GLENCOE CORRELATION
CONTEMPORARY MATHEMATICS IN CONTEXT
COURSES 1, 2, and 3 © 2003
Kansas
High School Math
Knowledge Base Indicators

	Course 1	Course 2	Course 3
Standard 1: Number and Computation – The student uses numerical and computational concepts and procedures in a variety of situations. **Benchmark 1: Number Sense – The student demonstrates number sense for real numbers and algebraic expressions in a variety of situations.**			
1. knows, explains, and uses equivalent representations for real numbers and algebraic expressions including integers, fractions, decimals, percents, ratios; rational number bases with integer exponents; rational numbers written in scientific notation; absolute value; time; and money (2.4.K1a) $, e.g., $\bar{}4/2 = (\bar{}2)$; $a^{(-2)}\ b^{(3)} = b^3/a^2$.	SE: 39, 233-242, 428, 425, 433, 480 Course 1 Reference and Practice Book (RAP) pp. 6-14, 61,74, 76, 79, 83	SE: 17-18, 21, 27-30, 305-306, 308-309, 397-399, 402-408	SE: 6-21, 31, 36-44, 47-59, 187-207, 423-431, 434-435
2. compares and orders real numbers and/or algebraic expressions and explains the relative magnitude between them (2.4.K1a) $, e.g., will 3n + 2 always, sometimes, or never be larger than 3n? The student might respond with $(5n)^2$ is greater than 5n, if	SE: 144-145, 201, 205, 208, 226-230 RAP p. 80	SE: 256-258, 238-240	SE: 271, 440-474

n > 1 and $(5n)^2$ is smaller than 5n, if 0 < n < 1 or that the square root of 5 is between 2 and 3.			
3. knows and explains what happens to the product or quotient when a real number is multiplied or divided by (2.4.K1a): a. a rational number greater than zero and less than one, b. a rational number greater than one, c. a rational number less than zero.	Opportunity to address: SE: 66, 67, 71	SE: 239, 251-252, 256-261, 408	SE: 14-15
Benchmark 2: Number Systems and Their Properties – The student demonstrates an understanding of the real number system; recognizes, applies, and explains their properties, and extends these properties to algebraic expressions.			
1. explains and illustrates the relationship between the subsets of the real number system [natural (counting) numbers, whole numbers, integers, rational numbers, irrational numbers] using mathematical models (2.4.K1a), e.g., number lines or Venn diagrams.	This objective falls outside the scope of Glencoe *Contemporary Mathematics in Context, Course 1.*	This objective falls outside the scope of Glencoe *Contemporary Mathematics in Context, Course 2.*	This objective falls outside the scope of Glencoe *Contemporary Mathematics in Context, Course 3.*
2. identifies all the subsets of the real number system [natural (counting) numbers, whole numbers, integers, rational numbers, irrational numbers] to which a given number belongs (2.4.K1m).	This objective falls outside the scope of Glencoe *Contemporary Mathematics in Context, Course 1.*	This objective falls outside the scope of Glencoe *Contemporary Mathematics in Context, Course 2.*	This objective falls outside the scope of Glencoe *Contemporary Mathematics in Context, Course 3.*

3. ▲ names, uses, and describes these properties with the real number system and demonstrates their meaning including the use of concrete objects (2.4.K1a) **$**: a. commutative (a + b = b + a and ab = ba), associative [a = (b + c) = (a + b) + c and a(bc) = (ab)c], distributive [a (b + c) = ab + ac], and substitution properties (if a = 2, then 3a = 3 x 2 = 6); b. identity properties for addition and multiplication and inverse properties of addition and multiplication (additive identity: a + 0 = a, multiplicative identity: a • 1 = a, additive inverse: $^{+}5 + ^{-}5 = 0$, multiplicative inverse: 8 x 1/8 = 1); c. symmetric property of equality (if a = b, then b = a); d. addition and multiplication properties of equality (if a = b, then a + c = b + c and if a = b, then ac = bc) and inequalities (if a > b, then a + c > b + c and if a > b, and c > 0 then ac > bc); e. zero product property (if ab = 0, then a = 0 and/or b = 0).	SE: 224-225,239, 459	SE: 41-45, 52	SE: 15-16, 36-39, 44, 194-206, 209-212

4. uses and describes these properties with the real number system (2.4.K1a) **$**: a. transitive property (if a = b and b = c, then a = c), reflexive property (a = a).		Opportunity to address: SE: 41-45	Opportunity to address SE: 206, 250, 252, 264, 275
Benchmark 3: Estimation – The student uses computational estimation with real numbers in a variety of situations.			
1. estimates real number quantities using various computational methods including mental math, paper and pencil, concrete objects, and/or appropriate technology (2.4.K1a) $.	SE: 42-43, 45-46, 55, 61-62, 91, 92, 102, 111-118, 364-370 RAP pp. 62, 86, 87, 91, 92	SE: 68, 92, 103, 265-271, 282-285, 402-404, 406-407, 411 RAP p. 98	Throughout. See for examples: SE: 6-14, 16-18, 22-24, 26-31, 33-34, 36, 40-41, 47-59, 64-81, 84-89, 148-149, 171-182, 188-192, 201-204, 234-237, 422-430.
2. uses various estimation strategies and explains how they were used to estimate real number quantities and algebraic expressions (2.4.K1a) $.	SE: 42-43, 45-46, 55, 61-62, 91, 102	SE: 68, 92, 103, 265-271, 282-285, 402-404, 406-407, 411	SE: 4-5, 64-67, 148-149, 171-174
3. knows and explains why a decimal representation of an irrational number is an approximate value(2.4.K1a) .	Opportunity to address: SE: 362-370	SE: 82-84, 88, 290-293, 298-300	Opportunity to address: SE: 26-36, 40-41
4. knows and explains between which two consecutive integers an irrational number lies (2.4.K1a).	Opportunity to address: SE: 362-370 RAP p. 52	Opportunity to address: SE: 290-293, 298-300	Opportunity to address: SE: 26-36, 40-41

Benchmark 4: Computation – The student models, performs, and explains computation with real numbers and polynomials in a variety of situations.			
1. computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology (2.4.K1a) **$**.	SE: 39-41, 45-46, 71, 91, 111-118, 364-370 RAP pp. 78, 84, 85, 94	Throughout. See for examples: SE: 11-18, 21, 27-30, 94, 271-277, 279-280, 292-300, 300-302, 305, 401-407 RAP pp. 64, 75	Throughout. See for examples: SE: 6-14, 16-18, 22-24, 26-27, 30-36, 40-41, 47-59, 64-81, 84-89, 171-182, 188-192, 201-204, 234-237, 422-430
2. performs and explains these computational procedures (2.4.K1a): a. **N** addition, subtraction, multiplication, and division using the order of operations b. multiplication or division to find **$**: i. a percent of a number, e.g., what is 0.5% of 10? ii. percent of increase and decrease, e.g., a college raises its tuition form $1,320 per year to $1,425 per year. What percent is the change in tuition? iii. percent one number is of another number, e.g., 89 is what percent of 82? iv. a number when a percent of the number is given, e.g., 80 is 32% of what number? c. manipulation of variable quantities within an equation or inequality (2.4.K1d), e.g., 5x –	Throughout. See for examples: SE: 39, 111-120, 217, 219, 221-226, 379, 382, 425, 433, 480, 508 RAP pp. 79, 87, 89	Throughout. See for examples: SE: 11-18, 21, 27-30, 94, 271-277, 279-280, 292-300, 300-302, 305, 401-407 RAP p. 83	Throughout. See for examples: SE: 6-21, 36-39, 42-43, 213-214, 220

3y = 20 could be written as 5x – 20 = 3y *or* 5x(2x + 3) = 8 could be written as 8/(5x) = 2x + 3; d. simplification of radical expressions (without rationalizing denominators) including square roots of perfect square monomials and cube roots of perfect cubic monomials; e. simplification or evaluation of real numbers and algebraic monomial expressions raised to a whole number power and algebraic binomial expressions squared or cubed; f.. simplification of products and quotients of real number and algebraic monomial expressions using the properties of exponents; g. matrix addition **$**, e.g., when computing (with one operation) a building's expenses (data) monthly, a matrix is created to include each of the different expenses; then at the end of the year, each type of expense for the building is totaled; scalar-matrix multiplication **$**, e.g., if a matrix is created with everyone's salary in it, and everyone gets a 10% raise in pay; to find the new salary, the matrix would be multiplied by 1.1.		RAP p. 73	

3. finds prime factors, greatest common factor, multiples, and the least common multiple of algebraic expressions (2.4.K1b).	C1 RAP p. 62, 76, 77 Opportunity to address: SE: 240, 425	Opportunity to address: SE: 245, 300-302	SE: 275
Standard 2: Algebra – The student uses algebraic concepts and procedures in a variety of situations.			
Benchmark 1: Patterns – The student recognizes, describes, extends, develops, and explains the general rule of a pattern in a variety of situations.			
1. identifies, states, and continues the following patterns using various formats including numeric (list or table), algebraic (symbolic notation), visual (picture, table, or graph), verbal (oral description), kinesthetic (action), and written a. arithmetic and geometric sequences using real numbers and/or exponents (2.4.K1a); e.g., radioactive half-lives; b. patterns using geometric figures (2.4.K1h); c. algebraic patterns including consecutive number patterns or equations of functions, e.g., n, n + 1, n + 2, ... or f(n) = 2n – 1 (2.4.K1c,e); d. special patterns (2.4.K1a), e.g., Pascal's triangle and the Fibonacci sequence.	Throughout. See for examples: SE: 104, 106-107, 111, 117, 119-120, 121-137, 363-364, 421-432, 434-435, 436-438, 441-452	Throughout. See for examples: SE: 111-119, 235-237, 243-244, 248, 254-258, 260, 267-268	SE: 488-549

2. generates and explains a pattern (2.4.K1f).	Throughout. See for examples: SE: 106-107, 111, 117-118, 119-120, 142-147, 182-190, 363-364, 421-432, 434-435, 436-438, 442-452	SE: 111-119, 235-240, 268, 313	SE: 431-485, 488-549
3. classify sequences as arithmetic, geometric, or neither.	Opportunity to address: SE: 111, 117, 119-120, 182-190, 421-432, 436-438, 441-452.	Opportunity to address: SE: 235-236, 239, 245	SE: 506-510, 519, 523-524
4. defines (2.4.K1a): a. a recursive or explicit formula for arithmetic sequences and finds any particular term, b. a recursive or explicit formula for geometric sequences and finds any particular term.	Throughout Units 3 and 6. See the following examples: SE: 122-135, 137, 182-190, 421-432, 434-437, 441-452, 455-458.	SE: 235, 245	SE: 488-529
Benchmark 2: Variables, Equations, and Inequalities – The student uses variables, symbols, real numbers, and algebraic expressions to solve equations and inequalities in variety of situations.			
1. knows and explains the use of variables as parameters for a specific variable situation (2.4.K1f), e.g., the m and b in $y = mx + b$ or the h, k, and r in $(x – h)^2 + (y – k)^2 = r^2$.	SE: 142-147, 181-192, 424-430	SE: 236-240, 244, 256-258, 274-277	SE: 4-14, 16-22, 422-485, 498
manipulates variable quantities within an equation or inequality (2.4.K1e), e.g., $5x – 3y = 20$ could be written as $5x – 20 = 3y$ *or* $5x(2x + 3) = 8$ could be written as $8/(5x) = 2x + 3$.	SE: 221, 222-226, 228, 231-241	SE: 73, 99-100, 104, 106, 260-261, 272-273, 279-280	Throughout. See for examples: SE: 4-25, 28-42, 187-201, 209-218

2. solves (2.4.K1d) **$**: a. **N** linear equations and inequalities both analytically and graphically; b. quadratic equations with integer solutions (may be solved by trial and error, graphing, quadratic formula, or factoring); c. ▲ systems of linear equations with two unknowns using integer coefficients and constants; d. radical equations with no more than one inverse operation around the radical expression; e. equations where the solution to a rational equation can be simplified as a linear equation with a nonzero denominator, e.g., $\frac{3}{(x+2)} = \frac{5}{(x-3)}$. f. equations and inequalities with absolute value quantities containing one variable with a special emphasis on using a number line and the concept of absolute value. g. exponential equations with the same base without the aid of a calculator or computer, e.g., $3^{x+2} = 3^5$.	Throughout. See for examples: SE: 122-125, 128, 132-135, 139, 143-144, 148-151, 153, 176-177, 211-219, 227-230, 369. C1 RAP pp. 65, 67, 68, 75, 85, 94, 104 C2 RAP pp. 64, 66, 70, 71, 73, 74, 76, 78, 80, 81, 82	SE: 59-74, 97-109, 134-135, 266-270, 273, 278-285, 299, 400-409 C2 RAP pp. 64, 66, 70, 71, 73, 74, 76, 78, 80, 81, 82	Throughout. See for examples: SE: 21, 27, 31, 40-42 48, 209-210, 221, 226-229, 230-232, 234-237

Benchmark 3: Functions – The student analyzes functions in a variety of situations.			
1. evaluates and analyzes functions using various methods including mental math, paper and pencil, concrete objects, and graphing utilities or other appropriate technology (2.4.K1a,d-f).	Throughout. See for examples: SE: 122-128, 147-150, 153, 211-218, 220-224, 421-432, 434-435, 452-453, 455-458	Throughout. See for examples: SE: 60-61, 64, 223, 238, 259-260, 266-273, 278-280, 282-285	SE: 171-257, 422-485
2. matches equations and graphs of constant and linear functions and quadratic functions limited to $y = ax^2 + c$ (2.4.K1d,f).	SE: 144-145, 146-147, 190	SE: 275-277	SE: 463-464
3. determines whether a graph, list of ordered pairs, table of values, or rule represents a function (2.4.K1e-f).	Opportunity to address: SE: 101-106, 108, 452, 475	Opportunity to address: SE: 239-241, 257-258, 274-277	SE: 171-174, 182-183, 439
4. determines x- and y-intercepts and maximum and minimum values of the portion of the graph that is shown on a coordinate plane (2.4.K1f).	SE: 126-130, 142-143, 148-149	SE: 69, 266-273, 278-280, 287	SE: 53, 58, 208, 235, 454-456, 458, 469-470
5. identifies domain and range of: a. relationships given the graph or table (2.4.K1e-f), b. linear, constant, and quadratic functions given the equation(s) (2.4.K1d).	Opportunity to address: SE: 122-125, 128,142-143, 206, 430, 442, 456, 467, 471	Opportunity to address: SE: 66-67, 256-258, 274-277, 436-439, 442	SE: 175-183

6. recognizes how changes in the constant and/or slope within a linear function changes the appearance of a graph (2.4.K1f) **$** .	SE: 152, 182-187	SE: 244	SE: 431-432
7. uses function notation.	Opportunity to address: SE: 122-125, 132-135, 142-143	Opportunity to address: SE: 60-61, 69, 239-240, 243-244, 251-252, 254-255, 257, 267-268, 275, 436-441	SE: 171-192, 195, 199, 201-205, 207-212, 218-219, 221-229, 232-236, 238-239, 422-485
8. evaluates function(s) given a specific domain **$**.	Throughout. See for examples: SE: 122-125, 128, 132-135, 136, 142, 143, 150, 421-424, 432-433	Throughout. See for examples: SE: 60-61, 69, 239-240, 243-244, 251-252, 254-255, 257, 267-268, 275, 436-441	SE: 172-182, 185-186, 188-189, 422-438, 442-446, 449-451, 463, 470-471, 476-477
9. describes the difference between independent and dependent variables and identifies independent and dependent variables **$**.	SE: 175	SE: 199	Opportunity to address: SE: 423-430, 434-437
Benchmark 4: Models – The student develops and uses mathematical models to represent and justify mathematical relationships found in a variety of situations involving tenth grade knowledge and skills.			
1. knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include: a. process models (concrete objects, pictures, diagrams, number lines, hundred charts, measurement tools, multiplication arrays, division sets, or coordinate grids) to	Throughout. See for examples: SE: Unit 1, 122-125, 132-136, 240, 327-328, 329-333, 337-338, 340-344, 347-349, 352-353, 356-361, 393-394, 397, 401, 421-427, 429, 432-434, 436-437, 443-444, 461-464, Unit 7.	Throughout. See for examples: SE: 83, 92, 97-100, 103, 111-119, 216-223, 235-241, 247-248, 257-258, 260, 266-268, 281-285, 288, 395-397, 406-407, 426, 458, 464-465, 468, 470, 472-474.	

model computational procedures, algebraic relationships, and mathematical relationships and to solve equations (1.1.K1-3, 1.2.K1, 1.2.K3-4, 1.3.K1-4, 1.4.K1, 1.4.K2a-b, 2.1.K1a, 2.1.K1d, 2.1.K2, 2.2.K4, 2.3.K1, 3.2.K1-3, 3.2.K6, 3.3.K1-4, 4.2.K3-4) **$**; b. factor trees to model least common multiple, greatest common factor, and prime factorization (1.4.K3); c. algebraic expressions to model relationships between two successive numbers in a sequence or other numerical patterns (2.1.K1c); d. equations and inequalities to model numerical and geometric relationships (1.4.K2c, 2.2.K3, 2.3.K1-2, 3.2.K7) **$**; e. function tables to model numerical and algebraic relationships (2.1.K1c, 2.2.K2, 2.3.K1, 2.3.K3, 2.3.K5) **$**; f. coordinate planes to model relationships between ordered pairs and equations and inequalities and linear and quadratic functions (2.2.K1, 2.3.K1-6, 3.4.K1-8) **$** ; g. constructions to model geometric theorems and properties (3.1.K2, 3.1.K6);			

h. two- and three-dimensional geometric models (geoboards, dot paper, coordinate plane, nets, or solids) and real-world objects to model perimeter, area, volume, and surface area, properties of two- and three-dimensional figures, and isometric views of three-dimensional figures (2.1.K1b, 3.1.K1-8, 3.2.K1, 3.2.K4-5, 3.3.K1-4); i. scale drawings to model large and small real-world objects; j. Pascal's Triangle to model binomial expansion and probability; k. geometric models (spinners, targets, or number cubes), process models (concrete objects, pictures, diagrams, or coins), and tree diagrams to model probability (4.1.K1-3); l. frequency tables, bar graphs, line graphs, circle graphs, Venn diagrams, charts, tables, single and double stem-and-leaf plots, scatter plots, box-and-whisker plots, histograms, and matrices to organize and display data (4.2.K1, 4.2.K5-6) **$**; m. Venn diagrams to sort data and show relationships (1.2.K2).			

Standard 3: Geometry – The student uses geometric concepts and procedures in a variety of situations.			
Benchmark 1: Geometric Figures and Their Properties – The student recognizes geometric figures and compares and justifies their properties of geometric figures in a variety of situations.			
1. recognizes and compares properties of two-and three-dimensional figures using concrete objects, constructions, drawings, appropriate terminology, and appropriate technology (2.4.K1h).	SE: 327-328, 329-333, 383-389, 417	SE: 87-92, 96, 108, 121, 235-237 C2 RAP p. 61	SE: 295-344
2. discusses properties of regular polygons related to (2.4.K1g-h): a. angle measures, b. diagonals.	SE: 383-389, 397-398, 401	SE: 96, 102, 395-396	SE: 326-335
3. recognizes and describes the symmetries (point, line, plane) that exist in three-dimensional figures (2.4.K1h).	SE: 331, 333-339, 352-353, 417		
4. recognizes that similar figures have congruent angles, and their corresponding sides are proportional (2.4.K1h).	Opportunity to address: SE: 172, 176-177	SE: 127-133, 395-399	SE: 298-304
5. uses the Pythagorean Theorem to (2.4.K1h): a. determine if a triangle is a right triangle, b. find a missing side of a right triangle.	SE: 365-368, 374, 417	SE: 87-89, 93, 102, 295-297, 303, 304, 306, 307, 316, 399	SE: 26, 28-29

6. recognizes and describes (2.4.K1g-h): a. congruence of triangles using: Side-Side-Side (SSS), Angle-Side-Angle (ASA), Side-Angle-Side (SAS), and Angle-Angle-Side (AAS); b. the ratios of the sides in special right triangles: 30°-60°-90° and 45°-45°-90°.		SE: 306-307	SE: 304-315
7. recognizes, describes, and compares the relationships of the angles formed when parallel lines are cut by a transversal (2.4.K1h).	RAP p. 31		SE: 282-291
8. recognizes and identifies parts of a circle: arcs, chords, sectors of circles, secant and tangent lines, central and inscribed angles (2.4.K1h).		Opportunity to address: SE: 421, 428-429	SE: 296, 322, 324
Benchmark 2: Measurement and Estimation – The student estimates, measures and uses geometric formulas in a variety of situations.			
1. determines and uses real number approximations (estimations) for length, width, weight, volume, temperature, time, distance, perimeter, area, surface area, and angle measurement using standard and nonstandard units of measure (2.4.K1a) **$**.	SE: 4, 5, 66, 68, 99-100, 356-359 RAP pp. 37-43, 687	SE: 84, 87, 89-90, 93, 400-411, 430-435.	

2. selects and uses measurement tools, units of measure, and level of precision appropriate for a given situation to find accurate real number representations for length, weight, volume, temperature, time, distance, area, surface area, mass, midpoint, and angle measurements (2.4.K1a) **$**.	SE: 2-6, 66, 68, 99-100, 356 RAP pp. 37-43	SE: 84, 87, 89-90, 400-411, 430-435.	
3. approximates conversions between customary and metric systems given the conversion unit or formula (2.4.K1a).	SE: 66-67 RAP pp. 54, 64	Opportunity to address: SE: 235-238, 249, 425	
4. states, recognizes, and applies formulas for (2.4.K1h) **$**: a. perimeter and area of squares, rectangle, and triangles; b. circumference and area of circles; c. volume of rectangular solids.	SE: 135-136, 359-360, 364-366, 373-378. RAP pp. 79, 80, 90	SE: 102, 123, 128-129, 235-238, 241	
5. uses given measurement formulas to find perimeter, area, volume, and surface area of two- and three-dimensional figures (regular and irregular) (2.4.K1h).	135-136, 359-360, 364-366, 373-378 Rap pp. 57, 79, 80	SE: 102, 123, 128-129, 235-238, 241	SE: 17-18, 22-24
6. recognizes and applies properties of corresponding parts of similar and congruent figures to find measurements of missing sides (2.4.K1a).	Opportunity to address: SE: 176-177	Opportunity to address: SE: 395-399	SE: 316-324

7. knows, explains, and uses ratios and proportions to describe rates of change (2.4.K1d) **$**, e.g., miles per gallon, meters per second, calories per ounce, or rise over run.	Opportunity to address: SE: 182-185, 187-189, 194-196, 202-204 RAP pp. 54, 57, 64, 70, 76	SE: 394, 413-427	
Benchmark 3: Transformational Geometry – The student recognizes and applies transformations on two- and three- dimensional figures in a variety of situations.			
1. describes and performs single and multiple transformations [refection, rotation, translation, reduction (contraction/shrinking), enlargement (magnification/growing)] on two- and three-dimensional figures (2.4.K1a).	SE: 383-390, 398, 399, 401 C1 RAP p. 87	SE: 111-164	
2. recognizes a three-dimensional figure created by rotating a simple two-dimensional figure around a fixed line (2.4.K1a), e.g., a rectangle rotated about one of its edges generates a cylinder; an isosceles triangle rotated about a fixed line that runs from the vertex to the midpoint of its base generates a cone.	This objective falls outside the scope of Glencoe *Contemporary Mathematics in Context, Course 1.* (See Course 4)	This objective falls outside the scope of Glencoe *Contemporary Mathematics in Context, Course 2.* (See Course 4)	This objective falls outside the scope of Glencoe *Contemporary Mathematics in Context, Course 3.* (See Course 4)
3. generates a two-dimensional representation of a three-dimensional figure (2.4.K1a).	SE: 340-344, 347-349, 352-353		

4. determines where and how an object or a shape can be tessellated using single or multiple transformations and creates a tessellation (2.4.K1a).	SE: 389-392		
Benchmark 4: Geometry from an Algebraic Perspective – The student uses an algebraic perspective to analyze the geometry of two- and three-dimensional figures in a variety of situations.			
1. recognizes and examines two- and three-dimensional figures and their attributes including the graphs of functions on a coordinate plane using various methods including mental math, paper and pencil, concrete objects, and graphing utilities or other appropriate technology (2.4.K1f).	SE: 327-332, 343-344, 345-346, 349, 356-358, 381-382, 383-389	SE: 87-92, 94, 96, 235-241, 247, 256-258, 274-277	SE: 170-186, 322-324
2. determines if a given point lies on the graph of a given line or parabola without graphing and justifies the answer (2.4.K1f).	SE: 196, 205, 214, 228, 231	SE: 279-280, 283, 285 RAP p. 51	
3. calculates the slope of a line from a list of ordered pairs on the line and explains how the graph of the line is related to its slope (2.4.K1f).	SE: 183-189, 191-193, 196, 205	SE: 87-92, 219-223	SE: 423-424, 431-432

4. finds and explains the relationship between the slopes of parallel and perpendicular lines (2.4.K1f), e.g., 2x + 3y = 12 name a linear function. What is the slope of the line that is formed by this equation? Write and equation of a perpendicular to 2x + 3y = 12. Explain how the slopes of all three of these lines relate to each other.	SE: 182-183, 190	SE: 87-90, 105 RAP p. 56	SE: 290
5. uses the Pythagorean Theorem to find distance (may use the distance formula) (2.4.K1f).	SE: 364, 366, 369	SE: 83-84, 87, 89-93, 95	SE: 26, 28-29
6. recognizes the equation of a line and transforms the equation into slope-intercept form in order to identify the slope and y-intercept and uses this information to graph the line (2.4.K1f).	SE: 191, 194-199, 241	SE: 104, 106 RAP p. 72, 81	SE: 21
7. recognizes the equation $y = ax^2 + c$ as a parabola; represents and identifies characteristics of the parabola including opens upward or opens downward, steepness (wide/narrow), the vertex, maximum and minimum values, and line of symmetry; and sketches the graph of the parabola (2.4.K1f).	Opportunity to address: SE: 145, 398, 411	SE: 239-241, 244, 265-271, 274-277	SE: 208-213, 229-234, 238, 431-432, 442, 446, 448, 458

Standard 4: Data – The student uses concepts and procedures of data analysis in a variety of situations.			
Benchmark 1: Probability – The student applies probability theory to draw conclusions, generate convincing arguments, make predictions and decisions, and analyze decisions including the use of concrete objects in a variety of situations.			
1. finds the probability of two independent events in an experiment, simulation, or situation (2.4.K1k) **$** .	SE: 483-528 RAP pp. 49-50, 69, 71, 74, 94	SE: 457-461 RAP pp. 22-26, 51	SE: 394-415
2. finds the conditional probability of two dependent events in an experiment, simulation, or situation (2.4.K1k).	SE: 486, 489, 495	SE: 462-463, 475-477, 479, 481, 508	
3. explains the relationship between probability and odds and computes one given the other (2.4.K1a,k).	Opportunity to address: SE: 485-490, 498-501, 505.	Opportunity to address: SE: 457-459	

Benchmark 2: Statistics – The student collects, organizes, displays, explains, and interprets numerical (rational) and non-numerical data sets in a variety of situations.			
1. organizes, displays, and reads quantitative (numerical) and qualitative (non-numerical) data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these **data displays** (2.4.K1l). a. frequency tables; b. bar, line, and circle graphs; c. Venn diagrams or other pictorial displays; d. charts and tables; e. stem-and-leaf plots (single and double); f. scatter plots; g. box-and-whiskers plots; h. histograms.	SE: 2-96	SE: 170-230, 457-458, 460, 465, 467-468, 487-488, 490-491	SE: 346-415
2. explains how the reader's bias, measurement errors, and display distortions can affect the interpretation of data.	SE: 21, 23, 25-26, 39, 167-169	SE: 197-204	SE: 121-134
3. calculates and explains the meaning of range, quartiles and interquartile range for a real number data set (2.4.K1a).	SE: 48-63		SE: 351-357

4. explains the effects of outliers on the measures of central tendency (mean, median, mode) and range and interquartile range of a real number data set (2.4.K1a).	SE: 36-46, 106		
5. approximates a line of best fit given a scatter plot and makes predictions using the equation of that line (2.4.K1k).	SE: 147, 159, 165-174, 176-177, 195-198, 202-204, 207-210	SE: 211-223	
6. compares and contrasts the dispersion of two given sets of data in terms of range and the shape of the display including (2.4.K1k): a. symmetrical (including normal), b. skew-left or skew-right, c. bimodal, d. uniform (rectangular).	SE: 14-31	SE: 492-493, 508	