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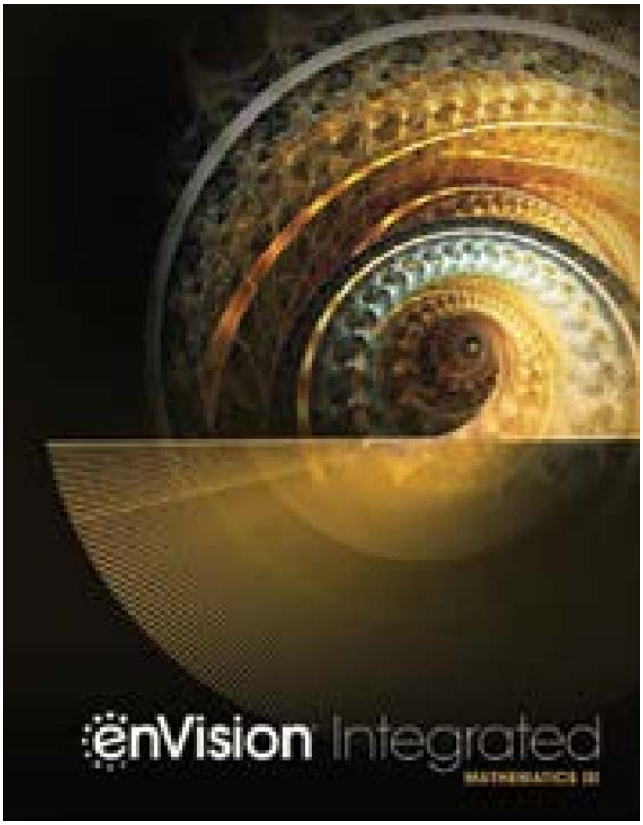

To the

UTAH CORE STATE STANDARDS For MATHEMATICS

Secondary Mathematics III

SAVVAS

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To The Utah Core State Standards for Mathematics Secondary Mathematics III

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To The Utah Core State Standards for Mathematics Secondary Mathematics III

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MATHEMATICAL PRACTICES	
Standard SIII.MP.1 Make sense of problems and persevere in solving them. Explain the meaning of a problem and look for entry points to its solution. Analyze givens, constraints, relationships, and goals. Make conjectures about the form and meaning of the solution, plan a solution pathway, and continually monitor progress asking, "Does this make sense?" Consider analogous problems, make connections between multiple representations, identify the correspondence between different approaches, look for trends, and transform algebraic expressions to highlight meaningful mathematics. Check answers to problems using a different method.	Mathematical practices are referenced throughout the enVision Integrated Mathematics series. The following citations are sample references in Mathematics III. **SE/TE:** 39, 50, 52, 56, 67-68, 97, 99, 108, 119, 139 **TE:** 27, 36, 40A-40B, 47A-47B, 48, 88, 95, 111, 123A, 135
Standard SIII.MP.2 Reason abstractly and quantitatively. Make sense of the quantities and their relationships in problem situations. Translate between context and algebraic representations by contextualizing and decontextualizing quantitative relationships. This includes the ability to decontextualize a given situation, representing it algebraically and manipulating symbols fluently as well as the ability to contextualize algebraic representations to make sense of the problem.	Mathematical practices are referenced throughout the enVision Integrated Mathematics series. The following citations are sample references in Mathematics III. **SE/TE:** 52, 108, 153, 164, 219, 245, 251, 260, 304, 313 **TE:** 47A, 69A, 84A, 131A, 136, 140B, 155, 177A, 181, 185A
Standard SIII.MP.3 Construct viable arguments and critique the reasoning of others. Understand and use stated assumptions, definitions, and previously established results in constructing arguments. Make conjectures and build a logical progression of statements to explore the truth of their conjectures. Justify conclusions and communicate them to others. Respond to the arguments of others by listening, asking clarifying questions, and critiquing the reasoning of others.	Mathematical practices are referenced throughout the enVision Integrated Mathematics series. The following citations are sample references in Mathematics III. **SE/TE:** 10-11, 21, 28, 37, 44, 51, 66, 73, 82, 245 **TE:** 5A, 102, 109A, 113, 141, 154, 180, 355, 379A, 456

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Standard SIII.MP.4 Model with mathematics. Apply mathematics to solve problems arising in everyday life, society, and the workplace. Make assumptions and approximations, identifying important quantities to construct a mathematical model. Routinely interpret mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.	Mathematical practices are referenced throughout the enVision Integrated Mathematics series. The following citations are sample references in Mathematics III. **SE/TE:** 53, 100, 162, 202, 246, 332, 363, 439, 480, 527 **TE:** 53A-53B, 100A-100B, 162A-162B, 202A-202B, 246A-246B, 332A-332B, 363A-363B, 439A-439B, 480A-480B, 527A-527B
Standard SIII.MP.5 Use appropriate tools strategically. Consider the available tools and be sufficiently familiar with them to make sound decisions about when each tool might be helpful, recognizing both the insight to be gained as well as the limitations. Identify relevant external mathematical resources and use them to pose or solve problems. Use tools to explore and deepen their understanding of concepts.	Mathematical practices are referenced throughout the enVision Integrated Mathematics series. The following citations are sample references in Mathematics III. **SE/TE:** 18, 43, 63, 111, 126, 145, 149, 171, 200, 276 **TE:** 13A, 34, 61A, 65, 101A, 147A, 169A, 270, 283, 369
Standard SIII.MP.6 Attend to precision. Communicate precisely to others. Use explicit definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose. Specify units of measure and label axes to clarify the correspondence with quantities in a problem. Calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context.	Mathematical practices are referenced throughout the enVision Integrated Mathematics series. The following citations are sample references in Mathematics III. **SE/TE:** 12, 28-29, 37, 44, 50-51, 54, 73, 136, 138, 144 **TE:** 23A-23B, 47B, 62, 85, 127, 129, 136, 157, 173, 185B
Standard SIII.MP.7 Look for and make use of structure. Look closely at mathematical relationships to identify the underlying structure by recognizing a simple structure within a more complicated structure. See complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, see 5 – 3(x – y)2 as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.	Mathematical practices are referenced throughout the enVision Integrated Mathematics series. The following citations are sample references in Mathematics III. **SE/TE:** 33, 55, 82, 86, 147, 184, 189, 201, 250, 254 **TE:** 42, 80, 96, 143, 230, 336, 367, 409, 417, 443

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Standard SIII.MP.8 Look for and express regularity in repeated reasoning. Notice if reasoning is repeated, and look for both generalizations and shortcuts. Evaluate the reasonableness of intermediate results by maintaining oversight of the process while attending to the details.	Mathematical practices are referenced throughout the enVision Integrated Mathematics series. The following citations are sample references in Mathematics III. **SE/TE:** 56, 74, 85, 98, 116, 129, 145, 152, 160, 287 **TE:** 49, 92A, 101A, 142, 161, 247A, 297A, 340A, 393A, 423A
NUMBER AND QUANTITY	
The Complex Number System (N.CN) Use complex numbers in polynomial identities and equations. Build on work with quadratic equations in Secondary Mathematics II (Standards N.CN.8–9).	
Standard N.CN.8 Extend polynomial identities to the complex numbers. Limit to quadratics with real coefficients. *For example, rewrite* $x^2 + 4$ *as* $(x + 2i)(x - 2i)$.	**SE/TE:** 76-78, 94, 98, 103
Standard N.CN.9 Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials. Limit to polynomials with real coefficients.	**SE/TE:** 103, 105-107 **TE:** 100B, 101A, 108B
ALGEBRA	
Seeing Structure in Expression (A.SSE) Interpret the structure of expressions. Extend to polynomial and rational expressions (Standards A.SSE.1–2). Write expressions in equivalent forms to solve problems (Standard A.SSE.4).	
Standard A.SSE.1 Interpret quadratic and exponential expressions that represent a quantity in terms of its context.□	**SE/TE:** 65, 67, 71, 73, 95, 99, 115, 125, 229-231, 251 **TE:** 91B, 92B, 139B, 146B, 153B, 161B, 201B, 210A, 219B, 234A
a. Interpret parts of an expression, such as terms, factors, and coefficients.	**SE/TE:** 17, 20, 71, 74, 81, 83, 85, 102, 149, 230 **TE:** 61A-61B, 68B, 69A-69B, 75A, 84A-84B, 91B, 92B, 100A-100B, 131A, 140A

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b. Interpret complex expressions by viewing one or more of their parts as a single entity. *For example, examine the behavior of* $P(1+r/n)^{nt}$ *as* n *becomes large.*	**SE:** 13-22, 23-30, 69-75, 109-116, 131-139, 140-146, 147-153, 185-192, 203-210, 227-234 **TE:** 13A-22B, 23A-30B, 69A-75B, 109A-116B, 131A-139B, 140A-146B, 147A-153B, 185A-192B, 203A-210B, 227A-234B
Standard A.SSE.2 Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.	**SE:** 76-83, 84-91, 92-99, 169-176, 177-184, 267-272, 379-386 **TE:** 76A-83B, 84A-91B, 92A-99B, 169A-176B, 177A-184B, 267A-272B, 379A-386B
Standard A.SSE.4 Understand the formula for the sum of a series and use the formula to solve problems.	**SE:** 31-39, 280-288 **TE:** 31A-39B, 280A-288B
a. Derive the formula for the sum of an arithmetic series.	**SE:** 31-39 **TE:** 31A-39B
b. Derive the formula for the sum of a geometric series, and use the formula to solve problems. Extend to infinite geometric series. *For example, calculate mortgage payments.*	**SE:** 280-288 **TE:** 280A-288B
Arithmetic With Polynomials and Rational Expressions (A.APR) Perform arithmetic operations on polynomials, extending beyond the quadratic polynomials (Standard A.APR.1). Understand the relationship between zeros and factors of polynomials (Standards A.APR.2–3). Use polynomial identities to solve problems (Standards A.APR.4–5). Rewrite rational expressions (Standards A.APR.6–7).	
Standard A.APR.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	**SE:** 69-75, 76-83 **TE:** 69A-75B, 76A-83B
Standard A.APR.2 Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a, the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.	**SE:** 84-91 **TE:** 84A-91B

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Standard A.APR.3 Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.	**SE:** 92-99 **TE:** 92A-99B
Standard A.APR.4 Prove polynomial identities and use them to describe numerical relationships. *For example, the polynomial identity* $(x^2 + y^2)^2 = (x^2 – y^2)^2 + (2xy)^2$ *can be used to generate Pythagorean triples.*	**SE:** 76-83 **TE:** 76A-83B
Standard A.APR.5 Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of *x* and *y* for a positive integer *n*, where *x* and *y* are any numbers. *For example, with coefficients determined by Pascal's Triangle.*	**SE:** 76-83 **TE:** 76A-83B
Standard A.APR.6 Rewrite simple rational expressions in different forms; write *a(x)/b(x)* in the form *q(x) + r(x)/b(x)*, where *a(x), b(x), q(x)*, and *r(x)* are polynomials with the degree of *r(x)* less than the degree of *b(x)*, using inspection, long division or, for the more complicated examples, a computer algebra system.	**SE:** 131-139, 140-146, 147-153 **TE:** 131A-139B, 140A-146B, 147A-153B
Standard A.APR.7 Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.	**SE:** 140-146, 147-153 **TE:** 140A-146B, 147A-153B
Creating Equations (A.CED) Create equations that describe numbers or relationships, using all available types of functions to create such equations (Standards A.CED.1–4).	
Standard A.CED.1 Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and simple exponential functions.	**SE:** 40-46, 101-108, 154-161, 193-201, 273-279 **TE:** 40A-46B, 101A-108B, 154A-161B, 193A-201B, 273A-279B

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Standard A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	**SE:** 23-30, 61-68, 131-139, 185-192, 227-234, 235-245, 247-253, 261-266, 323-331, 333-339 **TE:** 23A-30B, 61A-68B, 131A-139B, 185A-192B, 227A-234B, 235A-245B, 247A-253B, 261A-266B, 323A-331B, 333A-339B
Standard A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, maximizing the volume of a box for a given surface area while drawing attention to the practical domain.*	**SE:** 40-46, 47-52, 101-108, 154-161, 193-201, 273-279, 355-362 **TE:** 40A-46B, 47A-52B, 101A-108B, 154A-161B, 193A-201B, 273A-279B, 355A-362B
Standard A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange the compound interest formula to solve for* t: A = P*(1+* r/n)^{nt}	**TE:** 201B
Reasoning With Equations and Inequalities (A.REI) Understand solving equations as a process of reasoning and explain the reasoning (Standard A.REI.2). Represent and solve equations and inequalities graphically (Standard A.REI.11).	
Standard A.REI.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	**SE:** 154-161, 193-201 **TE:** 154A-161B, 193A-201B
Standard A.REI.11 Explain why the *x*-coordinates of the points where the graphs of the equations *y = f(x) and y = g(x)* intersect are the solutions of the equation *f(x) = g(x)*; find the solutions approximately, for example, using technology to graph the functions, make tables of values, or find successive approximations. Include cases where *f(x)* and/ or *g(x)* are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.	**SE:** 40-46 **TE:** 40A-46B

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FUNCTIONS	
Interpreting Linear and Exponential Functions (F.IF) Interpret quadratic functions that arise in applications in terms of a context (Standards F.IF.4–6). Analyze functions using different representations (Standards F.IF.7–9).	
Standard F.IF.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*	**SE:** 5-12, 13-22, 23-30, 61-68, 109-116, 123-130, 131-139, 185-192, 227-234, 261-266 **TE:** 5A-12B, 13A-22B, 23A-30B, 61A-68B, 109A-116B, 123A-130B, 131A-139B, 185A-192B, 227A-234B, 261A-266B
Standard F.IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.	**SE:** 5-12, 13-22, 23-30, 61-68, 109-116, 123-130, 131-139, 185-192, 227-234, 261-266 **TE:** 5A-12B, 13A-22B, 23A-30B, 61A-68B, 109A-116B, 123A-130B, 131A-139B, 185A-192B, 227A-234B, 261A-266B
Standard F.IF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.	**SE/TE:** 9, 11-12, 63, 67, 68, 231, 233, 251, 263, 265 **TE:** 5A-5B, 12A, 234A, 249, 253A-253B, 266A-266B, 323A
Standard F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.	**SE:** 5-12, 13-22, 23-30, 61-68, 109-116, 123-130, 131-139, 185-192, 227-234, 261-266 **TE:** 5A-12B, 13A-22B, 23A-30B, 61A-68B, 109A-116B, 123A-130B, 131A-139B, 185A-192B, 227A-234B, 261A-266B
b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. Compare and contrast square root, cubed root, and step functions with all other functions.	**SE:** 23-30, 40-46, 185-192 **TE:** 23A-30B, 40A-46B, 185A-192B

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c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.	**SE:** 61-68, 92-99, 109-116 **TE:** 61A-68B, 92A-99B, 109A-116B
d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.	**SE:** 123-130, 131-139 **TE:** 123A-130B, 131A-139B
e. Graph exponential and logarithmic functions, showing intercepts and end behavior; and trigonometric functions, showing period, midline, and amplitude.	**SE:** 227-234, 235-245, 246, 261-266, 323-331, 333-339, 340-347 **TE:** 227A-234B, 235A-245B, 246A-246B, 261A-266B, 323A-331B, 333A-339B, 340A-347B
Standard F.IF.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.	**SE:** 5-12, 13-22, 61-68, 101-108, 109-116, 379-386 **TE:** 5A-12B, 13A-22B, 61A-68B, 101A-108B, 109A-116B, 379A-386B
Standard F.IF.9 Compare properties of two functions, each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.	**SE/TE:** 72 **TE:** 69A
Building Linear or Exponential Functions (F.BF) Build a function that models a relationship between two quantities. Develop models for more complex or sophisticated situations (Standards F.BF.1). Build new functions from existing functions (Standards F.BF.3–4).	
Standard F.BF.1 Write a function that describes a relationship between two quantities.□□	**SE:** 5-12, 13-22, 23-30, 61-68, 109-116, 123-130, 131-139, 185-192, 227-234, 261-266 **TE:** 5A-12B, 13A-22B, 23A-30B, 61A-68B, 109A-116B, 123A-130B, 131A-139B, 185A-192B, 227A-234B, 261A-266B

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b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.*	**SE:** 203-210 **TE:** 203A-210B
Standard F.BF.3 Identify the effect on the graph of replacing *f(x) by f(x) + k, k f(x), f(kx), and f(x + k)* for specific values of *k* (both positive and negative); find the value of *k* given the graphs. Note the effect of multiple transformations on a single function and the common effect of each transformation across function types. Include functions defined only by a graph. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.	**SE:** 13-22, 109-116, 131-139, 185-192, 227-234, 262, 265, 340-347 **TE:** 13A-22B, 109A-116B, 131A-139B, 185A-192B, 227A-234B, 340A-347B
Standard F.BF.4 Find inverse functions.	**SE:** 211-219, 355-362 **TE:** 211A-219B, 355A-362B
a. Solve an equation of the form *f(x) = c* for a simple function *f* that has an inverse and write an expression for the inverse. Include linear, quadratic, exponential, logarithmic, rational, square root, and cube root functions. *For example,* f(x) = $2x^3$ *or* f(x) = (x+*1)/(*x-*1) for* x ≠ *1.*	**SE:** 211-219, 355-362 **TE:** 211A-219B, 355A-362B
Linear and Exponential (F.LE) Construct and compare linear, quadratic, and exponential models and solve problems (Standards F.LE.3–4). Interpret expressions for functions in terms of the situation it models. Introduce f(x) = e^x as a model for continuous growth (Standard F.LE.5).	
Standard F.LE.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly.	**SE/TE:** 227-234, 235-245, 247-253 **TE:** 227A-234B, 235A-245B, 247A-253B

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Standard F.LE.4 For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where *a, c*, and *d* are numbers and the base *b* is 2, 10, or *e*; evaluate the logarithm using technology. Include the relationship between properties of logarithms and properties of exponents, such as the connection between the properties of exponents and the basic logarithm property that log *xy* = *log x* + *log y*.	**SE/TE:** 273-279 **TE:** 273A-279B
Standard F.LE.5 Interpret the parameters in a linear, quadratic, or exponential function in terms of a context.	**SE:** 227-234, 235-245, 247-253 **TE:** 227A-234B, 235A-245B, 247A-253B
Trigonometric Functions (F.TF) Extend the domain of trigonometric functions using the unit circle (Standards F.TF.1–3). Model periodic phenomena with trigonometric functions (Standards F.TF.5, 7).	
Standard F.TF.1 Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.	**SE:** 305-315 **TE:** 305A-315B
Standard F.TF.2 Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.	**SE:** 305-315, 316-322 **TE:** 305A-315B, 316A-322B
Standard F.TF.3 Use special triangles to determine geometrically the values of sine, co sine, tangent for Π/3, Π/4 and Π6, and use the unit circle to express the values of sine, cosine, and tangent for Π – *x,* Π + *x,* and *2*Π – *x* in terms of their values for *x,* where *x* is any real number.	**SE/TE:** 297-304, 305-315 **TE:** 297A-304B, 305A-315B
Standard F.TF.5 Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.□	**SE:** 323-331, 333-339 **TE:** 323A-331B, 333A-339B
Standard F.TF.7 Use inverse functions to solve trigonometric equations that arise in modeling context; evaluate the solutions using technology and interpret them in terms of context. Limit solutions to a given interval. □	**SE:** 355-362, 363, 364-372, 373-378 **TE:** 355A-362B, 363A-363B, 364A-372B, 373A-378B

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GEOMETRY	
Similarity, Right Triangles, and Trigonometry (G.SRT) Apply trigonometry to general triangles. With respect to the general case of the Laws of Sines and Cosines, the definitions of sine and cosine must be extended to obtuse angles (Standards G.SRT.9–11).	
Standard G.SRT.9 Derive the formula *A = 1/2 ab sin(C)* for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.	**SE/TE:** 375-378 **TE:** 378A-378B
Standard G.SRT.10 Prove the Laws of Sines and Cosines and use them to solve problems.	**SE:** 364-372, 373-378 **TE:** 364A-372B, 373A-378B
Standard G.SRT.11 Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).	**SE:** 364-372, 373-378 **TE:** 364A-372B, 373A-378B
Geometric Measurement and Dimension (G.GMD) Visualize relationships between two-dimensional and three-dimensional objects (Standards G.MD.4).	
Standard G.GMD.4 Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.	**SE:** 557-562 **TE:** 557A-562B
Modeling With Geometry (G.MG) Apply geometric concepts in modeling situations (Standards G.MG.1–3).	
Standard G.MG.1 Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).□	**SE/TE:** 459, 462, 465, 472, 487, 489-490, 496, 562, 564-567, 570 **TE:** 466B, 472B, 571A-571B
Standard G.MG.2 Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).	**SE/TE:** 566, 570, 581
Standard G.MG.3 Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typo graphic grid systems based on ratios).□	**SE/TE:** 52, 60, 75, 143, 168, 180, 354, 359, 363, 510 **TE:** 99B, 192B, 296, 363A

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STATISTICS AND PROBABILITY	
Interpreting Categorical and Quantitative Data (S.ID) Summarize, represent, and interpret data on a single count or measurement variable. While students may have heard of the normal distribution, it is unlikely that they will have prior experience using it to make specific estimates. Build on students' understanding of data distributions to help them see how the normal distribution uses area to make estimates of frequencies (which can be expressed as probabilities). Emphasize that only some data are well described by a normal distribution (Standard S.ID.4).	
Standard S.ID.4 Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.	**SE:** 415-422 **TE:** 415A-422B
Making Inferences and Justifying Conclusions (S.IC) Understand and evaluate random processes underlying statistical experiments (Standard S.IC.1). Draw and justify conclusions from sample surveys, experiments, and observational studies. In earlier grades, students are introduced to different ways of collecting data and use	
Standard S.IC.1 Understand that statistics allow inferences to be made about population parameters based on a random sample from that population.	**SE:** 393-399, 400-406 **TE:** 393A-399B, 400A-406B
Standard S.IC.3 Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.	**SE:** 400-406 **TE:** 400A-406B
Standard S.IC.4 Use data from a sample survey to estimate a population mean or pro portion; develop a margin of error through the use of simulation models for random sampling.	**SE:** 407-414, 415-422, 423-430 **TE:** 407A-414B, 415A-422B, 423A-430B
Standard S.IC.6 Evaluate reports based on data.	**SE:** 431-438 **TE:** 431A-438B