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Mathematics II Common Core
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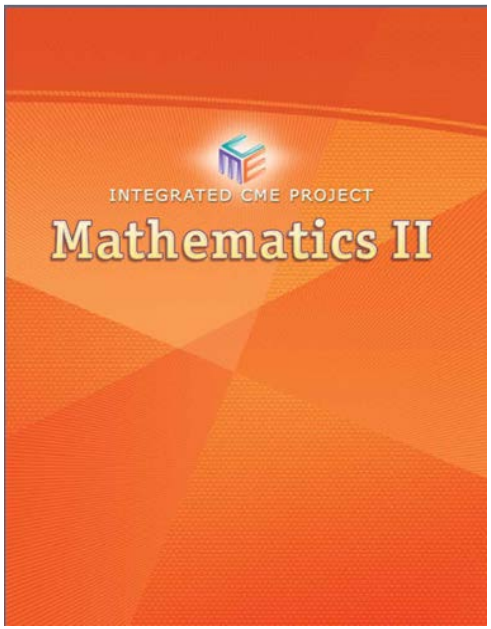

to the

California Common Core State Standards for Mathematics Standards Map Mathematics II

Publisher: Pearson
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Components: SE = Student Edition; TE = Teacher's Edition

California Common Core State Standards for Mathematics
Standards Map

Mathematics II

★ *Indicates a modeling standard linking mathematics to everyday life, work, and decision-making.*
(+) *Indicates additional mathematics to prepare students for advanced courses.*

		Publisher Citations	Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language**[1]		**Y**	**N**	**Reviewer Notes**
	NUMBER AND QUANTITY				
Domain	**THE REAL NUMBER SYSTEM.**				
Cluster	**Extend the properties of exponents to rational exponents.**				
N-RN 1.	Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5^{(1/3)3}$ to hold, so $(5^{1/3})^3$ must equal 5.*	**SE/TE:** 31 (#3), 44 (#4), 45 (#11), 49 (#2-3), 50, 51 (#4), 52 (#8-11), 53 (#13-14, 19), 54-58			
N-RN 2.	Rewrite expressions involving radicals and rational exponents using the properties of exponents.	**SE/TE:** 16-20, 50 (Example 1), 53 (#14), 54-56, 57 (#9, 13), 58 (#16), 59 (#2, 5), 60 (#6)			

[1] For some standards that appear in multiple courses (e.g., Mathematics I and Mathematics II), some examples included in the language of the standard that did not apply to this standards map were removed.

		Publisher Citations	Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
Cluster	**Use properties of rational and irrational numbers.**				
N-RN 3.	Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.	**SE/TE:** 24-25, 26 (#6-8), 27 (#11-12, 14-15)			
Domain	**THE COMPLEX NUMBER SYSTEM**				
Cluster	**Perform arithmetic operations with complex numbers.** [i^2 as highest power of i]				
N-CN 1.	Know there is a complex number i such that $i^2 = -1$, and every complex number has the form $a + bi$ with a and b real.	**SE/TE:** 216, 227 (#4, 6)			
N-CN 2.	Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.	**SE/TE:** 216-218, 219-221, 222, 227 (#5)			
Cluster	**Use complex numbers in polynomial identities and equations.** [Quadratics with real coefficients]				
N-CN 7.	Solve quadratic equations with real coefficients that have complex solutions.	For related content, please see: **SE/TE:** 213 (#3), 214 (#12), 220 (#7-8), 221 (#15), **Honors Appendix:** 875, 876 (#1, 4-6)			

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N-CN 8.	(+) Extend polynomial identities to the complex numbers. *For example, rewrite* $x^2 + 4$ *as* $(x + 2i)(x – 2i)$.	For related content, please see: **SE/TE:** 221 (#14)			
N-CN 9.	(+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.	For related content, please see: **SE/TE:** 221 (#14-15), **Honors Appendix: Historical Perspective:** 877			
	ALGEBRA I				
Domain	**SEEING STRUCTURE IN EXPRESSIONS**				
Cluster	**Interpret the structure of expressions.** [Quadratic and exponential]				
A-SSE 1a.	Interpret expressions that represent a quantity in terms of its context. Interpret parts of an expression, such as terms, factors, and coefficients. ★	**SE/TE:** 65 (#1), 67 (#13, 15), 68-71, 72, 73 (#6-8), 74 (#14-16), 89 (#3), 90 (#8), 91 (#11, 14), 99-101, 102-104, 105-109, 117-120, 121 (#1-3, 5), 122, 123 (#13, 15, 17), 124			
A-SSE 1b.	Interpret expressions that represent a quantity in terms of its context. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret* $P(1 + r)^n$ *as the product of P and a factor not depending on P.* ★	**SE/TE:** 81, 83 (#2), 84 (#5), 125-129, 130-132, 167-169, 170-171			

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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/TE:** 35 (#2), 36, 37-38, 39-41, 42-43, 44-45, 46 (#13-16), 54-57, 65 (#1), 66 (#6), 67 (#13, 15), 68-71, 72-74, 75-78, 79, 80 (#11-12), 113, 116 (311, 14-15), 117-119, 121, 122-124, 125-129, 130-132, 133-138, 139 (#3, 5-7), 140-141, 216-221, 222-226			
Cluster	**Write expressions in equivalent forms to solve problems.** [Quadratic and exponential]				
A-SSE 3a.	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. Factor a quadratic expression to reveal the zeros of the function it defines. ★	**SE/TE:** 75-78, 79 (#2-3, 5, 7), 82, 83 (#3e), 117-118, 123(#13) 124 (#23), 126-127, 130 (#3), 133, 138 (#1), 139 (#5), 141 (#14, 19), 177-182			
A-SSE 3b.	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.★	**SE/TE:** 133-138, 139 (#5), 141 (#14, 20), 177-182, 185-186, 189, 190			

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A-SSE 3c.	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. Use the properties of exponents to transform expressions for exponential functions. *For example, the expression* 1.15^t *can be rewritten as* $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ *to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*★	**SE/TE:** 314 (#13), 316-318, 321 (#5, 9), 322 (#16), 323 (#21), 326-327, 329 (#7), 331 (#14), 333 (#5)			
Domain	**ARITHMETIC WITH POLYNOMIALS AND RATIONAL EXPRESSIONS**				
Cluster	**Perform arithmetic operations on polynomials.** [Polynomials that simplify to quadratics]				
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/TE:** 92-97, 105-109			

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Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
Domain	**CREATING EQUATIONS**				
Cluster	**Create equations that describe numbers or relationships.**				
A-CDE 1.	Create equations and inequalities in one variable **including ones with absolute value** and use them to solve problems*. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.* **CA★**	**SE/TE:** 53, 57, 122-124, 127, 130, 132, 133, 143,162-166, 171, 172, 316-323, 324-331, 808-813, 933-936			
A-CDE 2.	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. ★	**SE/TE:** 175, 176 (#4)			
A-CDE 4.	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.★ [Include formulas involving quadratic terms.]	For related content, please see: **SE/TE:** 67 (#7), 73 (#9-12), 74 (#13), 79 (#1), 80 (#8), 84 (#7-8)			

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Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
Domain	**REASONING WITH EQUATIONS AND INEQUALITIES**				
Cluster	**Solve equations and inequalities in one variable.** [Quadratics with real coefficients]				
A-REI 4a.	Solve quadratic equations in one variable. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x – p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.	**SE/TE:** 133-141, 142 (#21-22), 153, 160 (#1-8, 11), 161 (#27)			
A-REI 4b.	Solve quadratic equations in one variable. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula, and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.	**SE/TE:** 123 (#13), 124 (#23), 130 (#3), 132 (#13), 133-141, 142 (#22), 153, 155-161, 166 (#5), 205-206, 207, 208 (#13-14), 214 (#12), 205 (#13-15), 220 (#11)			
Cluster	**Solve systems of equations.** [Linear-quadratic systems]				
A-REI 7.	Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. *For example, find the points of intersection between the line $y = –3x$ and the circle $x^2 + y^2 = 3$.*	For related content, please see Integrated CME Project Mathematics I: **SE/TE:** 217 (#5-6), 218 (#9), 321 (#4), 324-325, 328 (#9), 341 (Example 2)			

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Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
	FUNCTIONS				
Domain	**INTERPRETING FUNCTIONS**				
Cluster	**Interpret functions that arise in applications in terms of the context.** [Quadratic]				
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/TE:** 177, 179-181, 181 (#1-2), 182 (#6-7, 10-12), 184-188, 189-191, 192-197, 197-200, 201, 316-320, 335 (#1-5), 344 (#4, 6), 345, 353 (#6), **Honors Appendix:** 923, 939 (#6), 940-946, 947-951			
F-IF 5.	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.★	**SE/TE:** 177-181, 182 (#8, 10), 280 (#1-2, 6), 281 (#9, 11-12), 302-303, 347-348, 352 (#1)			
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. ★	For related content, please see: **SE/TE:** 246-251, 252-258, 342-343			

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Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
Cluster	**Analyze functions using different representations.** [Linear, exponential, quadratic, absolute value, step, piecewise-defined]				
F-IF 7a.	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. Graph linear and quadratic functions and show intercepts, maxima, and minima. ★	**SE/TE:** 183-188, 189-191, 337 (#16), 345 (#8), 347-351, 353 (#7), 354 (#12), 356-357, 361 (#1-2, 4), 362 (#9), 364 (#18)			
F-IF 7b.	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. ★	**SE/TE:** 300-304, 306, 307 (#9-10), 308 (#1), 335 (#6-8), 337 (#18)			
F-IF 8a.	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.	**SE/TE:** 133 (#1), 136 (#9), 139 (#5), 141 (#14), 177-181, 182 (#6-12), 183-188, 189 (#1-2, 4), 190 (#5-6, 9), 191 (#12), 193 (#1-3), 197 (#4)			

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Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
F-IF 8b.	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as* $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, *and* $y = (1.2)^{t/10}$, *and classify them as representing exponential growth or decay.*	**SE/TE:** 324-327, 328 (#1), 329 (#7), 331 (#13-15)			
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:** 177-179, 181 (#1-2), 182 (#11-12), 183-188, 189-191, 192-200, 238-241, 242-243			
Domain	**BUILDING FUNCTIONS**				
Cluster	**Build a function that models a relationship between two quantities.** [Quadratic and exponential]				
F-BF 1a.	Write a function that describes a relationship between two quantities. Determine an explicit expression, a recursive process, or steps for calculation from a context. ★	**SE/TE:** 235-237, 238-239, 241, 244 (#11-12), 322 (#13), 329 (#7), 331 (#13-15)			

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Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
F-BF 1b.	Write a function that describes a relationship between two quantities. Combine standard function types using arithmetic operations. ★	For related content, please see: **SE/TE:** 274-279, 280 (#2), 281 (#11)			
Cluster	**Build new functions from existing functions.** [Quadratic, absolute value]				
F-BF 3.	Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. 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/TE:** 271-273, 283-288			
F-BF 4a.	Find inverse functions. 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. *For example, $f(x) = 2x^3$.*	**SE/TE:** 293-294, 295 (#1), 297 (#9), 298 (#14)			

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Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
Domain	**LINEAR, QUADRATIC, AND EXPONENTIAL MODELS**				
Cluster	**Construct and compare linear, quadratic, and exponential models and solve problems.** [Include quadratic]				
F-LE 3.	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. ★	For related content, please see Integrated CME Project Mathematics I: **SE/TE:** 462-463, 464 (#3-4), 465 (#1-4), 466 (#7) Also see Integrated CME Project Mathematics III: **SE/TE:** 618-619			
Cluster	**Interpret expressions for functions in terms of the situation they model.**				
F-LE 6.	**Apply quadratic functions to physical problems, such as the motion of an object under the force of gravity. CA★**	**SE/TE:** 180, 182, 189, 190, 201, 231			

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Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
Domain	**TRIGONOMETRIC FUNCTIONS**				
Cluster	**Prove and apply trigonometric identities.**				
F-TF 8.	Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ and the quadrant of the angle.	For related content, please see: **SE/TE:** 928			
	GEOMETRY				
Domain	**CONGRUENCE**				
Cluster	**Prove geometric theorems.** [Focus on validity of underlying reasoning while using variety of ways of writing proofs.]				
G-CO 9.	Prove theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints,*	**SE/TE:** 455-461, 462-468, 469-470, 472 (#1-2), 475 (#14), 499-504			
G-CO 10.	Prove theorems about triangles. *Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.*	For related content, please see: **SE/TE:** 430 (#3-4), 433 (#16), 438, 471, 484 (#5), 485 (#6), 490 (#1-2), 491, 492 (#2), 493 (#4), 499-504, 521-523, 722-727			

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Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
G-CO 11.	Prove theorems about parallelograms. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*	**SE/TE:** 433 (#17), 486 (#9), 515-520, 521-523			
Domain	**SIMILARITY, RIGHT TRIANGLES, AND TRIGONOMETRY**				
Cluster	**Understand similarity in terms of similarity transformations.**				
G-SRT 1a.	Verify experimentally the properties of dilations given by a center and a scale factor: A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.	For related content, please see: **SE/TE:** 565-571			
G-SRT 1b.	Verify experimentally the properties of dilations given by a center and a scale factor: The dilation of a line segment is longer or shorter in the ratio given by the scale factor.	For related content, please see: **SE/TE:** 536-543, 565-571			

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G-SRT 2.	Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.	**SE/TE:** 547, 549-556, 561-562, 565-571, 594, 595-596, 597 (#1), 598-599			
G-SRT 3.	Use the properties of similarity transformations to establish the Angle-Angle (AA) criterion for two triangles to be similar.	**SE/TE:** 600-604, 605-606			
Cluster	**Prove theorems involving similarity.** [Focus on validity of underlying reasoning while using variety of formats.]				
G-SRT 4.	Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*	**SE/TE:** 580-581, 583, 584 (#1), 587-590, 716-721			

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Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
G-SRT 5.	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	**SE/TE:** 428-430, 431-433, 595-596, 598-599, 600-604, 605-606, 707-709, 710-715, 716-721			
Cluster	**Define trigonometric ratios and solve problems involving right triangles.**				
G-SRT 6.	Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.	**SE/TE:** 746-752, **Honors Appendix:** 907-912			
G-SRT 7.	Explain and use the relationship between the sine and cosine of complementary angles.	**SE/TE:** 746-752, **Honors Appendix:** 909-910, 911 (#8-10)			
G-SRT8.	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. ★	**SE/TE:** 741-745, 746-752, 753-759, **Honors Appendix:** 907-912			
G-SRT 8.1	**Derive and use the trigonometric ratios for special right triangles (30°, 60°, 90°and 45°, 45°, 90°). CA**	**SE/TE:** 907-912, 917, 921, 932, 937, 939, 940, 948			
Domain	**CIRCLES**				
Cluster	**Understand and apply theorems about circles.**				
G-C 1.	Prove that all circles are similar.	For related content, please see: **SE/TE:** 654			

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G-C 2.	Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.*	**SE/TE:** 441, 663-665, 666-668, 669 (#1), 674-679, 686-692			
G-C 3.	Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.	**SE/TE:** 665, 680-682, 683 (#3), 684 (#4-5), 685 (#11)			
G-C 4.	(+) Construct a tangent line from a point outside a given circle to the circle.	**SE/TE:** 686-689, 690 (#3)			
Cluster	**Find arc lengths and areas of sectors of circles.** [Radian introduced only as unit of measure]				
G-C 5.	Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector. **Convert between degrees and radians. CA**	**SE/TE:** 647-649, 651, 654-660, 661, 702-703			

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Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
Domain	**EXPRESSING GEOMETRIC PROPERTIES WITH EQUATIONS**				
Cluster	**Translate between the geometric description and the equation for a conic section.**				
G-CPE 1.	Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.	For related content, please see: **SE/TE:** 802-803, 825 (#2), 827 (#8)			
G-CPE 2.	Derive the equation of a parabola given a focus and directrix.	**SE/TE:** Honors Appendix: 968, 970 (#9), 971-972, 978 (#6-7)			
Cluster	**Use coordinates to prove simple geometric theorems algebraically.**				
G-CPE 4.	Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).* [Include simple circle theorems.]	**SE/TE:** 728-734, 808-813, 814-820			

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G-CPE 6.	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.	For related content, please see: **SE/TE:** 560 (#11-13), 728-734, 769-770			
Domain	**GEOMETRIC MEASUREMENT AND DIMENSION**				
Cluster	**Explain volume formulas and use them to solve problems.**				
G-GMD 1.	Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.*	**SE/TE:** 629-634, 635-639, 645-646, 763-768, 773-779, 780-784, 785 (#1-6)			
G-GMD 3.	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. ★	**SE/TE:** 763-768, 773-779, 780-784, 785 (#3, 6), 788-794			
G-GMD 5.	**Know that the effect of a scale factor *k* greater than zero on length, area, and volume is to multiply each by *k*, k^2, and k^3, respectively; determine length, area and volume measures using scale factors. CA★**	**SE/TE:** 532-535, 536-543, 544-547, 548-550, 551-556, 557, 558, 559-560, 561-564, 565-571, 572-573, 592, 608-612, 613, 634			

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Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
G-GMD 6.	**Verify experimentally that in a triangle, angles opposite longer sides are larger, sides opposite larger angles are longer, and the sum of any two side lengths is greater than the remaining side length; apply these relationships to solve real-world and mathematical problems. CA**	**SE/TE:** 504, 511			
	STATISTICS AND PROBABILITY				
Domain	**CONDITIONAL PROBABILITY AND THE RULES OF PROBABILITY**				
Cluster	**Understand independence and conditional probability and use them to interpret data.** [Link to data from simulations or experiments.]				
S-CP 1.	Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not"). ★	**SE/TE:** 379, 381-387			
S-CP 2	Understand that two events *A* and *B* are independent if the probability of *A* and *B* occurring together is the product of their probabilities, and use this characterization to determine if they are independent. ★	**SE/TE:** 384-385			

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S-CP 3.	Understand the conditional probability of *A* given *B* as *P*(*A* and *B*)/*P*(*B*), and interpret independence of *A* and *B* as saying that the conditional probability of *A* given *B* is the same as the probability of *A*, and the conditional probability of *B* given *A* is the same as the probability of *B*. ★	**SE/TE:** 388-390, 391 (#8-9), 391 (Theorem 5.2; #13), 392, 394 (#11), 395-400			
S-CP 4.	Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.* ★	**SE/TE:** 393 (#5, 7), 394 (#8-9), 395-400			
S-CP 5.	Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.★	**SE/TE:** 389-391, 392-394, 395-400			

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Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
Cluster	**Use the rules of probability to compute probabilities of compound events in a uniform probability model.**				
S-CP 6.	Find the conditional probability of *A* given *B* as the fraction of *B*'s outcomes that also belong to *A*, and interpret the answer in terms of the model. ★	**SE/TE:** 388 (#1), 391 (#10-13), 392 (#3, 4), 393 (#7), 394 (#8-10), 395-400			
S-CP 7.	Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, and interpret the answer in terms of the model. ★	**SE/TE:** 381-387			
S-CP 8.	(+) Apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A)P(B\mid A) = P(B)P(A\mid B)$, and interpret the answer in terms of the model. ★	**SE/TE:** 388-394, 395-400			
S-CP 9.	(+) Use permutations and combinations to compute probabilities of compound events and solve problems. ★	**SE/TE:** 386 (#4), 401-406, 407-414			
Domain	**USING PROBABILITY TO MAKE DECISIONS**				
Cluster	**Use probability to evaluate outcomes of decisions.** [Introductory; apply counting rules.]				
S-MD 6.	(+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). ★	**SE/TE:** 379-380, 381-387			
S-MD 7.	(+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). ★	**SE/TE:** 415-422			

		Publisher Citations	Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
	MATHEMATICAL PRACTICES				
MP 1.	Make sense of problems and persevere in solving them.	The goal of the CME project is for students to engage in different activities to develop a deep understanding of mathematics. In addition to providing extensive practice in critical thinking and problem-solving skills, the problems are geared to engage students in communicating and exploring mathematics with In-Class Experiments and Project. Each investigation includes a Getting Started lesson that activates prior knowledge and explores new ideas. Mind in Action offers opportunities for communication and reflection through student-student and student-teacher dialogues. **SE/TE:** **Checking Your Understanding:** 67 (#12), 79 (#7), 97 (#4), 123 (#6), 398 (#4-5), 471 (#7), 501 (#3-5), 564 (#11) **On Your Own:** 31 (#4), 73 (#12), 244 (#12), 679 (#14) **Maintain Your Skills:** 387 (#14), 449 (#11), 640 (#10), 740 (#13)			

		Publisher Citations	Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
MP 2.	Reason abstractly and quantitatively.	The goal of the CME project is for students to engage in different activities to develop a deep understanding of mathematics. In addition to providing extensive practice in critical thinking and problem-solving skills, the problems are geared to engage students in communicating and exploring mathematics with In-Class Experiments and Project. Each investigation includes a Getting Started lesson that activates prior knowledge and explores new ideas. Mind in Action offers opportunities for communication and reflection through student-student and student-teacher dialogues. **SE/TE:** **Checking Your Understanding:** 57 (#7), 67 (#8), 103 (#5-10), 108 (#9), 130 (#5), 219 (#3) **On Your Own:** 31 (#4), 40 (#16), 57 (#12), 73 (#9), 564 (#11), 639 (#5), 678 (#12) **Maintain Your Skills:** 209 (#18), 337 (#25), 346 (#19), 679 (#16), 715 (#10)			

		Publisher Citations	Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
MP 3.	Construct viable arguments and critique the reasoning of others.	The goal of the CME project is for students to engage in different activities to develop a deep understanding of mathematics. In addition to providing extensive practice in critical thinking and problem-solving skills, the problems are geared to engage students in communicating and exploring mathematics with In-Class Experiments and Project. Each investigation includes a Getting Started lesson that activates prior knowledge and explores new ideas. Mind in Action offers opportunities for communication and reflection through student-student and student-teacher dialogues. **SE/TE:** **Checking Your Understanding:** 26 (#8), 67 (#11), 97 (#4), 219 (#4), 225 (#7), 321 (#5), 500 (#2), 669 (#4) **On Your Own:** 27 (#11, 13), 91 (#11-12), 103 (#13), 281 (#13), 322 (#16-17), 677 (#6), 777 (#10) **Maintain Your Skills:** 486 (#12), 488 (#10), 504 (#19)			

		Publisher Citations	Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
MP 3.1	**Students build proofs by induction and proofs by contradiction. CA** [for higher mathematics only].	N/A			
MP 4.	Model with mathematics.	The goal of the CME project is for students to engage in different activities to develop a deep understanding of mathematics. In addition to providing extensive practice in critical thinking and problem-solving skills, the problems are geared to engage students in communicating and exploring mathematics with In-Class Experiments and Project. Each investigation includes a Getting Started lesson that activates prior knowledge and explores new ideas. Mind in Action offers opportunities for communication and reflection through student-student and student-teacher dialogues. **SE/TE:** **Checking Your Understanding:** 39 (#2, 9), 45 (#9), 220 (#8), 266 (#10), 286 (#3), 296 (#5), 328 (#2), 811 **On Your Own:** 236 (#3-11), 245 (#13), 250 (#11-13), 589 (#4), 752 (#19) **Maintain Your Skills:** 288 (#20-21), 590 (#11)			

		Publisher Citations	Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
MP 5.	Use appropriate tools strategically.	The goal of the CME project is for students to engage in different activities to develop a deep understanding of mathematics. In addition to providing extensive practice in critical thinking and problem-solving skills, the problems are geared to engage students in communicating and exploring mathematics with In-Class Experiments and Project. Each investigation includes a Getting Started lesson that activates prior knowledge and explores new ideas. Mind in Action offers opportunities for communication and reflection through student-student and student-teacher dialogues. **SE/TE:** **Checking Your Understanding:** 79 (#7), 189 (#3), 243 (#7), 440 (#1, 4), 447 (#5), 472 (#2), 474 (#7) **On Your Own:** 442 (#10), 449 (#9) **Maintain Your Skills:** 436 (#5-7), 449 (#11), 454 (#7-9)			

		Publisher Citations	Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
MP 6.	Attend to precision.	The goal of the CME project is for students to engage in different activities to develop a deep understanding of mathematics. In addition to providing extensive practice in critical thinking and problem-solving skills, the problems are geared to engage students in communicating and exploring mathematics with In-Class Experiments and Project. Each investigation includes a Getting Started lesson that activates prior knowledge and explores new ideas. Mind in Action offers opportunities for communication and reflection through student-student and student-teacher dialogues. **SE/TE:** **Checking Your Understanding:** 190 (#5, 7), 329 (#7), 419 (#3), 420 (#6), 459 (#1) **On Your Own:** 182 (#8, 10), 282 (#16-17), 322 (#13), 413 (#8), 454 (#6) **Maintain Your Skills:** 309 (#18), 469 (#11), 476 (#15), 547 (#8)			

		Publisher Citations	Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
MP 7.	Look for and make use of structure.	The goal of the CME project is for students to engage in different activities to develop a deep understanding of mathematics. In addition to providing extensive practice in critical thinking and problem-solving skills, the problems are geared to engage students in communicating and exploring mathematics with In-Class Experiments and Project. Each investigation includes a Getting Started lesson that activates prior knowledge and explores new ideas. Mind in Action offers opportunities for communication and reflection through student-student and student-teacher dialogues. **SE/TE:** **Checking Your Understanding:** 266 (#11) **On Your Own:** 66 (#6), 67 (#10), 116 (#11), 267 (#16) **Maintain Your Skills:** 47 (#23), 67 (#13, 15), 74 (#16), 86 (#10-11), 104 (#17-20), 124 (#240)			

		Publisher Citations	Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
MP 7.	Look for and make use of structure.	The goal of the CME project is for students to engage in different activities to develop a deep understanding of mathematics. In addition to providing extensive practice in critical thinking and problem-solving skills, the problems are geared to engage students in communicating and exploring mathematics with In-Class Experiments and Project. Each investigation includes a Getting Started lesson that activates prior knowledge and explores new ideas. Mind in Action offers opportunities for communication and reflection through student-student and student-teacher dialogues. **SE/TE:** **Checking Your Understanding:** 266 (#11) **On Your Own:** 66 (#6), 67 (#10), 116 (#11), 267 (#16) **Maintain Your Skills:** 47 (#23), 67 (#13, 15), 74 (#16), 86 (#10-11), 104 (#17-20), 124 (#240)			

		Publisher Citations	Meets Standard		For Reviewer Use Only
Standard No.	**Standard Language[1]**		**Y**	**N**	**Reviewer Notes**
MP 8.	Look for and express regularity in repeated reasoning.	The goal of the CME project is for students to engage in different activities to develop a deep understanding of mathematics. In addition to providing extensive practice in critical thinking and problem-solving skills, the problems are geared to engage students in communicating and exploring mathematics with In-Class Experiments and Project. Each investigation includes a Getting Started lesson that activates prior knowledge and explores new ideas. Mind in Action offers opportunities for communication and reflection through student-student and student-teacher dialogues. **SE/TE:** **Checking Your Understanding:** 39 (#7), 45 (#7), 51 (#1, 3), 52 (#7), 57 (#7) **On Your Own:** 46 (#17-18), 53 (#12, 15), 57 (#14), 58 (#15) **Maintain Your Skills:** 47 (#21), 387 (#14), 406 (#13)			