Common Core Correlations

Mathematics
Algebra 1

BENCHMARK CODE	BENCHMARK	SpringBoard Page
912.A-CED.1.1	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	17, 18, 19, 20, 21, 31, 32, 33, 34, 38, 42, 47, 233, 239, 244, 342, 425
912.A-CED.1.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	98, 99, 100, 141, 142, 143, 146, 149, 151, 153, 157, 228, 229, 230, 231, 234, 235, 236, 237, 238, 249, 251, 252, 260, 262, 263, 265, 266, 270, 271, 272, 346, 349

912.A-CED.1.3	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.	38, 232, 233, 234, 235, 238, 239, 240, 241, 243, 244, 245, 246, 247, 248, 249, 254, 274, 279, 280, 282, 283
912.A-CED.1.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.	29, 30, 32, 34
LACC.910.WHST.2.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	151, 230
LACC.910.WHST.3.9	Draw evidence from informational texts to support analysis, reflection, and research.	329, 527-528, 611
912.A-APR.1.1	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.	355, 360, 361, 363, 364, 366, 367, 368, 372, 373, 374, 375, 377, 378, 379, 380, 381, 382, 383, 385, 393, 394, 395, 396, 397, 400, 422
912.A-APR.2.3	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.	456, 458, 459, 462, 463

912.A-REI.1.1	Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	17, 18, 19, 20, 21, 22, 24, 31, 32
912.A-REI.2.3	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	15, 16, 17, 21, 22, 23, 24, 27, 28, 31, 32, 38, 41, 42, 45, 46, 48, 140, 141, 142, 143, 145, 151, 152, 153, 154, 156, 157, 164, 177, 178, 182, 184, 186, 192, 195, 202, 233, 257, 273
912.A-REI.2.4a	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.	471, 473, 474
912.A-REI.2.4b	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.	201, 203, 205, 467, 468, 470, 471, 473, 475, 476, 477, 478, 489, 490, 493

912.A-REI.3.5	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.	262, 263, 266, 268, 269, 271, 283
912.A-REI.3.6	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.	199, 252, 253, 254, 255, 256, 257, 259, 260, 263, 265, 266, 268, 269, 270, 271, 272, 274, 282, 511, 512, 515
912.A-REI.4.10	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).	92, 426
912.A-REI.4.11	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, e.g., 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.	257, 258

912.A-REI.4.12	Graph the solutions to a linear inequality in two variables as a halfplane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	243, 246, 247, 248, 249, 252, 257, 258, 274, 276, 277, 278, 279, 280, 281, 282, 283
912.A-SSE.1.1a	Interpret parts of an expression, such as terms, factors, and coefficients.	356, 357, 358, 361, 367, 374
912.A-SSE.1.1b	Interpret complicated expressions by viewing one or more of their parts as a single entity.	108
912.A-SSE.1.2	Use the structure of an expression to identify ways to rewrite it.	300, 301, 302, 303, 311, 342, 349, 377, 378, 386, 387, 388, 389, 390, 391, 392, 396, 397, 399, 400, 401, 402, 419, 422, 425, 439, 500
912.A-SSE.2.3a	Factor a quadratic expression to reveal the zeros of the function it defines.	462, 463, 464, 465, 488
912.A-SSE.2.3b	Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.	472, 473
912.A-SSE.2.3c	Use the properties of exponents to transform expressions for exponential functions.	346, 348
912.F-BF.1.1a	Determine an explicit expression, a recursive process, or steps for calculation from a context.	109, 113, 114, 117, 118, 119, 120, 121, 128, 132, 139, 144, 216, 218, 222, 223, 224, 226, 229, 249

912.F-BF.1.1b	Combine standard function types using arithmetic operations.	502, 508
912.F-BF.1.1c	Compose functions.	168, 170, 316, 317, 319
912.F-LE.2.5	Interpret the parameters in a linear or exponential function in terms of a context.	
912.N-Q.1.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	98, 424, 431, 453, 455, 461, 465, 485-486, 542, 591, 592, 594, 611
912.N-Q.1.2	Define appropriate quantities for the purpose of descriptive modeling.	17, 18, 21, 23
912.N-Q.1.3	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	148, 486, 488, 489, 490
912.F-BF.2.3	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. 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.	111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 340, 432, 435, 436, 438, 439, 441, 442, 443, 445, 446, 447, 450, 451

912.F-IF.1.1	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).	66, 67, 68, 69, 70, 71, 74, 75, 79, 80, 88, 89, 90, 91, 92, 94, 95, 107, 121, 133, 136, 155, 156, 211, 215, 216, 217, 218, 220, 225, 226, 249, 452
912.F-IF.1.2	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	76, 77, 78, 80, 86, 152, 153, 167, 212, 213, 214, 215, 216, 217, 219, 220, 223, 224, 225, 226, 228, 229, 230, 232, 328, 331, 332, 352, 353
912.F-IF.1.3	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.	78, 80, 170, 318
912.F-IF.2.4	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.	64, 68, 72, 73, 74, 83, 84, 85, 86, 88, 89, 90, 91, 94, 95, 96, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 113, 121, 128, 132, 134, 135, 136, 139, 144, 146, 147, 149, 150, 159, 160, 176, 178, 183, 184, 185, 191, 194, 219, 220, 222, 226, 229, 231, 233, 235, 236, 237, 238, 241, 244, 248, 327, 333, 334, 335, 340, 343, 344, 345, 348, 350, 351, 352, 428, 431, 461, 485, 486, 490, 492, 487, 489, 490, 491, 492, 493, 496, 497, 498, 499, 500, 501, 502, 507, 508, 510, 515, 516, 519

912.F-IF.2.5	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.	68, 71, 75, 77, 79, 82, 84, 89, 91, 93, 96, 99, 102, 103, 104, 106, 109, 110, 121, 139, 156, 158, 160, 164, 166, 173, 225, 227, 228, 229, 232, 238, 249, 328, 343, 348, 351, 352, 424, 425, 428, 486, 491, 501, 505, 507, 519
912.F-IF.2.6	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.	100, 121, 132, 133, 134, 136, 137, 140, 141, 142, 143, 153, 154, 158, 160, 175, 176, 178, 182, 183, 187, 194, 196, 199, 213, 214, 221, 222, 225, 230, 234, 237, 238, 329
912.F-IF.3.7a	Graph linear and quadratic functions and show intercepts, maxima, and minima.	98, 102, 103, 121, 147, 164, 166, 171, 184, 192
912.F-IF.3.7b	Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.	505, 506
912.F-IF.3.7c	Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.	429, 457, 462, 463, 464
912.F-IF.3.7d	Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.	404, 405
912.F-IF.3.7e	Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.	327, 331-332, 334, 336, 348, 351

912.F-IF.3.8a	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.	429, 459, 465, 466, 473, 492
912.F-IF.3.8b	Use the properties of exponents to interpret expressions for exponential functions.	332, 345
912.F-IF.3.9	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	185, 188, 349, 491
912.F-LE.1.1a	Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.	335, 339
912.F-LE.1.1b	Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.	147, 327, 500
912.F-LE.1.1c	Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	348

912.F-LE.1.2	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	109, 151, 153, 156, 158, 173, 175, 176, 177, 178, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 191, 192, 195, 213, 216, 320, 321, 322, 323, 326, 328, 340, 352
912.F-LE.1.3	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.	203, 335, 336, 337, 338, 500, 501, 502
912.N-RN.1.1	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.	302
912.N-RN.1.2	Rewrite expressions involving radicals and rational exponents using the properties of exponents.	288, 290, 292, 293, 294, 295, 296, 297, 298, 300, 301, 302, 303
912.N-RN.2.3	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.	305, 306, 307, 310
K12.MP.1.1	Make sense of problems and persevere in solving them.	15, 38, 53, 73, 94, 108, 117, 147, 167, 172, 186, 200, 214, 234, 238, 246, 263, 290, 306, 319, 329, 338, 349, 370, 410, 412,

		449, 455, 464, 473, 490, 506, 516, 526, 546, 551, 561, 565, 578, 583, 605, 608
K12.MP.2.1	Reason abstractly and quantitatively.	4, 8, 11, 26, 30, 30, 35, 46, 54, 72, 77, 82, 93, 99, 99, 113, 125, 140, 145, 151, 161, 164, 170, 180, 183, 187, 193, 195, 204, 224, 232, 235, 239, 253, 258, 266, 274, 279, 279, 287, 293, 303, 305, 314, 315, 332, 340, 348, 355, 368, 374, 377, 392, 397, 410, 418, 428, 442, 443, 446, 460, 467, 469, 489, 492, 496, 505, 509, 524, 526, 536, 539, 563, 563, 565, 570, 601
K12.MP.3.1	Construct viable arguments and critique the reasoning of others.	26, 40, 55, 70, 80, 89, 100, 102, 108, 110, 118, 127, 132, 134, 152, 155, 161, 165, 181, 190, 192, 203, 215, 230, 236, 241, 244, 255, 260, 268, 270, 277, 298, 312, 322, 332, 344, 349, 358, 363, 366, 375, 378, 387, 402, 412, 426, 429, 432, 450, 452, 458, 476, 480, 484, 486, 496, 500, 501, 504, 508, 512, 515, 518, 524, 531, 546, 581, 591, 594, 599
K12.MP.4.1	Model with mathematics.	5, 10, 20, 23, 42, 60, 75, 86, 98, 114, 120, 128, 143, 160, 177, 196, 199, 212, 218, 220, 228, 245, 264, 265, 280, 296, 299, 320, 328, 346, 366, 372, 388, 400, 405, 416, 461, 470, 479, 487, 496, 514
K12.MP.5.1	Use appropriate tools strategically.	24, 148, 198, 257, 305, 318, 337, 350, 361, 379, 390, 466, 486, 510, 542, 556, 581
K12.MP.6.1	Attend to precision.	11, 18, 37, 44, 49, 69, 91, 104, 166, 170, 182, 195, 226, 263, 282, 291, 310, 337, 352, 361, 380, 398, 405, 426, 439, 464, 486, 489, 499, 530, 574
K12.MP.7.1	Look for and make use of structure.	7, 27, 78, 96, 106, 111, 136, 138, 156, 158, 165, 178, 185, 206, 219, 229, 248, 267, 272, 274, 295, 302, 326, 356, 382, 385, 393, 410, 416, 430, 436, 458, 471, 482, 488, 502, 510, 606
K12.MP.8.1	Look for and express regularity in repeated reasoning.	13, 41, 73, 112, 134, 135, 148, 162, 221, 288, 307, 313, 317, 330, 342, 376, 389, 394, 424, 439, 479