in scientific notation using number lines or equality and inequality symbols.	rational number	113	Homework completion, assessed homework, classwork, quizzes/tests, participation
	common irrational numbers (e.g., $\sqrt{2}$, π)	113	
	rational bases with integer exponents	19,75,568-572, 21,71,20	
	square roots	112,115,144,488-489	
	absolute values	64,230	
	integers	113,641	
	numbers represented in scientific notation	71-75	
	using number lines	145,641,642	
	using equality and inequality symbols.	82,667	

Course: Integrated I
Standard:N&O-10-4-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Accurately solves problems involving rational numbers within mathematics, across content strands, disciplines or contexts (with emphasis on, but not limited to, proportions, percents, ratios, and rates).	Proportions Percents Ratios Rates	314-316,323,324,331,378,384,402,533 302,653-656 301-303,530-533 302-303,394-396,	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard:F&A-HS-1-Not Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Identifies arithmetic and geometric sequences **and finds the nth term; then** uses the generalization **to find a specific term.**	Arithmetic sequences Geometric sequences Finding nth term Finding specific term	These concepts are covered in integrated 2	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard:F&A-HS-2-Not Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Demonstrates conceptual understanding of linear and nonlinear functions and relations. Analyzes characteristics of classes of functions (polynomial, rational, and exponential) to include domain, range, intercepts, increasing and decreasing intervals and rates of change. Understands one-to-one (injective) functions and that a function that is one-to-one has a converse that is also a function; and finds inverses algebraically and graphically. • Graphs polynomial, rational and exponential functions, including vertical and horizontal shifts, stretches, and	Characteristics of polynomials domain, range, intercepts, increasing and decreasing intervals and rates of change. Rationals domain, range, intercepts, increasing and decreasing intervals and rates of change. Exponential functions domain, range, intercepts, increasing and decreasing intervals and rates of change. Definition of one-to-one function Inverses Graphically Algebraically Polynomials	Covered in integrated 2	Homework completion, assessed homework, classwork, quizzes/tests, participation

compressions as well as reflections across vertical and horizontal axes. • Applies knowledge of functions to interpret and understand situations, design mathematical models, and solve problems in mathematics as well as in the natural and social sciences.	Graphs of Rationals Exponentials Transformations Shifts and reflections Interpret and understand situations, model situations, and solve problems in mathematics and natural and social sciences		

Course: Integrated I
Standard:DSP-HS-6-Not Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, research, experimentation) and sampling techniques (e.g., random sample, stratified random sample) to collect the data necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the questions or hypotheses being tested while considering the limitations of the data that could effect interpretations; and when appropriate makes predications, asks new questions, or makes connections to real-world situations.	Sampling techniques Interpretations/margin of error/limitations of data/making predictions/connecting to real-world data	P 323 Section 6-4, page 323	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard:N&O-HS-1-2-Not Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
N&O-HS-1 Demonstrates conceptual understanding of rational numbers by knowing why a real number is rational if and only if the number's decimal expansion eventually repeats or terminates.	Rational numbers, terminators versus repeaters	P 113-117	Homework completion, assessed homework, classwork, quizzes/tests, participation
N&O-HS-2 Demonstrates understanding of the relative magnitude of real numbers by solving problems that involve ordering or comparing any subset of the real numbers.	Ordering numbers, ordering subsets of real numbers	P 57, 113, venn diagram activity with number systems	

Course: Integrated I
Standard: **N&O-HS-4-Not Assessed**

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Accurately solves problems. Interprets and computes with rational exponents and their relation to radicals, by hand in simple cases (e.g., $4^{3/2}$), and using a calculator when appropriate. Interprets and computes in scientific notation with and without a calculator.	Rational exponents Computes in scientific notation	19-22, 71-75, 568-572 P 71-75	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard:N&O-HS-6-Not Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Uses a variety of mental computation strategies to solve problems (e.g., using compatible numbers, applying properties of operations, using mental imagery, using patterns) and to **determine the reasonableness of answers.**	Reasonableness of answers	Mental computation strategies are reinforced throughout classroom presentations as the occasion arises	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard: N&O-HS-7-Not Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Makes estimates in a given situation (e.g., tips, discounts, tax, the value of a non-perfect square root or cube root) by identifying when estimation is appropriate, selecting the appropriate method of estimation; determining the level of accuracy needed given the situation; analyzing the effect of the estimation method on the accuracy of results; evaluating the reasonableness of solutions appropriate to GSEs across content strands.	Estimation Appropriate level of accuracy	P 58-59, 79-80, 114. This concept is problem-specific and is addressed/reinforced by the teacher as needed.	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course:Integrated I
Standard:N&O-HS-8-Not Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Applies properties of numbers and **field properties** (including determining whether a given subset of numbers is closed under a given arithmetic operation) **to solve problems or to simplify computations**; and **compares and contrasts the properties of numbers and number systems**; adds and multiplies numerical matrices with attention to the arithmetic properties of these operations.	Properties of numbers Open and closed sets	32, 53, 640 Teacher created lesson	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I

Standard: M:Geometry and Measurement(G&M):10:2-Assessed Strand

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Makes and defends conjectures, constructs geometric arguments, uses geometric properties, or uses theorems to solve problems involving angles, lines, polygons, circles, or right triangle ratios (sine, cosine, tangent) within mathematics or across disciplines or contexts (e.g., Pythagorean Theorem, Triangle Inequality Theorem).	Makes and defends conjectures	21, 11-12 (Ex 5-6), 21-22, 71,88,92 (ex 30), 424 (Ex. 33), 431 (Ex 21), 477, 479-480	Homework completion, assessed homework, classwork, quizzes/tests, participation
	Constructs geometric arguments	21, 44-47	
	Uses geometric properties, or uses theorems to solve problems involving		
	- Lines	44, 44-47; Geometer's Sketchpad Workbook Chap 1.	
	- Angles	85, 89, 657; Geometer's Sketchpad Workbook Chap 1.	
	- Polygons	39, 329-332, 430; Geometer's Sketchpad Workbook Chaps 4,5	

Grade Level: Integrated I
Standard:M:G&M10:2—Assessed Strands

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
	- Right triangle ratios (sine, cosine, tangent) Triangles/triangle sum theorem Pythagorean theorem Triangle inequality Theorem	344-349,361-363 39,44,88,89,282 & Sketchpad exploration 477-480, 495 & Geometer's Sketchpad Workbook Chapter 8 Covered in Integrated II (geometer's sketchpad lesson)	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard:M:G&M10:4—Assessed Strands

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Applies the concepts of congruency by solving problems on or off a coordinate plane involving reflections, translations, or rotations; or solves problems using congruency involving problems within mathematics or across disciplines or contexts.	Concept of congruency - Reflection - translations - rotations Solves problems using congruency involving problems within mathematics or across disciplines or contexts	37-38,44,82 547-550 & Geometer's Sketchpad Workbook Chapter 2 197-199 202-206 Geometer's Sketchpad Workbook Chapter 3	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard:M:G&M:10:5—Assessed Strands

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Applies concepts of similarity by solving problems within mathematics or across disciplines or contexts.	Concept of Similarity Similar polygons Similar space figures	328-332; & Geometer's Sketchpad Workbook Chapter 9 328-332 532	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard: M:G&M:10:6-Assessed Strands

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Solves problems involving perimeter, circumference, or area of two-dimensional figures (including composite figures) or **surface area or volume** of three-dimensional figures (including composite figures) within mathematics or across disciplines or contexts.	- perimeter 2-dimensional - circumference - area ■ circle ■ parallelogram ■ rectangle ■ right triangle ■ similar figures ■ square ■ surface area (3-D) ■ trapezoid ■ triangle Solves problems using 3-D figures - volume: --cone --cube --cylinder -- prism --pyramid -- similar figures	12-13, 44-46, 93,658;Geometer's Sketchpad Workbook Chapter 7 375-376 280-284, 658-659 400-401, 403 194 (ex 12), 280-282 81,192-193, 280,658 191-192 530 20,111,658 507-511 193,283 195 (Ex 13,14), 282 515-518,659 524 20,94,115 517 515 523 532,533	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I

Standard:M:G&M:10:7-Assessed Strands

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Uses units of measure appropriately and consistently when solving problems across content strands; makes conversions within or across systems and makes decisions concerning an appropriate degree of accuracy in problem situations involving measurement in other GSEs.	Uses units of measure appropriately and consistently when solving problems across content strands	392-395, dimensional analysis unit	Homework completion, assessed homework, classwork, quizzes/tests, participation
	- Makes conversions within or across systems	666, teacher emphasis while working unit problems	
	- Makes decisions concerning an appropriate degree of accuracy in problem situations involving measurement across the curriculum	This concept is emphasized as part of the problem solving approach to problems and measurement as each situation occurs	

Course: Integrated I
Standard:M:G&M:10:9-Assessed Strands

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Solves problems on and off the coordinate plane involving distance, midpoint, perpendicular and parallel lines, or slope.	- distance --point to a line	281, Geometer's Sketchpad Workbook Chapter 1	Homework completion, assessed homework, classwork, quizzes/tests, participation
	- midpoint	p. 82-84	
	-perpendicular and parallel lines	44	
	- slope -- or horizontal line -- negative -- using coordinates --of vertical line	361, 419 433 386-387 369,370 433	

Course: Integrated I
Standard:M:G&M:HS-4-Not Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Applies the concepts of congruency by using matrices to represent reflections, translations, and rotations.	Concept of congruency using matricies	Teacher created lesson, not in text.	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I

Standard: MG&M: HS-5

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Applies concepts of similarity to define the trigonometric functions as ratios of sides of right triangles; **uses the ratios of the sides of special right triangles** ($30^\circ - 60^\circ - 90^\circ$ and $45^\circ - 45^\circ - 90^\circ$) to determine the sine, cosine and tangent of 30°, 45°, and 60° ; and solves related problems.	Similarity as ratios of sides of right triangles Special right triangles	Section 5-7,8 Integrated II	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard:MG&M:10-7-Not Assessed

Course: Integrated I
Standard:MG&M:HS-10-Not Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Demonstrates conceptual understanding of spatial reasoning and visualization by sketching or using dynamic geometric software to generate three-dimensional objects from two-dimensional perspectives, or to generate two-dimensional perspectives from three-dimensional objects, and by solving related problems; perform and justify constructions with a compass and straightedge or dynamic geometric software.	2-dimensions to 3-dimensions, and vice versa	This strand may be satisfied using Geometer's sketchpad in conjunction with a project.	Homework completion, assessed homework, classwork, quizzes/tests, participation

Course: Integrated I
Standard:

Knowledge & Skills	Content	Activities Resources & Materials	Assessments