

Morrilton Junior High School				
8th Grade Pre-Algebra Pacing Guide				
AR Department of Education CONTENT STANDARD/ Student Learning Expectations (SLE) Color Coded: 2008	Objective	Task Analysis/Blooms Taxonomy	Essential Vocabulary *teacher word	Materials/Resources and Reteaching Concepts
Enduring Understanding - Successful problem solvers possess a set of core beliefs that support their work: problem solving is important, takes significant time and repeated efforts, and requires reflection.				
Essential Question - What are the specific strategies that have wide application in attacking problems and can help in problem solving?				
NO.3.8.2 Solve, with and without appropriate technology, multi-step problems using a variety of methods and tools (i.e. objects, mental computation, paper and pencil) Note: This is identical to the 7th grade SLE.	Solve, with and without appropriate technology, multi-step problems using a variety of methods and tools (Ex. objects, mental computation, paper and pencil)	with and without appropriate technology: *represent multi-step problems using manipulatives (including 2 or more steps) *solve problems mentally *solve multi-step problems with paper and pencil	mental computation technology distributive property rational numbers like terms problem-solving strategy	
First Quarter				
Unit 1				
Number Patterns - Comp 1				
A.4.8.1 Find the n^{th} term in a pattern or a function table	Identify the value of the n^{th} term in a pattern or a function table	*determine the rule of a pattern or function *write the rule as an algebraic expression or equation *express the rule in terms of x *identify the value of the n^{th} term in the pattern or function table	pattern recognition functions input tables output tables domain range n^{th} term	Chapter 1 Section 8
A.7.8.1 Use, with and without appropriate technology, graphs of real-life situations to describe the relationships and analyze change including graphs of change (cost per minute) and graphs of accumulation (total cost)	A. Use, with and without appropriate technology, graphs of real-life situations to describe the relationships including graphs of change (cost per minute) and graphs of accumulation (total cost) B. Use, with and without appropriate technology, graphs of real-life situations to analyze change including graphs of change (cost per minute) and graphs of accumulation (total cost)	with and without appropriate technology: *analyze a graph that represents a real-life event including graphs of change and accumulation (e.g. cost per minute, total cost) *analyze a table that represents a real-life event *make predictions of a real-life event based on its graph *make predictions of a real-life event based on its table	predicted estimated accumulation graph of change graph of accumulation	Chapter 1 Section 8
Number Operations - Comp 2				
A.4.8.2 Using real-world situations, describe patterns in words, tables, pictures, and symbolic representations	Using real-world situations, describe or express patterns in words, tables, pictures, and symbolic representations	using real-world situations to: *determine the rule for a geometric pattern of shapes or a real-world event *describe the pattern with words *describe the pattern with a table *describe the pattern with a picture *describe the pattern with a symbolic representation (Ex. graph)	patterns pictorial representation input/output table real-world situations symbolic representations	Chapter 1 pg. 36, 38, 40-43
Order of Operations - Comp 3				

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NO.2.8.1 Apply the addition, subtraction, multiplication and division properties of equality to two-step equations	Solve two-step equations using addition, subtraction, multiplication and division properties of equality	*apply order of operations when appropriate to solve two-step equations *apply addition, subtraction, multiplication and division properties of equality to one-step equations with whole numbers *apply addition, subtraction, multiplication and division properties of equality to one-step equations with integers *apply addition, subtraction, multiplication and division properties of equality to one-step equations with fractions *apply addition, subtraction, multiplication and division properties of equality to one-step equations with decimals	properties of equalities (+, -, x, ÷) equation solution solving an equation distributive property integers	Order of Operations - Chapter 1 Section 2 Properties - Chapter 2 page 66
NO.2.8.2 Understand and apply the inverse and identity properties	Describe and apply the inverse and identity properties	*identify inverse operations *apply inverse operations *identify the inverse property *apply the inverse property *identify the identity properties (addition and multiplication) *apply the identity properties (addition and multiplication)	inverse property identity properties (addition, multiplication)	Chapter 2
NO.2.8.3 Use inverse relationships (addition and subtraction, multiplication and division, squaring and square roots) in problem solving situations	Solve problems using inverse relationships (addition and subtraction, multiplication and division, squaring and square roots) in problem solving situations	*translate word problem to numerical equation *use identity or inverse properties (addition and subtraction, multiplication and division, squaring and square roots) to solve 1-step equation *use identity or inverse properties (addition and subtraction, multiplication and division, squaring and square roots) to solve 2-step equation	inverse operations for four properties (+, -, X, ÷) (review) squaring numbers square root odd/even numbers perfect square prime composite	Chapter 2
NO.2.8.4 Apply rules (conventions) for order of operations to rational numbers (2008 - SCORED LESS THAN 50% ON NON-RELEASED ITEM)	Apply rules (conventions) for order of operations to rational numbers	*use rules for order of operations: •grouping symbols (), [], fraction bar •exponents •multiplication & division left to right •addition & subtraction left to right *solve problems with integers and positive rational numbers using order of operations	numerical expression evaluate order of operations acronym (Ex. PEMDAS, GEMDAS) rational numbers	Chapter 1 & 2
Evaluating Expressions - Comp 4				
A.5.8.4 Write and evaluate algebraic expressions using rational numbers (2008 - SCORED LESS THAN 50% ON NON-RELEASED ITEM)	Write and evaluate algebraic expressions using rational numbers	*write algebraic expressions using rational numbers *evaluate algebraic expressions using rational numbers	evaluate algebraic expressions rational numbers	Chapter 1 pg 14
Unit 7 Text Book Chapters 5 and 6				
Operations with Fractions - Comp 1				

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NO.3.8.4 Apply factorization to find LCM and GCF of algebraic expressions Ex. $4x^2y^3$ $6xy^2$ $GCF=2xy^2$ $LCM=12x^2y^3$	Apply factorization to find LCM and GCF of algebraic expressions Ex. $4x^2y^3$ $6xy^2$ $GCF=2xy^2$ $LCM=12x^2y^3$	*find prime factorization of algebraic expressions *use prime factorization to find the GCF of an algebraic expression *use prime factorization to find the LCM of an algebraic expression	prime numbers relatively prime - 2 integers are relatively prime if they have no common factors except 1 (Ex. 6 and 5, or 6 and 25) composite numbers prime factorization factor tree monomial least common multiple greatest common factor algebraic expression multiple common multiple	Chapter 4 Section 3
Fractions/Decimals/Percents - Comp 2				
Percent Basics - Comp 3				
Percent Applications - Comp 4				
NO.3.8.6 Solve, with and without appropriate technology, real-world percent problems including percent of increase or decrease	Solve, with and without appropriate technology, real-world percent problems including percent of increase or decrease	with and without appropriate technology: *translate word problems to equations *solve percent increase problems *solve percent decrease problems	percent percent of change percent of increase percent of decrease markup discount interest principal annual interest rate percents above 100 percents below 1	Chapter 6
Rates, Ratios, and Percents - Comp 5				
A.5.8.3 Translate sentences into algebraic equations and inequalities and combine like terms within polynomials	A. Translate sentences into algebraic equations and inequalities B. Combine like terms within polynomials	*translate phrases and sentences into algebraic expressions *translate sentences into algebraic equations *translate sentences into algebraic inequalities *identify like terms in a polynomial *add monomials *subtract monomials *combine like terms in a polynomial	algebraic equations inequalities combining like terms polynomials monomials	Chapter 6 Section 1
Unit 8				
Zero and Negative Exponents - Comp 1				
NO.2.8.5 Model and develop addition, subtraction, multiplication and division of rational numbers Ex. $8\frac{1}{2} + 2\frac{3}{4}$	A. Model and develop computational skills in addition, subtraction, multiplication and division of rational numbers Ex. $8\frac{1}{2} + 2\frac{3}{4}$ B. Apply computational skills in addition, subtraction, multiplication and division of rational numbers Ex. $8\frac{1}{2} + 2\frac{3}{4}$	*model and develop algorithms for rational number operations with manipulatives *solve equations with positive and negative rational numbers *translate word problem to equation	fractions denominator numerator rational numbers common denominator least common denominator simplify number sentence	Chapter 4 Section 2, 7, 8

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A.5.8.4 Write and evaluate algebraic expressions using rational numbers	Write and evaluate algebraic expressions using rational numbers	*write algebraic expressions using rational numbers *evaluate algebraic expressions using rational numbers	evaluate algebraic expressions rational numbers	
Laws of Exponents and Scientific Notation - Comp 2				
NO.1.8.2 Convert between scientific notation and standard notation, including numbers from zero to one	Demonstrate, with and without appropriate technology, conversion between scientific notation and standard notation, including numbers from zero to one	with and without appropriate technology: *use patterns of exponents to evaluate zero and negative exponents *use the Properties of exponents to simplify expressions *convert from written form to standard form (Ex. ten million \leftrightarrow 10,000,000) *convert from standard form to scientific notation (Ex. 3,456 \leftrightarrow 3.456 x 10 ³) *convert from scientific notation to standard form (Ex. 3.456 x10 ³ \leftrightarrow 3,456) *compute with scientific notation	review scientific notation standard form written form convert exponent power base	Chapter 4 Section 9
NO.1.8.1 Read, write, compare and solve problems, with and without appropriate technology, including numbers less than 1 in scientific notation	A. Read, write and compare numbers less than 1 in scientific notation with and without appropriate technology B. Solve problems involving numbers less than 1 in scientific notation with and without appropriate technology	with and without appropriate technology: *use patterns of exponents to evaluate zero and negative exponents *use the properties of exponents to simplify expressions *convert from written form to standard form (Ex. ten million \leftrightarrow 10,000,000) *convert from standard form to scientific notation (Ex. 3,456 \leftrightarrow 3.456 x 10 ³) *convert from scientific notation to standard form (Ex. 3.456 x10 ³ \leftrightarrow 3,456) *compare numbers in scientific notation *identify problem solving strategies *compute with scientific notation	scientific notation standard form written form exponent power base	Chapter 4 Section 9
Square Roots - Comp 3				
NO.3.8.5 Calculate and find approximations of square roots with appropriate technology	Calculate and find approximations of square roots with appropriate technology Note: Corresponding framework in 7th grade includes absolute value	*estimate the square root, check with technology and find a closer approximation *find the square root with technology	square roots approximating reasonable estimate	Chapter 11 Section 1
Rational and Irrational Numbers - Comp 4				
NO.1.8.4 Understand and justify classifications of numbers in the real number system	Identify and justify classifications of numbers in the real number system	*use the relationship of the number systems to classify real numbers *use characteristics of the number systems to justify classification of real numbers	real numbers classify integers value	Chart page 201 ; Chapter 4 Section 6
NO.3.8.1 Compute, with and without appropriate technology, with rational numbers in multi-step problems	Compute, with and without appropriate technology, with rational numbers in multi-step problems	with and without appropriate technology: *select an appropriate problem solving strategy *translate word problems (Ex. write an equation) *compute with positive and negative rational numbers in 1-step problems *compute with positive and negative rational numbers in multi-step problems	rational numbers distributive property like terms equation problem-solving strategies	Chapter 11 Section 1
Pythagorean Theorem - Comp 5				

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M.13.8.4 Find the distance between two points in a coordinate plane using the Pythagorean Theorem	Find the distance between two points on a coordinate plane using the Pythagorean Theorem	*find the length of a hypotenuse *find the length of a leg in a right triangle *use the Pythagorean Theorem to find the distance between two points on a coordinate plane	coordinate plane Pythagorean Theorem plane leg hypotenuse	Chapter 11 Section 2
Unit 5				
Coordinate Plane Basics - Comp 1 and Line Plots/Scatter Plots - Comp 2				
DAP.15.8.2 Analyze, with and without appropriate technology, graphs by comparing measures of central tendencies and measures of spread	Interpret, with and without appropriate technology, graphs by comparing measures of central tendencies and measures of spread	with and without appropriate technology: *determine measures of central tendency *compare measures of central tendency *analyze the relationship of measures of spread in data sets (i.e. range, quartiles, outliers)	variability variants outlier mode median mean range conclusion measures of central tendency compute average quartiles measures of spread	Chapter 1 Section 10
DAP.15.8.3 Given at least one of the measures of central tendency create a data set	Given at least one of the measures of central tendency create a data set	*create a data set when given any one of the three measures of central tendency (mean, median, and mode)	mean measures of central tendency median mode average	Chapter 12 Section 1
DAP.15.8.4 Describe how the inclusion of outliers affects those measures of central tendency	Describe how the inclusion of outliers affects those measures of central tendency	*determine how the inclusion of outliers affect the measures of central tendency *determine how the exclusion of outliers affect the measures of central tendency *compare and contrast the measures of central tendency for the same data set when outliers are included or excluded	mean measures of central tendency median mode outlier	Chapter 12 Section 1
DAP.16.8.1 Use observations about differences between sets of data to make conjectures about the populations from which the data was taken	Use observations about differences between sets of data to make conjectures about the populations from which the data was taken	*define measures of central tendency *identify biased samples *identify and discuss sampling methods *compare the validity of data sets with different size populations *contrast the reliability of data sets with different size populations *determine conjectures about the populations from given data sets and validate conclusions	conjecture fair predictions infer conclude sampling validity reliability	Chapter 12 Section 1
Displaying Data - Comp 3				

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DAP.14.8.3 Interpret or solve real-world problems using data from charts, line plots, stem-and leaf plots, double bar graphs, line graphs, box-and-whisker plots, scatter plots, frequency tables or double line graphs	Interpret or solve real-world problems using data from charts, line plots, stem-and-leaf plots, double bar graphs, line graphs, box-and-whisker plots, scatter plots, frequency tables or double line graphs	*correctly interpret, and use various data displays as addressed 14.8.2 *correctly determine and apply basic mathematical calculations (i.e. calculating percents, measures of central tendency, range, fractional parts, probability) in order to solve real-world problems	bar graph correlation fractional part histogram horizontal bar graph line plots outlier pie chart population sample possible outcome predictions quartile scatter plot stem-and-leaf plot infer relationship measures of central tendencies measures of spread	Chapter 12 Section 1
DAP.15.8.1 Compare and contrast the reliability of data sets with different size populations Ex. 40/80 vs. 40/800	Compare and contrast the reliability of data sets with different size populations Ex. 40/80 vs. 40/800	*identify biased samples *identify and discuss sampling methods *compare the validity of data sets with different size populations *contrast the reliability of data sets with different size population	sample stratified sample systematic sample random sample biased sample population	*Compare decimals *Convert fractions to decimals Chapter 12 Section 1
Misleading Graphs - Comp 4				
DAP.14.8.1 Design and conduct investigations which include: •adequate number of trials •unbiased sampling •accurate measurement •record-keeping	Design and conduct investigations which include: •adequate number of trials •unbiased sampling •accurate measurement •record-keeping	*explore, identify, and use appropriate sampling methods for experimental trials *identify, design, and use appropriate survey tools for experimental trials *design and use accurate measurement instruments for experimental trials *design and use accurate record-keeping instruments for experimental trials	biased sample conclude conclusion conjecture equally likely event experiment experimental probability frequency table mutually exclusive event population random numbers random sample sample sample space sample survey simulation theoretical probability trial unbiased sample	Chapter 12 Section 3

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DAP.14.8.2 Explain which types of display are appropriate for various data sets (scatter plot for relationship between two variants and line of best fit)	Explain which types of display are appropriate for various data sets (scatter plot for relationship between two variants and line of best fit)	*explain the use of the following data displays for various data sets: •tree diagrams •scatter plots •box-n-whisker plots •stem-and-leaf plots •line graphs •various bar graphs •histograms •circle graphs (pie chart) •frequency tables	stem-and-leaf plot box-and-whisker plot circle graph dependent variable double bar graph independent events independent variable line graph line of best fit outlier range tables illustrate change rate of growth appropriate representation variant	Chapter 12 Section 3
Unit 6				
Measures of Central Tendency - Comp 1				
DAP.15.8.2 Analyze, with and without appropriate technology, graphs by comparing measures of central tendencies and measures of spread	Interpret, with and without appropriate technology, graphs by comparing measures of central tendencies and measures of spread	with and without appropriate technology: *determine measures of central tendency *compare measures of central tendency *analyze the relationship of measures of spread in data sets (i.e. range, quartiles, outliers)	variability variants outlier mode median mean range conclusion measures of central tendency compute average quartiles measures of spread	Chapter 3 Section 3
DAP.15.8.3 Given at least one of the measures of central tendency create a data set	Given at least one of the measures of central tendency create a data set	*create a data set when given any one of the three measures of central tendency (mean, median, and mode)	mean measures of central tendency median mode average	Chapter 3 Section 3
DAP.15.8.4 Describe how the inclusion of outliers affects those measures of central tendency	Describe how the inclusion of outliers affects those measures of central tendency	*determine how the inclusion of outliers affect the measures of central tendency *determine how the exclusion of outliers affect the measures of central tendency *compare and contrast the measures of central tendency for the same data set when outliers are included or excluded	mean measures of central tendency median mode outlier	Chapter 3 Section 3
Stem and Leaf Plots - Comp 2				
Box and Whisker - Comp 3				

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DAP.14.8.2 Explain which types of display are appropriate for various data sets (scatter plot for relationship between two variants and line of best fit)	Explain which types of display are appropriate for various data sets (scatter plot for relationship between two variants and line of best fit)	*explain the use of the following data displays for various data sets: •tree diagrams •scatter plots •box-n-whisker plots •stem-and-leaf plots •line graphs •various bar graphs •histograms •circle graphs (pie chart) •frequency tables	stem-and-leaf plot box-and-whisker plot circle graph dependent variable double bar graph independent events independent variable line graph line of best fit outlier range tables illustrate change rate of growth appropriate representation variant	Chapter 12
DAP.14.8.3 Interpret or solve real-world problems using data from charts, line plots, stem-and leaf plots, double bar graphs, line graphs, box-and-whisker plots, scatter plots, frequency tables or double line graphs	Interpret or solve real-world problems using data from charts, line plots, stem-and-leaf plots, double bar graphs, line graphs, box-and-whisker plots, scatter plots, frequency tables or double line graphs	*correctly interpret, and use various data displays as addressed 14.8.2 *correctly determine and apply basic mathematical calculations (i.e. calculating percents, measures of central tendency, range, fractional parts, probability) in order to solve real-world problems	bar graph correlation fractional part histogram horizontal bar graph line plots outlier pie chart population sample possible outcome predictions quartile scatter plot stem-and-leaf plot infer relationship measures of central tendencies measures of spread	Chapter 12
DAP.15.8.2 Analyze, with and without appropriate technology, graphs by comparing measures of central tendencies and measures of spread	Interpret, with and without appropriate technology, graphs by comparing measures of central tendencies and measures of spread	with and without appropriate technology: *determine measures of central tendency *compare measures of central tendency *analyze the relationship of measures of spread in data sets (i.e. range, quartiles, outliers)	variability variants outlier mode median mean range conclusion measures of central tendency compute average quartiles measures of spread	Chapter 12

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DAP.15.8.3 Given at least one of the measures of central tendency create a data set	Given at least one of the measures of central tendency create a data set	*create a data set when given any one of the three measures of central tendency (mean, median, and mode)	mean measures of central tendency median mode average	Chapter 12
DAP.15.8.4 Describe how the inclusion of outliers affects those measures of central tendency	Describe how the inclusion of outliers affects those measures of central tendency	*determine how the inclusion of outliers affect the measures of central tendency *determine how the exclusion of outliers affect the measures of central tendency *compare and contrast the measures of central tendency for the same data set when outliers are included or excluded	mean measures of central tendency median mode outlier	Chapter 12
Basic Probability - Comp 4				
DAP.17.8.1 Compute, with and without appropriate technology, probabilities of compound events, using organized lists, tree diagrams and logic grid	Compute, with and without appropriate technology, probabilities of compound events using organized lists, tree diagrams and logic grids	with and without appropriate technology: *use data from organized list (i.e. stem-and-leaf plots and frequency tables) *classify events as independent or dependent *use data from tree diagrams and logic grids *find the probability of independent events *find the probability of dependent events *compute simple and compound probabilities	combination compound probability odds against odds in favor permutation probability simple probability tree diagram logic grid random outcomes independent event dependent event	Chapter 6 Section 4 (multiples discussed in this comp)
DAP.17.8.2 Make predictions based on theoretical probabilities, design and conduct an experiment to test the predictions, compare actual results to predicted results, and explain differences (2008 - SCORED LESS THAN 50% ON RELEASED ITEM #10)	A. Predict theoretical probabilities B. Design and conduct an experiment to test the predictions C. Compare actual results to predicted results and explain differences	*explore, identify, and use appropriate sampling methods for experimental trials *identify, use and design appropriate survey tools for experimental trials *identify and discuss sampling methods *compare and contrast the validity of data sets with different size populations *compare and contrast the reliability of data sets with different size populations *determine conjectures about the population from a given data set and validate conclusions *estimate the probability of an event *use a simulated model of a real-life situation to apply experimental techniques *explain the differences between theoretical and experimental probability	dependent events independent events fair biased favorable outcome odds against odds in favor simulation random numbers random equally likely most likely least likely theoretical probability experimental probability validity of the sampling reliability of the sampling prediction/conjecture	Chapter 6 Section 4
Second Quarter				
Unit 2				
Data, Tables, and Graphs - Comp 1				
Polygons - Comp 2				

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G.8.8.1 Form generalizations and validate conclusions about properties of geometric shapes (2008 - SCORED LESS THAN 50% ON RELEASED ITEM #2)	Compare and contrast the properties of geometric shapes and validate findings	*identify the properties of selected geometric shapes *compare and contrast the properties of given geometric shapes	validate conclude generalize line of symmetry perpendicular perimeter area volume parallel Pythagorean Theorem polygons tessellation two-dimensional figures: quadrilaterals (rectangle, square, parallelogram, trapezoid, rhombus) circle ellipse triangles (scalene, isosceles, equilateral, right, acute, obtuse) pentagons, hexagons, octagon, decagon, n-gon three-dimensional figures (pyramid, cone, sphere, cylinder, cube, prism, tetrahedron)	Chapter 9 Section 3
Distributive Property - Comp 3				
NO.2.8.4 Apply rules (conventions) for order of operations to rational numbers	Apply rules (conventions) for order of operations to rational numbers	*use rules for order of operations: *grouping symbols (), [], fraction bar •exponents •multiplication & division left to right •addition & subtraction left to right *solve problems with integers and positive rational numbers using order of operations	numerical expression evaluate order of operations acronym (Ex. PEMDAS, GEMDAS) rational numbers	Chapter 2 Section 2
Combining Like Terms - Comp 4				
A.5.8.4 Write and evaluate algebraic expressions using rational numbers	Write and evaluate algebraic expressions using rational numbers	*write algebraic expressions using rational numbers *evaluate algebraic expressions using rational numbers	evaluate algebraic expressions rational numbers	Chapter 2 section 3
Unit 9				
Basic Geometric Concepts (points, lines, planes) - Comp 1				

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G.8.8.2 Make, with and without appropriate technology, and test conjectures about characteristics and properties between two-dimensional figures and three-dimensional objects Ex. circle vs. cylinder, square vs. cube	Make, with and without appropriate technology, and test conjectures about characteristics and properties between two-dimensional figures and three-dimensional objects Ex. circle vs. cylinder, square vs. cube	with and without appropriate technology: *identify the two-dimensional figure of the cross section of a 3-dimensional solid from a model *identify the two-dimensional figure of the cross section of a 3-dimensional solid from a drawing	2-dimensional figures (see G.8.8.1) 3-dimensional figures (see G.8.8.1) solid polyhedron faces edge vertex defining properties of shapes/figures conjecture cross-section base	Chapter 9
G.8.8.3 Determine appropriate application of geometric ideas and relationships, such as congruence, similarity, and the Pythagorean Theorem, with and without appropriate technology (2008 - SCORED LESS THAN 50% ON RELEASED ITEM #8 AND NON-RELEASED ITEM)	Determine appropriate application of geometric ideas and relationships, such as congruence, similarity, and the Pythagorean Theorem, with and without appropriate technology	with and without appropriate technology: *identify properties of given geometric shapes *identify the usage of congruency within problems *identify the usage of similarity within problems *identify the usage of the Pythagorean Theorem within problems *identify the usage of geometric ideas and properties	congruence similarity Pythagorean Theorem similarity vs. congruence best representation	Chapter 9
Naming, Measuring, and Drawing Angles - Comp 2				
M.13.8.3 Apply proportional reasoning to solve problems involving indirect measurements, scale drawings or rates	A. Apply proportional reasoning to solve problems involving indirect measurements B. Apply proportional reasoning to solve problems involving scale drawings C. Apply proportional reasoning to solve problems involving rates	*compare the dimensions of scale drawings and actual objects *use proportions to find unknown scales or lengths *use scales and scale drawings to find unknown dimensions *find scale factors *solve problems involving rates	similarity rates scale scale drawing indirect measure enlargement reduction unit rate ratio proportional dimensions indirect dilation equal ratios similar proportion	Chapter 9
Angles for Parallel Lines - Comp 3				
G.10.8.1 Use coordinate geometry to explore the links between geometric and algebraic representations of problems (lengths of segments/distance between points, slope/perpendicular-parallel lines)	Use coordinate geometry to explore the links between geometric and algebraic representations of problems (lengths of segments/distance between points, slope/perpendicular-parallel lines)	*find the length of line segment on a coordinate plane *find the distance between points on a coordinate plane *find the slope of a line on a coordinate plane *find the slope of a perpendicular line on a coordinate plane *find the slope of a parallel line on a coordinate plane *find the missing side of a right triangle	coordinate geometry geometric representation algebraic representation perpendicular line parallel line distance formula slope Pythagorean Theorem	Chapter 9
Symmetry - Comp 4				

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G.8.8.3 Determine appropriate application of geometric ideas and relationships, such as congruence, similarity, and the Pythagorean Theorem, with and without appropriate technology	Determine appropriate application of geometric ideas and relationships, such as congruence, similarity, and the Pythagorean Theorem, with and without appropriate technology	with and without appropriate technology: *identify properties of given geometric shapes *identify the usage of congruency within problems *identify the usage of similarity within problems *identify the usage of the Pythagorean Theorem within problems *identify the usage of geometric ideas and properties	congruence similarity Pythagorean Theorem similarity vs. congruence best representation	Chapter 9
G.9.8.1 Determine a transformation's line of symmetry and compare the properties of the figure and its transformation	Determine a transformation's line of symmetry and compare the properties of the figure and its transformation	*identify the lines of symmetry in a two-dimensional shape *identify the line of symmetry in a transformation *identify the properties of a figure *compare the properties of a figure and its transformation	line of symmetry transformation comparing properties reflection rotational symmetry translation	Chapter 9
G.9.8.2 Draw the results of translations and reflections about the x- and y-axis and rotations of objects about the origin	Draw the results of translations and reflections about the x- and y-axis and rotations of objects about the origin	*identify origin, x- and y-axis *perform translations of two-dimensional shapes on a coordinate plane *draw results of translation of a two-dimensional shape across the x- and y-axis *perform reflections of two-dimensional shapes on a coordinate plane *draw results of a reflection of a two-dimensional shape about the x- or y-axis *perform rotation of two-dimensional shapes on a coordinate plane *draw results of a rotation of a two-dimensional shape about the origin	origin x and y axis coordinate plane transformations (translation, rotation, reflection)	Chapter 9
Transformations - Comp 5				
G.9.8.1 Determine a transformation's line of symmetry and compare the properties of the figure and its transformation	Determine a transformation's line of symmetry and compare the properties of the figure and its transformation	*identify the lines of symmetry in a two-dimensional shape *identify the line of symmetry in a transformation *identify the properties of a figure *compare the properties of a figure and its transformation	line of symmetry transformation comparing properties reflection rotational symmetry translation	Chapter 9
G.9.8.2 Draw the results of translations and reflections about the x- and y-axis and rotations of objects about the origin	Draw the results of translations and reflections about the x- and y-axis and rotations of objects about the origin	*identify origin, x- and y-axis *perform translations of two-dimensional shapes on a coordinate plane *draw results of translation of a two-dimensional shape across the x- and y-axis *perform reflections of two-dimensional shapes on a coordinate plane *draw results of a reflection of a two-dimensional shape about the x- or y-axis *perform rotation of two-dimensional shapes on a coordinate plane *draw results of a rotation of a two-dimensional shape about the origin	origin x and y axis coordinate plane transformations (translation, rotation, reflection)	Chapter 9
Unit 10				
Types of Triangles - Comp 1				
Types of Quadrilaterals - Comp 2				

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AR Department of Education CONTENT STANDARD/ Student Learning Expectations (SLE) Color Coded: 2008	Objective	Task Analysis/Blooms Taxonomy	Essential Vocabulary *teacher word	Materials/Resources and Reteaching Concepts
G.8.8.1 Form generalizations and validate conclusions about properties of geometric shapes	Compare and contrast the properties of geometric shapes and validate findings	*identify the properties of selected geometric shapes *compare and contrast the properties of given geometric shapes	validate conclude generalize line of symmetry perpendicular perimeter area volume parallel Pythagorean Theorem polygons tessellation two-dimensional figures: quadrilaterals (rectangle, square, parallelogram, trapezoid, rhombus) circle ellipse triangles (scalene, isosceles, equilateral, right, acute, obtuse) pentagons, hexagons, octagon, decagon, n-gon three-dimensional figures (pyramid, cone, sphere, cylinder, cube, prism, tetrahedron)	Chapter 9
G.8.8.2 Make, with and without appropriate technology, and test conjectures about characteristics and properties between two-dimensional figures and three-dimensional objects Ex. circle vs. cylinder, square vs. cube	Make, with and without appropriate technology, and test conjectures about characteristics and properties between two-dimensional figures and three-dimensional objects Ex. circle vs. cylinder, square vs. cube	with and without appropriate technology: *identify the two-dimensional figure of the cross section of a 3-dimensional solid from a model *identify the two-dimensional figure of the cross section of a 3-dimensional solid from a drawing	2-dimensional figures (see G.8.8.1) 3-dimensional figures (see G.8.8.1) solid polyhedron faces edge vertex defining properties of shapes/figures conjecture cross-section base	Chapter 9
Angles of Polygons - Comp 3				

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M.13.8.3 Apply proportional reasoning to solve problems involving indirect measurements, scale drawings or rates	A. Apply proportional reasoning to solve problems involving indirect measurements B. Apply proportional reasoning to solve problems involving scale drawings C. Apply proportional reasoning to solve problems involving rates	*compare the dimensions of scale drawings and actual objects *use proportions to find unknown scales or lengths *use scales and scale drawings to find unknown dimensions *find scale factors *solve problems involving rates	similarity rates scale scale drawing indirect measure enlargement reduction unit rate ratio proportional dimensions indirect dilation equal ratios similar proportion	Chapter 9
Angles and Sides of Triangles - Comp 4				
G.8.8.2 Make, with and without appropriate technology, and test conjectures about characteristics and properties between two-dimensional figures and three-dimensional objects Ex. circle vs. cylinder, square vs. cube	Make, with and without appropriate technology, and test conjectures about characteristics and properties between two-dimensional figures and three-dimensional objects Ex. circle vs. cylinder, square vs. cube	with and without appropriate technology: *identify the two-dimensional figure of the cross section of a 3-dimensional solid from a model *identify the two-dimensional figure of the cross section of a 3-dimensional solid from a drawing	2-dimensional figures (see G.8.8.1) 3-dimensional figures (see G.8.8.1) solid polyhedron faces edge vertex defining properties of shapes/figures conjecture cross-section base	Chapter 9
M.13.8.3 Apply proportional reasoning to solve problems involving indirect measurements, scale drawings or rates	A. Apply proportional reasoning to solve problems involving indirect measurements B. Apply proportional reasoning to solve problems involving scale drawings C. Apply proportional reasoning to solve problems involving rates	*compare the dimensions of scale drawings and actual objects *use proportions to find unknown scales or lengths *use scales and scale drawings to find unknown dimensions *find scale factors *solve problems involving rates	similarity rates scale scale drawing indirect measure enlargement reduction unit rate ratio proportional dimensions indirect dilation equal ratios similar proportion	Chapter 9
Unit 11				
Perimeter, Area, and Circumference - Comp 1				

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M.13.8.5 Estimate and compute the area of irregular two-dimensional shapes (2008 - SCORED LESS THAN 50% ON RELEASED ITEM #9)	Estimate and compute the area of irregular two-dimensional shapes	*use graph paper to estimate area of irregular shapes *find the area of basic geometric shapes (square, rectangle, triangle, parallelogram) *compute the area of irregular 2-dimensional shapes	area of irregular shapes irregular shapes polygon area estimate	Chapter 9 & 10
M.12.8.1 Understand, select and use, with and without appropriate technology, the appropriate units and tools to measure angles, perimeter, area, surface area and volume to solve real-world problems (2008 - SCORED 1.7 OUT OF 4 ON RELEASED OPEN RESPONSE ITEM #11)	A. Select and use, with and without appropriate technology, the appropriate units and tools to measure angles to solve real-world problems B. Select and use, with and without appropriate technology, the appropriate units and tools to measure perimeter to solve real-world problems C. Select and use, with and without appropriate technology, the appropriate units and tools to measure area to solve real-world problems D. Select and use, with and without appropriate technology, the appropriate units and tools to measure surface area to solve real-world problems E. Select and use, with and without appropriate technology, the appropriate units and tools to measure volume to solve real-world problems	with and without appropriate technology: *find angle measures *find the perimeter of polygons *use a graph to find area *use formulas to find area *find the volume of prisms and cylinders *find the volume of composite figures *find the volume of pyramids and cones *find the surface area of prisms and cylinders *find the surface area of pyramids and cones	perimeter formula circumference formula area formulas surface area volume formulas protractor degrees straight edge compass composite figures interior angles alternate interior angles complementary supplementary estimating metric units standard units square units cubic units	Chapter 9 & 10
M.13.8.1 Draw and apply measurement skills with fluency to appropriate levels of precision	Draw and apply measurement skills with fluency to appropriate levels of precision	*read units of measure with different tools (protractor, ruler, tape measure, etc) *draw units of measure with different tools (Ex. protractor, ruler, meter stick) *apply measurement skills (Ex. determine the perimeter of geometric shapes)	precision of measurement accurate represent estimate protractor ruler meter stick yard stick standard/customary units metric units	Chapter 9 & 10

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M.12.8.1 Understand, select and use, with and without appropriate technology, the appropriate units and tools to measure angles, perimeter, area, surface area and volume to solve real-world problems	A. Select and use, with and without appropriate technology, the appropriate units and tools to measure angles to solve real-world problems B. Select and use, with and without appropriate technology, the appropriate units and tools to measure perimeter to solve real-world problems C. Select and use, with and without appropriate technology, the appropriate units and tools to measure area to solve real-world problems D. Select and use, with and without appropriate technology, the appropriate units and tools to measure surface area to solve real-world problems E. Select and use, with and without appropriate technology, the appropriate units and tools to measure volume to solve real-world problems	with and without appropriate technology: *find angle measures *find the perimeter of polygons *use a graph to find area *use formulas to find area *find the volume of prisms and cylinders *find the volume of composite figures *find the volume of pyramids and cones *find the surface area of prisms and cylinders *find the surface area of pyramids and cones	perimeter formula circumference formula area formulas surface area volume formulas protractor degrees straight edge compass composite figures interior angles alternate interior angles complementary supplementary estimating metric units standard units square units cubic units	Chapter 9
M.12.8.2 Describe and apply equivalent measures using a variety of units within the same system of measurement (2008 - SCORED LESS THAN 50% ON RELEASED ITEM #1 AND NON-RELEASED ITEM)	Describe and apply equivalent measures using a variety of units within the same system of measurement	*describe and apply equivalent measurements using metric units *describe and apply equivalent measurements using standard (customary) units	equivalent units of measure: Ex. seconds↔minutes↔hours↔days inches↔feet↔yards↔miles ounces↔cups↔pints↔quarts ↔gallons benchmark prefixes kilo↔deci- ↔centi-↔milli- grams liters meters	Chapter 9
M.13.8.1 Draw and apply measurement skills with fluency to appropriate levels of precision	Draw and apply measurement skills with fluency to appropriate levels of precision	*read units of measure with different tools (protractor, ruler, tape measure, etc) *draw units of measure with different tools (Ex. protractor, ruler, meter stick) *apply measurement skills (Ex. determine the perimeter of geometric shapes)	precision of measurement accurate represent estimate protractor ruler meter stick yard stick standard/customary units metric units	Chapter 9
Exploring Congruence (Congruent Triangles) - Comp 2				
G.8.8.3 Determine appropriate application of geometric ideas and relationships, such as congruence, similarity, and the Pythagorean Theorem, with and without appropriate technology	Determine appropriate application of geometric ideas and relationships, such as congruence, similarity, and the Pythagorean Theorem, with and without appropriate technology	with and without appropriate technology: *identify properties of given geometric shapes *identify the usage of congruency within problems *identify the usage of similarity within problems *identify the usage of the Pythagorean Theorem within problems *identify the usage of geometric ideas and properties	congruence similarity Pythagorean Theorem similarity vs. congruence best representation	Chapter 9

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2-D Nets for 3-D Objects - Comp 3				
G.11.8.1 Using isometric dot paper interpret and draw different views of buildings	Using isometric dot paper identify and draw different views of buildings	*draw polyhedrons on isometric dot paper *identify alternative two-dimensional representations of three-dimensional solids	isometric dot paper polyhedron 2-dimensional 3-dimensional	Chapter 10 Section 4
Surface Area and Volume - Comp 4				
M.13.8.2 Solve problems involving volume and surface area of pyramids, cones and composite figures, with and without appropriate technology	Solve problems involving volume and surface area of pyramids, cones and composite figures, with and without appropriate technology	with and without appropriate technology: *apply formulas for surface area and volume of geometric figures (pyramids, cones, composite figures) *solve real-world problems involving volume and surface area of geometric figures (pyramids, cones, composite figures)	surface area volume of surface area pyramids cones volume of cylinder volume of prism volume of pyramid significant digits composite figures capacity square units cubic units	Chapter 10 Section 5
Third Quarter				
Unit 3				
Solving 1-step Equations - Comp 1 and Comp 2				
NO.2.8.1 Apply the addition, subtraction, multiplication and division properties of equality to two-step equations	Solve two-step equations using addition, subtraction, multiplication and division properties of equality	*apply order of operations when appropriate to solve two-step equations *apply addition, subtraction, multiplication and division properties of equality to one-step equations with whole numbers *apply addition, subtraction, multiplication and division properties of equality to one-step equations with integers *apply addition, subtraction, multiplication and division properties of equality to one-step equations with fractions *apply addition, subtraction, multiplication and division properties of equality to one-step equations with decimals	properties of equalities (+, -, x, ÷) equation solution solving an equation distributive property integers	Chapter 2
NO.2.8.2 Understand and apply the inverse and identity properties	Describe and apply the inverse and identity properties	*identify inverse operations *apply inverse operations *identify the inverse property *apply the inverse property *identify the identity properties (addition and multiplication) *apply the identity properties (addition and multiplication)	inverse property identity properties (addition, multiplication)	Chapter 2

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NO.2.8.3 Use inverse relationships (addition and subtraction, multiplication and division, squaring and square roots) in problem solving situations	Solve problems using inverse relationships (addition and subtraction, multiplication and division, squaring and square roots) in problem solving situations	*translate word problem to numerical equation *use identity or inverse properties (addition and subtraction, multiplication and division, squaring and square roots) to solve 1-step equation *use identity or inverse properties (addition and subtraction, multiplication and division, squaring and square roots) to solve 2-step equation	inverse operations for four properties (+, -, X, ÷) (review) squaring numbers square root odd/even numbers perfect square prime composite	Chapter 2
NO.2.8.4 Apply rules (conventions) for order of operations to rational numbers	Apply rules (conventions) for order of operations to rational numbers	*use rules for order of operations: •grouping symbols (), [], fraction bar •exponents •multiplication & division left to right •addition & subtraction left to right *solve problems with integers and positive rational numbers using order of operations	numerical expression evaluate order of operations acronym (Ex. PEMDAS, GEMDAS) rational numbers	Chapter 2
A.5.8.3 Translate sentences into algebraic equations and inequalities and combine like terms within polynomials	A. Translate sentences into algebraic equations and inequalities B. Combine like terms within polynomials	*translate phrases and sentences into algebraic expressions *translate sentences into algebraic equations *translate sentences into algebraic inequalities *identify like terms in a polynomial *add monomials *subtract monomials *combine like terms in a polynomial	algebraic equations inequalities combining like terms polynomials monomials	Chapter 2
A.5.8.4 Write and evaluate algebraic expressions using rational numbers	Write and evaluate algebraic expressions using rational numbers	*write algebraic expressions using rational numbers *evaluate algebraic expressions using rational numbers	evaluate algebraic expressions rational numbers	Chapter 2
Modeling and Problem Solving - Comp 3				
A.5.8.4 Write and evaluate algebraic expressions using rational numbers	Write and evaluate algebraic expressions using rational numbers	*write algebraic expressions using rational numbers *evaluate algebraic expressions using rational numbers	evaluate algebraic expressions rational numbers	Chapter 2
Solving 1-step Inequalities - Comp 4				
NO.2.8.4 Apply rules (conventions) for order of operations to rational numbers	Apply rules (conventions) for order of operations to rational numbers	*use rules for order of operations: •grouping symbols (), [], fraction bar •exponents •multiplication & division left to right •addition & subtraction left to right *solve problems with integers and positive rational numbers using order of operations	numerical expression evaluate order of operations acronym (Ex. PEMDAS, GEMDAS) rational numbers	Chapter 2
NO.3.8.3 Use estimation to solve problems involving rational numbers including ratio, proportion, percent (increase or decrease) then judge the reasonableness of solutions (2008 - SCORED LESS THAN 50% ON RELEASED ITEM #5)	Use estimation to solve problems involving rational numbers including ratio, proportion, percent (increase or decrease) then judge the reasonableness of solutions	*solve problems with ratios *solve problems with proportions *solve problems with percent increase *solve problems with percent decrease *identify best solution in a percent increase/decrease problems *judge the reasonableness of solutions	rational numbers estimate ratio proportion percent percent of change percent of increase percent of decrease solution reasonableness	Chapter 2
Unit 4				

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Integers and Absolute Value - Comp 1				
NO.1.8.3 Compare and order real numbers including irrational numbers and find their approximate location on a number line (Use technology when appropriate)	A. Compare and order real numbers including irrational numbers, with or without appropriate technology B. Locate the approximate placement of real numbers including irrational numbers on a number line	*classify real numbers *simplify different forms of numbers including fractions, square roots, and absolute values *compare and order real numbers *locate irrational numbers on a number line	number line natural numbers rational numbers irrational numbers real numbers square root absolute value	Chapter 1 Section 4
NO.3.8.5 Calculate and find approximations of square roots with appropriate technology	Calculate and find approximations of square roots with appropriate technology Note: Corresponding framework in 7th grade includes absolute value	*estimate the square root, check with technology and find a closer approximation *find the square root with technology	square roots approximating reasonable estimate	Chapter 1 Section 4
Adding Integers - Comp 2				
NO.2.8.4 Apply rules (conventions) for order of operations to rational numbers	Apply rules (conventions) for order of operations to rational numbers	*use rules for order of operations: •grouping symbols (), [], fraction bar •exponents •multiplication & division left to right •addition & subtraction left to right *solve problems with integers and positive rational numbers using order of operations	numerical expression evaluate order of operations acronym (Ex. PEMDAS, GEMDAS) rational numbers	Chapter 1 Section 5
NO.2.8.5 Model and develop addition, subtraction, multiplication and division of rational numbers Ex. 8 $1/2 + 2 \ 3/4$	A. Model and develop computational skills in addition, subtraction, multiplication and division of rational numbers Ex. 8 $1/2 + 2 \ 3/4$ B. Apply computational skills in addition, subtraction, multiplication and division of rational numbers Ex. 8 $1/2 + 2 \ 3/4$	*model and develop algorithms for rational number operations with manipulatives *solve equations with positive and negative rational numbers *translate word problem to equation	fractions denominator numerator rational numbers common denominator least common denominator simplify number sentence	Chapter 1 Section 5
NO.3.8.1 Compute, with and without appropriate technology, with rational numbers in multi-step problems	Compute, with and without appropriate technology, with rational numbers in multi-step problems	with and without appropriate technology: *select an appropriate problem solving strategy *translate word problems (Ex. write an equation) *compute with positive and negative rational numbers in 1-step problems *compute with positive and negative rational numbers in multi-step problems	rational numbers distributive property like terms equation problem-solving strategies	Chapter 1 Section 5
Subtracting Integers - Comp 3				
NO.2.8.4 Apply rules (conventions) for order of operations to rational numbers	Apply rules (conventions) for order of operations to rational numbers	*use rules for order of operations: •grouping symbols (), [], fraction bar •exponents •multiplication & division left to right •addition & subtraction left to right *solve problems with integers and positive rational numbers using order of operations	numerical expression evaluate order of operations acronym (Ex. PEMDAS, GEMDAS) rational numbers	Chapter 1 Section 6

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NO.2.8.5 Model and develop addition, subtraction, multiplication and division of rational numbers Ex. 8 1/2 + 2 3/4	A. Model and develop computational skills in addition, subtraction, multiplication and division of rational numbers Ex. 8 1/2+ 2 3/4 B. Apply computational skills in addition, subtraction, multiplication and division of rational numbers Ex. 8 1/2+23/4	*model and develop algorithms for rational number operations with manipulatives *solve equations with positive and negative rational numbers *translate word problem to equation	fractions denominator numerator rational numbers common denominator least common denominator simplify number sentence	Chapter 1 Section 6
NO.3.8.1 Compute, with and without appropriate technology, with rational numbers in multi-step problems	Compute, with and without appropriate technology, with rational numbers in multi-step problems	with and without appropriate technology: *select an appropriate problem solving strategy *translate word problems (Ex. write an equation) *compute with positive and negative rational numbers in 1-step problems *compute with positive and negative rational numbers in multi-step problems	rational numbers distributive property like terms equation problem-solving strategies	Chapter 1 Section 6
Multiply and Divide Integers - Comp 4				
NO.2.8.4 Apply rules (conventions) for order of operations to rational numbers	Apply rules (conventions) for order of operations to rational numbers	*use rules for order of operations: •grouping symbols (), [], fraction bar •exponents •multiplication & division left to right •addition & subtraction left to right *solve problems with integers and positive rational numbers using order of operations	numerical expression evaluate order of operations acronym (Ex. PEMDAS, GEMDAS) rational numbers	Chapter 1 Section 9
NO.2.8.5 Model and develop addition, subtraction, multiplication and division of rational numbers Ex. 8 1/2 + 2 3/4	A. Model and develop computational skills in addition, subtraction, multiplication and division of rational numbers Ex. 8 1/2+ 2 3/4 B. Apply computational skills in addition, subtraction, multiplication and division of rational numbers Ex. 8 1/2+23/4	*model and develop algorithms for rational number operations with manipulatives *solve equations with positive and negative rational numbers *translate word problem to equation	fractions denominator numerator rational numbers common denominator least common denominator simplify number sentence	Chapter 1 Section 9
NO.3.8.1 Compute, with and without appropriate technology, with rational numbers in multi-step problems	Compute, with and without appropriate technology, with rational numbers in multi-step problems	with and without appropriate technology: *select an appropriate problem solving strategy *translate word problems (Ex. write an equation) *compute with positive and negative rational numbers in 1-step problems *compute with positive and negative rational numbers in multi-step problems	rational numbers distributive property like terms equation problem-solving strategies	Chapter 1 Section 9
Solving 2-step Equations - Comp 5				

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NO.2.8.1 Apply the addition, subtraction, multiplication and division properties of equality to two-step equations	Solve two-step equations using addition, subtraction, multiplication and division properties of equality	*apply order of operations when appropriate to solve two-step equations *apply addition, subtraction, multiplication and division properties of equality to one-step equations with whole numbers *apply addition, subtraction, multiplication and division properties of equality to one-step equations with integers *apply addition, subtraction, multiplication and division properties of equality to one-step equations with fractions *apply addition, subtraction, multiplication and division properties of equality to one-step equations with decimals	properties of equalities (+, -, x, ÷) equation solution solving an equation distributive property integers	Chapter 7 Section 1
Unit 12				
NO.3.8.1 Compute, with and without appropriate technology, with rational numbers in multi-step problems	Compute, with and without appropriate technology, with rational numbers in multi-step problems	with and without appropriate technology: *select an appropriate problem solving strategy *translate word problems (Ex. write an equation) *compute with positive and negative rational numbers in 1-step problems *compute with positive and negative rational numbers in multi-step problems	rational numbers distributive property like terms equation problem-solving strategies	Chapter 7
NO.3.8.2 Solve, with and without appropriate technology, multi-step problems using a variety of methods and tools (i.e. objects, mental computation, paper and pencil) Note: This is identical to the 7th grade SLE.	Solve, with and without appropriate technology, multi-step problems using a variety of methods and tools (Ex. objects, mental computation, paper and pencil)	with and without appropriate technology: *represent multi-step problems using manipulatives (including 2 or more steps) *solve problems mentally *solve multi-step problems with paper and pencil	mental computation technology distributive property rational numbers like terms problem-solving strategy	Chapter 7
Unit 13				
A.4.8.3 Interpret and represent a two operation-function as an algebraic equation (2008 - SCORED LESS THAN 50% ON RELEASED ITEM # 3) Ex. $y = 2x + 1$	Interpret and represent a two-operation function as an algebraic equation Ex. $y = 2x + 1$	*determine the rule of a two-operation function *write the rule as an algebraic equation	algebraic equation algebraic representation function	Chapter 8
A.4.8.4 Use tables, graphs, and equations to identify independent/dependent variables (input/output)	Use tables, graphs, and equations to identify independent/dependent variables (input/output)	using tables, graphs and equations: *identify the dependent (output) variable of a function *identify the independent (input) variable of a function	equation input/output independent/dependent variables	Chapter 8

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A.5.8.1 Solve and graph two-step equations and inequalities with one variable and verify the reasonableness of the result with real-world application with and without appropriate technology	Solve and graph two-step equations and inequalities with one variable and verify the reasonableness of the result with real-world application with and without appropriate technology	with and without appropriate technology in real-world applications: *solve two-step equations involving one variable and verify the reasonableness of the result *solve two-step inequalities involving one variable and verify the reasonableness of the result *graph two-step equations involving one variable and verify the reasonableness of the result *graph two-step inequalities involving one variable and verify the reasonableness of the result	two-step equations inequalities variable unknown graphing two-step equations graphing two-step inequalities	Chapter 8
A.5.8.2 Solve and graph linear equations (in the form $y=mx+b$)	Solve and graph linear equations (in the form $y=mx+b$)	*solve linear equations in slope intercept form *graph linear equations in slope intercept form *write equations in slope intercept form	linear equations horizontal lines vertical lines system of linear equations solution of linear equations slope intercept coordinate points ordered pairs	Chapter 8
A.6.8.1 Describe, with and without appropriate technology, the relationship between the graph of a line and its equation, including being able to explain the meaning of slope as a constant rate of change (rise/run) and y-intercept in real-world problems	A. Describe, with and without appropriate technology, the relationship between the graph of a line and its equation B. Explain the meaning of slope as a constant rate of change (rise/run) and y-intercept in real-world problems	with and without appropriate technology in real-world problems: *define the meaning of slope (constant rate of change) *identify positive, negative, undefined and zero slope on a linear graph *identify the meaning of the x-intercept and y-intercept *identify a graph by its slope and y-intercept *describe how the change of slope or the y-intercept will affect the graph	constant rate of change slope of a line slope intercept formula graph of a line rise/run	Chapter 8
A.6.8.2 Represent, with and without appropriate technology, linear relationships concretely, using tables, graphs and equations	Represent, with and without appropriate technology, linear relationships concretely, using tables, graphs and equations	with and without appropriate technology: *identify the components of the slope intercept form for the equation of a line *write equation of a line in slope intercept form ($y = mx + b$) *construct tables representing linear relationships *construct graphs representing linear relationships *construct equations representing linear relationships	linear linear equation relationship slope intercept	Chapter 8
A.6.8.3 Differentiate between independent/dependent variables given a linear relationship in context	Identify the independent/dependent variables given a linear relationship in context	*identify the independent variable in real-world problems *identify the dependent variable in real-world problems	independent/dependent variables	Chapter 8

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A.6.8.4 Represent, with and without appropriate technology, simple exponential and/or quadratic functions using verbal descriptions, tables, graphs and formulas and translate among these representations	A. Represent, with and without appropriate technology, simple exponential functions using verbal descriptions, tables, graphs and formulas and translate among these representations B. Represent, with and without appropriate technology, simple quadratic functions using verbal descriptions, tables, graphs and formulas and translate among these representations	with and without appropriate technology: *identify tables, graphs, and formulas of simple exponential functions *identify tables, graphs, and formulas of simple quadratic functions *construct tables, graphs, and formulas of simple exponential functions *construct tables, graphs, and formulas of simple quadratic functions *translate between tables, graphs, and formulas for exponential functions *translate between tables, graphs, and formulas for quadratic functions	quadratic function exponential function translate	Chapter 8