

MATHEMATICS
HINSDALE SCHOOL DISTRICT

Course: Introductory Math—Foundations, Text: Practical Mathematics, 3rd Edition, HRW, 1998
Standard: M:Functions and Algebra (F&A):10-1-Assessed

Knowledge & Skills	Content	Activities 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.	models tables sequences graphs	P8-19 ,209, 310-311,404 P8-19 ,209, 310-311,404 P8-19 ,209, 310-311,404 P8-19 ,209, 310-311,404	Quizzes/tests/classwork/graded homework/homework/class projects/participation

MATHEMATICS
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Course: Introductory Math—Foundations, Text: Practical Mathematics, Skills and Concepts
Standard: M:F&A-10-2-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p>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).</p>	<ul style="list-style-type: none"> - 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). 	<p>Unit rates, p. 213</p> <p>Introduced with p. 409</p> <p>Introduced with 409, 418</p> <p>Concept of slope and rates of change introduced on p. 419</p> <p>Introduced on page 419</p>	<p>Quizzes/tests/classwork/graded homework/homework/class projects/participation</p>

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MATHEMATICS
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Course: Introductory Math--Foundations

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

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p>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.</p>	<ul style="list-style-type: none"> - Simplifying and evaluating polynomial expressions -Simplifying and evaluating rational expressions -Simplifying and evaluating expressions involving integer exponents -Simplifying and evaluating expressions involving square roots -Translates problem situations into algebraic expressions using polynomial expressions -Translates problem situations into algebraic expressions using rational expressions -Translates problem situations into algebraic expressions using integer exponents -Translates problem situations into algebraic expressions using square roots 	<p>p. 18-19,68-69,37-37,378-379 (scientific notation)</p> <p>18-19</p> <p>p. 312</p> <p>p. 400-401</p> <p>P 400-401</p>	<p>Quizzes/tests/classwork/graded homework/homework/class projects/participation</p>

MATHEMATICS
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Course: Introductory Math--Foundations

Standard: MF&A-10-4-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p>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.</p>	<p>-Translating problem situations into equations; by solving linear equations symbolically</p> <p>-Translating problem situations into equations by solving linear equations graphically</p> <p>-Express the solution set of a linear equation symbolically</p> <p>-Express the solution set of a linear equation graphically</p> <p>-Provide the meaning of the graphical interpretations of solution(s) in problem solving situations</p> <p>-Solving problems involving systems of linear equations in a context of using equations, graphs, or using models and representations</p>	<p>P 406-407, at a very elementary level</p> <p>P 408</p> <p>P 418-419</p>	<p>Quizzes/tests/classwork/graded homework/homework/class projects/participation</p>

MATHEMATICS
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Course: Introductory Math--Foundations

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

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p>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).</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>Lesson not in text, teacher-developed lesson using Larson Workbook</p> <p>P 118</p> <p>96-97,106-107,139</p> <p>P 363</p> <p>P 138,317</p> <p>P 92-94, augmented from Larson Workbook</p> <p>P 92-94, augmented from Larson Workbook</p>	

MATHEMATICS
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Course: Introductory Math--Foundations

Standard: DSP-10-2-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p>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.</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>98-99,107,100-101, math jeopardy game that uses mean, median, mode as a category</p> <p>100-101, 107,206</p> <p>Not in text, covered as we discuss whether mean or median is a more reliable indicator</p> <p>Teacher-developed lesson</p> <p>p. 118</p> <p>91-94, 102-103</p>	<p>Quizzes/tests/classwork/graded homework/homework/class projects/participation</p>

MATHEMATICS
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Course: Introductory Math--Foundations

Standard: DSP-10-4-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p>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).</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>280-281</p> <p>280-281, 288</p> <p>Teacher-developed lesson</p> <p>Teacher-developed lesson</p> <p>276-277</p> <p>272-273</p> <p>276-277</p>	

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Course: Introductory Math--Foundations
Standard: DSP-10-5-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Solves problems involving experimental or theoretical probability.	experimental probability	Teacher-developed lesson	Quizzes/tests/classwork/graded homework/homework/class projects/participation
	theoretical probability	Teacher-developed lesson	

MATHEMATICS
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Course: Introductory Math--Foundations
Standard: Numbers and Operations (N&O)-10-2-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p>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.</p>	<p>rational number</p> <p>common irrational numbers (e.g., $\sqrt{2}$, π)</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>384-385, 395 and teacher-developed using venn diagrams to show the structure of the entire number system</p> <p>Teacher-developed lesson P 394</p> <p>312-313</p> <p>365, 384-385,372</p> <p>364-366</p> <p>378-379</p> <p>367-368, 122-123, 364-365, 384-385, 408-409, 370-371</p> <p>406-407</p>	

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Course: Introductory Math--Foundations
Standard:N&O-10-4-Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p>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).</p>	<p>Proportions</p> <p>Percents</p> <p>Ratios</p> <p>Rates</p>	<p>216-217, 223, 220-221, 226-227, 250-251, 224-225, 320-323</p> <p>234-235, 254-255, 258-259, 410, 240-241, 246-247, 248-249, 258-259, and whiteboard activities</p> <p>210-211, 216-217, 268-270,</p> <p>212-213 Quizzes/tests/classwork/graded homework/homework/class projects/participation</p>	<p>Quizzes/tests/classwork/graded homework/homework/class projects/participation</p>

MATHEMATICS
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Course: Introductory Math--Foundations

Standard: Basic Skills

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Numeration Problem solving strategies Whole number computation Estimating and rounding	Place value Comparing and ordering numbers Process of solving problems Estimating and rounding Sums and differences Multiplying and dividing by powers of 10 Mult/div by 1,2,3 digit numbers	p. 6 p. 8, Jeopardy game p 14, weekly process quizzes to emphasize problem solving, including problems on quizzes and assigning higher weights p 16, 28, jeopardy games, augmented with worksheets p 28, 32, 35 p. 36, and whiteboard activities p. 40-50	Quizzes/tests/classwork/graded homework/homework/class projects/participation

MATHEMATICS
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Course: Introductory Math--Foundations

Standard: Basic Skills

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Measurement	Customary units of length Units of capacity and weight Computing with time Time zones Hourly wages and overtime pay Metric units of length Metric units of mass and capacity Converting metric units Measuring temperature Drawing a diagram for problem solving applications	p. 179-180, augment with worksheet p. 180-184, augment with worksheet p. 186 p. 188 p. 191, augment with worksheet p. 192, augment with worksheet p. 194, augment with worksheet p. 198, augment with worksheet p. 200 p. 202-204	Quizzes/tests/classwork/graded homework/homework/class projects/participation

MATHEMATICS
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Course: Introductory Math--Foundations

Standard: Basic Skills

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Percent, other knowledge and skills related to percents are discussed in the Assessed Portion in the beginning of this curriculum	Federal Income Taxes Store owner application Commission application Discount application Interest application	p. 242, the following are all very valuable applications contained in the text p. 245 p. 254 p. 256 p. 260	Quizzes/tests/classwork/graded homework/homework/class projects/participation

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Course: Introductory Math--Foundations

Standard: Basic Skills

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Probability	Concept of probability Predictions Possible outcomes Independent and dependent events Making an organized list Sampling Application, choosing transportation	p. 268 p. 272 p. 276, and whiteboard activities p. 278 p. 280 p. 282 p. 284	Quizzes/tests/classwork/graded homework/homework/class projects/participation

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Course: Introductory Math--Foundations

Standard: Basic Skills

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Rational Numbers Equations	Scientific Notation	p. 278, augmented with worksheet/whiteboard activities	Quizzes/tests/classwork/graded homework/homework/class projects/participation
	Graphing points in a plane	p. 380, augmented with extra practice	
	Laws of exponents	p. 394, and whiteboard activities	
	Order of operations	p. 398, and whiteboard activities	
	Algebraic expressions	p. 400, and whiteboard activities	
	Evaluating expressions	p. 402	
	Distance Formula	p. 405	
	Equations and Inequalities	p. 406	
Graphing points on a line	p. 408, and whiteboard activities		

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Course: Introductory Math--Foundations

Standard: Basic Skills

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
Equations (cont)	Midpoint formula Solving 1 step Solving 2 step Equations in 2 variables	Teacher developed lesson to go with graphing points on a line p. 412, Augment with worksheets/extra work p. 416, Augment with worksheets/extra work p. 418, Augment with worksheets/ extra work	Quizzes/tests/classwork/graded homework/homework/class projects/participation

MATHEMATICS
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Course: Algebra 1

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

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p>Accurately solves problems.</p> <ul style="list-style-type: none"> • Interprets and computes with rational exponents and their relation to radicals, by hand in simple cases 	<p>Rational exponents</p> <p>Computes in scientific notation</p> <p>Solves compound interest problems</p>	<p>P 394, laws are briefly covered, whiteboard activities</p> <p>P 378-379</p>	<p>Quizzes/tests/classwork/graded homework/homework/participation</p>

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Course: Algebra 1

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

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p>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.</p>	<p>Reasonableness of answers</p>	<p>Covered in introduction to the problem solving process and throughout the curriculum as problems are solved</p>	<p>Assessed in warm-ups/classwork/quizzes</p>

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Course: Introductory Math--Foundations

Standard: N&O-HS-7-Not Assessed

Knowledge & Skills	Content	Activities Resources & Materials	Assessments
<p>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.</p>	<p>Estimation</p>		

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