

MATHEMATICS  
HINSDALE SCHOOL DISTRICT

**Course: Integrated II, Text, Integrated Mathematics, McDougal Littell**

**Standard: M:Functions and Algebra (F&A):10-1-Assessed, From NH State frameworks--algebra/geometry**

Knowledge & Skills	Content	Activities (numbers refer to book pages) Resources & Materials	Assessments
<p><b>Identifies, extends, and generalizes a variety of patterns</b> (linear and nonlinear) represented by models, tables, sequences, or graphs in problem solving situations.</p>	<p>Patterns--models</p> <p>tables</p> <p>sequences</p> <p>graphs</p>	<p>p. 67, 69, 76, 101, 106-109, 187, 505, 506, 508, 521, 541 Graphing calculator applications as developed by the teacher</p> <p>3, 4, 7, 25, 66 (Exs. 30-32), 149 (Exs. 35-37), Graphing calculator applications as developed by the teacher</p> <p><b>Teacher developed lesson (note: the bold “Teacher developed lesson” indicates the topic is not in the text)</b></p> <p>109,531, 537, 539, 187-189 (quadratics), 193, 195, 201 Graphing calculator applications as developed by the teacher</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p><b>Demonstrates conceptual understanding of linear and nonlinear functions and relations</b> (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).</p>	<ul style="list-style-type: none"> <li>- An analysis of constant, variable, or average rates of change</li> <li>- Intercepts</li> <li>- Domain and range</li> <li>-Maximum and minimum values</li> <li>-Increasing and decreasing intervals</li> <li>-Rates of change (e.g., the height is increasing at a decreasing rate)</li> <li>-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).</li> </ul>	<p>P 74 # 34-36, 43</p> <p>p. 60, 61, 122, 189, 214-215, 528-529, 653 (skill 24)</p> <p>62, 528, 604 ( technology handbook, graphing calculator)</p> <p>187-191, p 191 (# 14-17), <b>teacher quadratic supplement/applications maximum/minimums</b></p> <p>108-109 (exponential decay), teacher developed lesson <b>Teacher developed lesson</b></p> <p>p. 649-651 (skills) and p 529-531 (cubics), and <b>teacher developed lesson</b></p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Integrated II**

**Standard: MF&A:-10-3-Assessed**

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p><b>Demonstrates conceptual understanding of algebraic expressions</b> 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.</p>	<ul style="list-style-type: none"> <li>- Simplifying and evaluating expressions involving:               <ul style="list-style-type: none"> <li>- polynomials</li> <li>- rationals</li> <li>- integer exponents</li> <li>- square roots</li> <li>- Absolute values</li> </ul> </li> <li>-Translates problem situations into algebraic expressions using:               <ul style="list-style-type: none"> <li>- polynomial expressions</li> <li>- rational expressions</li> <li>- using integer exponents</li> <li>- square roots</li> <li>- absolute values</li> </ul> </li> </ul>	<p>p. 505, 507, 514 508, and supplements 105-109, and supplements</p> <p><b>Teacher created lesson</b> <b>Teacher created lesson</b></p> <p>505-508, 537 508, 521-523 513-516 93, 218, exercise 16 and teacher supplements</p> <p><b>Teacher created lesson</b></p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Integrated II**

**Standard: MF&A-10-4-Assessed**

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p><b>Demonstrates conceptual understanding of equality</b> 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.</p>	<ul style="list-style-type: none"> <li>-Translating problem situations into equations by solving linear equations symbolically/graphically</li> <li>-Express the solution set of a linear equation symbolically</li> <li>-Express the solution set of a linear equation graphically</li> <li>-Provide the meaning of the graphical interpretations of solution(s) in problem solving situations</li> <li>-Solving problems involving systems of linear equations in a context of using equations, graphs, or using models and representations</li> </ul>	<p>121-127; graphing calculator activity</p> <p><b>Teacher developed lesson on set, interval notation</b></p> <p>124-127: 644-645: and graphing calculator activities</p> <p>95,109,122,123,124,129,146,201,214,231,233,531</p> <p>146, 129-131,143,146</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

MATHEMATICS  
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**Course: Integrated II**

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

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p><b>Interprets a given representation(s)</b> (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).</p>	<p>box-and-whisker plots</p> <p>scatter plot</p> <p>bar graph</p> <p>line graphs</p> <p>circle graph</p> <p>histogram</p> <p>frequency charts</p>	<p>P 636, skill 5</p> <p>P 632, skill1</p> <p>Teacher review, as required</p> <p>Teacher review, as required</p> <p>Teacher review, as required</p> <p>633-634 (skill review)</p> <p>633-634 (skill review)</p> <p>(Note: The topics on this page are covered extensively in Integrated I. Most of the resources in the Integrated II text are in the skills bank).</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Integrated II**  
**Standard: DSP-10-2-Assessed**

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p><b>Analyzes patterns, trends, or distributions in data in a variety of contexts</b> 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.</p>	<p>Mean, median, mode</p> <p>Range</p> <p>Outliers</p> <p>Quartile values</p> <p>Estimated line of best fit</p> <p>Regression line or correlation and understanding positive, negative, or no correlation</p> <p>Solve problems involving conceptual understanding of the sample from which the statistics were developed.</p>	<p>635, skill 4</p> <p>635, skill 4</p> <p>Teacher defines term as it isn't in text</p> <p>P 636, skill 5</p> <p>632, skill 1</p> <p>21, 632, skill 1</p> <p>3,5,16,17</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Integrated II**  
**Standard: DSP-10-4-Assessed**

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p><b>Uses counting techniques to solve problems</b> in context involving combinations or permutations using a variety of strategies (e.g., organized lists, tables, tree diagrams, models, Fundamental Counting Principle, or<sup>sc</sup> others).</p>	<p>combinations</p> <p>permutations</p> <p>Varied strategies including:</p> <p>organized lists</p> <p>tables</p> <p>tree diagrams,</p> <p>models</p> <p>Fundamental Counting Principle</p>	<p>328-330</p> <p>304-305, 313</p> <p>305,329</p> <p>296-298, 305,329</p> <p>11, 296-298, 302, 306, 325, 339, 346</p> <p>321, 325, 351</p> <p>303</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>



MATHEMATICS  
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**Course: Integrated II**

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

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p><b>Demonstrates understanding of the relative magnitude of real numbers</b> by solving problems involving ordering or comparing rational numbers, common irrational numbers (e.g., <math>\sqrt{2}</math>, <math>\pi</math>), rational bases with integer exponents, square roots, absolute values, integers, or numbers represented in scientific notation using number lines or equality and inequality symbols.</p>	<p>rational number</p> <p>common irrational numbers (e.g., <math>\sqrt{2}</math>, <math>\pi</math>)</p> <p>rational bases with integer exponents</p> <p>square roots</p> <p>absolute values</p> <p>integers</p> <p>numbers represented in scientific notation</p> <p>using number lines</p> <p>using equality and inequality symbols.</p>	<p>The topics on this page are all covered in Integrated I. These should be reviewed on an “as required” basis.</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Integrated II**

**Standard:N&O-10-4-Assessed**

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p><b>Accurately solves problems involving</b> rational numbers within mathematics, across content strands, disciplines or contexts (with emphasis on, but not limited to, proportions, percents, ratios, and rates).</p>	<p>Proportions</p> <p>Percents</p> <p>Ratios</p> <p>Rates</p>	<p>5, 483-484, 647-648</p> <p>Percents, Ratios, and rates were covered in integrated I. They should be reviewed on an “as required” basis.</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p>Identifies arithmetic and geometric sequences <b>and finds the nth term; then</b> uses the generalization <b>to find a specific term.</b></p>	<p>Arithmetic sequences</p> <p>Geometric sequences</p> <p>Finding nth term</p> <p>Finding specific term</p>	<p>Teacher developed lesson for all knowledge and skills on this page</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p><b>Demonstrates conceptual understanding of linear and nonlinear functions and relations.</b></p> <p>Analyzes characteristics of classes of functions (polynomial, rational, and exponential) to include domain, range, intercepts, increasing and decreasing intervals and rates of change.</p> <p>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.</p> <ul style="list-style-type: none"> <li>• Graphs polynomial, rational and exponential functions, including vertical and horizontal shifts, stretches, and</li> </ul>	<p>Characteristics of polynomials domain, range, intercepts, increasing and decreasing intervals and rates of change.</p> <p>Rationals</p> <p>domain, range, intercepts, increasing and decreasing intervals and rates of change.</p> <p>Exponential functions</p> <p>Definition of one-to-one function</p> <p>Inverses</p> <p>Graphically</p> <p>Algebraically</p> <p>Polynomials</p> <p>Graphs of</p>	<p>505-514</p> <p>508, 520-522</p> <p>62, 214-215</p> <p>105-109</p> <p>Teacher created lesson</p> <p>Teacher directed lesson</p> <p>161-162m 193-194, 267-268, 662</p> <p>266, 472, 664</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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<p>compressions as well as reflections across vertical and horizontal axes.</p> <ul style="list-style-type: none"> <li>• 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.</li> </ul>	<p>Rationals Exponentials Transformations Shifts and reflections</p> <p>Interpret and understand situations, model situations, and solve problems in mathematics and natural and social sciences</p>	<p>These applications are reflected throughout the word problems in the Integrated II text, and can be augmented by the teacher.</p>	
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**Course: Integrated II**  
**Standard:F&A-HS-3-Not Assessed**

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p><b>Demonstrates conceptual understanding of algebraic expressions.</b></p> <p>Manipulates, evaluates, and simplifies algebraic and numerical expressions.</p> <p>Adds, subtracts, multiplies and divides polynomials and rational expressions.</p> <p>Factors quadratic and higher degree polynomials.</p> <p>Understands properties of logarithms and converts between logarithmic and exponential forms.</p> <p>Manipulates, evaluates, and simplifies expressions involving rational exponents and radicals and converts between expressions with rational exponents and expressions with radicals.</p> <ul style="list-style-type: none"> <li>• Understands the effect of simplifying rational expressions on the domain of the related functions (e.g., <math>x^2/x = x</math> for <math>x \neq 0</math>).</li> </ul>	<p>Manipulates, evaluates, and simplifies algebraic and numerical expressions.</p> <p>Adds, subtracts, multiplies and divides polynomials and rational expressions.</p> <p>Factors quadratic and higher degree polynomials.</p> <p>Understands properties of logarithms and converts between logarithmic and exponential form</p> <p>Manipulates, evaluates, and simplifies expressions involving rational exponents and possible impact on the domain</p>	<p>206-208</p> <p>Teacher developed lesson</p> <p>Teacher developed lesson</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Integrated II**  
**Standard:F&A-HS-4-Not Assessed**

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p><b>Demonstrates conceptual understanding of equality.</b></p> <p>Factors, completes the square, uses the quadratic formula, and graphs quadratic functions to solve quadratic equations.</p> <p>Solves equations involving polynomial, rational, and radical expressions. Graphs and interprets the solutions.</p> <p>Understands extraneous solutions.</p> <p>Finds approximate solutions to equations by graphing each side as a function using technology. Understands that any equation in <math>x</math> can be interpreted as the equation <math>f(x) = g(x)</math> and interpret the solutions of the equation as the <math>x</math>-value(s) of the intersection point(s) of the graphs of <math>y = f(x)</math> and <math>y = g(x)</math>.</p> <p>Solves <math>2 \times 2</math> and <math>3 \times 3</math> systems of linear equations and graphically interprets the solutions.</p> <p>Solves systems of linear and quadratic inequalities.</p> <p>Solves systems of equations involving nonlinear expressions and graphically interprets the solutions.</p> <p>Translates problem situations into inequalities; and solves linear and non-linear inequalities (symbolically and graphically).</p>	<p>Factors, completes the square, uses the quadratic formula, and graphs quadratic functions to solve quadratic equations.</p> <p>Solves equations involving polynomial, rational, and radical expressions. Graphs and interprets the solutions.</p> <p>Understands extraneous solutions.</p> <p>Finds approximate solutions to equations by graphing each side as a function using technology. Understands that any equation in <math>x</math> can be interpreted as the equation <math>f(x) = g(x)</math> and interpret the solutions of the</p>	<p>199-202</p> <p>507, 508, 514, 520-522, 537</p> <p>521</p> <p>122, 123, 129, 135-139</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Integrated II**  
**Standard: DSP-HS-4-5-Not Assessed**

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p><b>DSP-HS-4: Uses counting techniques to solve problems</b> in context involving combination or permutations using <math>nCr</math>, <math>nPr</math>, or <math>n!</math>; and finds unions, intersections, and complements of sets.  <b>DSP-HS-5: For a probability event in which the sample space may or may not contain equally likely outcomes, predicts</b> the theoretical probability of an event and tests the prediction. compares and contrasts theoretical and experimental probabilities; finds the odds of an event and understands the relationship between probability and odds.</p>	<p>Combinations</p> <p>Permutations</p> <p>Unions</p> <p>Intersections</p> <p>Complements of sets</p> <p>Probability</p> <p>odds</p>	<p>328-330</p> <p>304-305</p> <p>Teacher developed lesson</p> <p>P 368-370</p> <p>Teacher developed lesson</p> <p>637-639</p> <p>314</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Integrated II**  
**Standard: DSP-HS-6-Not Assessed**

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p><b>In response to a teacher or student generated question or hypothesis</b> 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.</p>	<p>Sampling techniques</p> <p>Limitations of data that could affect interpretation</p> <p>Makes predictions or connections to real-world situations</p>	<p>3, 5, 16, 17, 320</p> <p>23-25</p> <p>9-11, 15</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Integrated II**

**Standard: N&O-HS-1-2-Not Assessed**

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p><b>N&amp;O-HS-1</b> <b>Demonstrates conceptual understanding of rational numbers</b> by knowing why a real number is rational if and only if the number's decimal expansion eventually repeats or terminates.</p> <p><b>N&amp;O-HS-2</b> <b>Demonstrates understanding of the relative magnitude of real numbers</b> by solving problems that involve ordering or comparing any subset of the real numbers.</p>	<p>Rational numbers, terminators versus repeaters</p>	<p>Teacher developed lesson</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Integrated II**

**Standard: N&O-HS-4-Not Assessed**

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p><b>Accurately solves problems.</b></p> <p>Interprets and computes with rational exponents and their relation to radicals, by hand in simple cases (e.g., <math>4^{3/2}</math>), and using a calculator when appropriate.</p> <p>Interprets and computes in scientific notation with and without a calculator.</p> <p>Solves compound interest problems using <math>A = P\left(1 + \frac{r}{n}\right)^{nt}</math>, where <math>n</math> is finite.</p>	<p>Rational exponents</p> <p>Computes in scientific notation</p> <p>Solves compound interest problems</p>	<p>Teacher developed lesson</p> <p>Teacher developed lesson</p> <p>Teacher developed lesson</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Algebra 1**

**Standard: N&O-HS-6-Not Assessed**

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p><b>Uses a variety of mental computation strategies to solve problems</b> (e.g., using compatible numbers, applying properties of operations, using mental imagery, using patterns) and to <b>determine the reasonableness of answers.</b></p>	<p>Reasonableness of answers</p>	<p>Teacher developed lesson</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p><b>Makes estimates</b> 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.</p>	<p>Estimation</p>	<p>122, 189</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p><b>Applies properties of numbers and field properties</b> (including determining whether a given subset of numbers is closed under a given arithmetic operation) <b>to solve problems or to simplify computations;</b> and <b>compares and contrasts the properties of numbers and number systems;</b> adds and multiplies numerical matrices with attention to the arithmetic properties of these operations.</p>	<p>Properties of numbers  matrices</p>	<p>Teacher developed lesson  154-155</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Integrated II**

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

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p><b>Makes and defends conjectures, constructs geometric arguments, uses geometric properties, or uses theorems to solve problems</b> 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).</p>	<p>Makes and defends conjectures</p> <p>Constructs geometric arguments</p> <p>Uses geometric properties, or uses theorems to solve problems involving</p> <ul style="list-style-type: none"> <li>- Lines</li> <li>- Angles</li> <li>- Polygons</li> </ul>	<p>31</p> <p>380, 395, 396</p> <p>137, 138, 280-282,329-332, 415-418, 430-434, 475; Geometer’s Sketchpad Workbook Chap 1.</p> <p>33, 408-411, 416, 431-4433, 440-444, 468, 655; Geometer’s Sketchpad Workbook Chap 1.</p> <p>33, 40, 280-283, 244-245, 253, 418-419, 441; Geometer’s Sketchpad Workbook Chaps 4,5</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>



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**Course: Integrated II**

**Standard: M:G&M10:4—Assessed Strands**

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p><b>Applies the concepts of congruency by solving problems</b> 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.</p>	<p>Concept of congruency</p> <p>- Reflection</p> <p>- translations</p> <p>- rotations</p> <p>Solves problems using congruency involving problems within mathematics or across disciplines or contexts</p>	<p>449, 459, 461, 466</p> <p>266-269, 472, 664&amp; Geometer’s Sketchpad Workbook Chapter 2</p> <p>116-162, 267-268, 662</p> <p>266-267, 566-567, 662</p> <p>Geometer’s Sketchpad Workbook Chapter 3</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>



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**Standard: M:G&M:10:6-Assessed Strands**

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p><b>Solves problems involving perimeter, circumference, or area</b> of two-dimensional figures (including composite figures) or <b>surface area or volume</b> of three-dimensional figures (including composite figures) within mathematics or across disciplines or contexts.</p>	<p>- perimeter 2-dimensional</p> <p>-circumference</p> <p>- area</p> <ul style="list-style-type: none"> <li>■ circle</li> <li>■ parallelogram</li> <li>■ rectangle</li> <li>■ right triangle</li> <li>■ similar figures</li> <li>■ square</li> <li>■ surface area (3-D)</li> <li>■ trapezoid</li> <li>■ triangle</li> </ul> <p>Solves problems using 3-D figures</p> <p>- volume:</p> <p>--cone</p> <p>--cube</p> <p>--cylinder</p> <p>-- prism</p> <p>--pyramid</p> <p>-- similar figures</p>	<p>;Geometer’s Sketchpad Workbook Chapter 7</p> <p>Teacher created lesson</p> <p>571, 592-594, 675</p> <p>657-658</p> <p>657-658</p> <p>657-658</p> <p>86</p> <p>657-658</p> <p>84-85, 657-658</p> <p>657-658</p> <p>657-658</p> <p>657-658</p> <p>657-658</p> <p>657-658</p> <p>657-658</p> <p>657-658</p> <p>657-658</p> <p>86-87, 515</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Integrated II**

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

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p>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.</p>	<p>Uses units of measure appropriately and consistently when solving problems across content strands</p> <p>- Makes conversions within or across systems</p> <p>- Makes decisions concerning an appropriate degree of accuracy in problem situations involving measurement across the curriculum</p>	<p>Reflected in problems across the curriculum</p> <p>665, teacher emphasis while working unit problems</p> <p>Teacher guidance and class-specific protocol for decimal accuracy</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Integrated II**

**Standard: M:G&M:10:9-Assessed Strands**

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p>Solves problems on and off the coordinate plane involving distance, midpoint, perpendicular and parallel lines, or slope.</p>	<ul style="list-style-type: none"> <li>- distance</li> <li>--point to a line</li>   <li>- midpoint</li>   <li>-perpendicular and parallel lines</li>   <li>- slope</li> <li>-- or horizontal line</li> <li>-- negative</li> <li>-- using coordinates</li> <li>--of vertical line</li> </ul>	<p>251-254 , Geometer’s Sketchpad Workbook Chapter 1</p> <p>p. 259, 281, 580</p> <p>137, 139, 282, 416, 431, 433, 434,439, 475</p> <p>68, 650-651 68, 650-651 68, 650-651 68, 650-651 68, 650-651</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Integrated II**

**Standard: M:G&M:HS-2-Not Assessed**

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
Creates formal proofs of propositions (e.g., angles, lines, circles, distance, midpoint and polygons including triangle congruence and similarity).	Formal proofs of propositions	395-397, and teacher discretion as concepts are introduced	Homework completion, assessed homework, classwork, quizzes/tests, participation

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**Course: Integrated II**

**Standard: M:G&M:HS-4-Not Assessed**

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<b>Applies the concepts of congruency</b> by using matrices to represent reflections, translations, and rotations.	Concept of congruency using matrices	159-162, 268	Homework completion, assessed homework, classwork, quizzes/tests, participation

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**Course: Integrated II**

**Standard:MG&M: HS-5**

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p><b>Applies concepts of similarity</b> to define the trigonometric functions as ratios of sides of right triangles; <b>uses the ratios of the sides of special right triangles</b> ( <math>30^\circ - 60^\circ - 90^\circ</math> and <math>45^\circ - 45^\circ - 90^\circ</math> ) to determine the sine, cosine and tangent of <math>30^\circ</math>, <math>45^\circ</math>, and <math>60^\circ</math> ; and solves related problems.</p>	<p>Similarity as ratios of sides of right triangles</p> <p>Special right triangles</p>	<p>481-482</p> <p>489-492, geometers sketchpad explorations</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Course: Integrated II**

**Standard:MG&M:HS-6-Not Assessed**

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p><b>Applies trigonometric formulas</b> (e.g., Law of Sines, Law of Cosines, <math>A = \frac{1}{2} ab \sin C</math>) to find angles, lengths and areas of polygons.</p>	<p>Law of sines</p> <p>Law of cosines</p>	<p>Teacher created lesson</p> <p>Teacher created lesson</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p><b>Applies informal concepts of successive approximation, upper and lower bounds, and limits in measurement situations</b> (e.g., use successive approximation to find the area of a pond); and <b>uses measurement conversion strategies</b> (e.g., unit/dimensional analysis).</p>	<p>Successive approximation</p> <p>Concept of upper and lower bounds</p> <p>Overview of concept of limit</p>	<p>Teacher created lesson</p> <p>Teacher created lesson</p> <p>Teacher created lesson</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>
<p><b>Demonstrates conceptual understanding of spatial reasoning and visualization</b> 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.</p>	<p>Using dynamic software to generate geometric constructions</p>	<p>Use of Geometer’s Sketchpad throughout the curriculum</p>	<p>Homework completion, assessed homework, classwork, quizzes/tests, participation</p>

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**Standard:**

<b>Knowledge &amp; Skills</b>	<b>Content</b>	<b>Activities Resources &amp; Materials</b>	<b>Assessments</b>