

A1.2: Linear Functions, Equations, & Inequalities: Write Functions	
A1.2A(R)	
Skill Code	Description
520026	Determine if value is in domain or range, set & table representations
520025	Determine continuous domain & range, real-world context
520100	Determine restricted domain & range of linear functions
520032	Determine discrete domain & range, real-world context
315049	Interpret meaning of inequality, real-world context
A1.2B(S)	
Skill Code	Description
302002	Given point & integer slope or rate of change, determine linear equation in slope-intercept form
302001	Given slope & y-intercept, determine equation
302024	Given point & integer slope, determine y-intercept, equation, & specific value
302095	Given points or slope & point, determine linear equation in point-slope or standard form
302032	Given two points, determine linear equation in standard form, fractional slope including slope-intercept form conversion
302033	Given two points, determine linear equation in point-slope form, fractional slope including slope-intercept form conversion
302037	Given points or slope & point, determine linear equation in various forms
313014	Form 1 - Given slope & intercept, interpret linear relationship, determine slope-intercept equation, & graph, positive slope, only input to output questions
313050	Form 4 - Given point & slope, interpret linear relationship, determine slope-intercept equation, & graph, including negative slope
313060	Form 5 - Given two points; interpret linear relationship, determine slope-intercept equation, & graph, including negative slope
A1.2C(R)	
Skill Code	Description
302039	Given linear equation, write equation in requested form
306200	Given table, determine linear equation, integer slope
348124	Given linear graph, determine equation in point-slope form
306730	Given linear graph, determine equation in point-slope form, integer slopes

302025	Given linear graph, determine equation in point-slope form & specific value, various scales
348125	Given linear graph, determine equation in standard form
313070	Form 6 - Given linear graph, interpret linear relationship & determine slope-intercept equation
348123	Given linear graph, identify equation, various forms
307731	Identify equivalent linear graphs & equations in slope-intercept form
313016	Form 3 - Given slope & intercept, interpret linear relationship, determine slope-intercept equation, & graph including negative slope
301133	Given description, determine equation & specific value, real-world context
A1.2D(S)	
Skill Code	Description
602001	Determine direct variation table, multiple choice
602005	Determine variation equation type, multiple choice
602007	Given point & "y varies directly with x", determine equation
602011	Given point & "y varies directly with x", & another value, determine equation & missing number
602025	Solve word problems involving direct variation
A1.2E(S)	
Skill Code	Description
311025	Given equation in slope-intercept form, determine equation of parallel line through specified point
A1.2F(S)	
Skill Code	Description
311026	Given equation in slope-intercept form, determine equation of perpendicular line through specified point
A1.2G(S)	
Skill Code	Description
301018	Given graph of horizontal or vertical line, determine rate of change
302007	Given two points, determine linear equation, undefined slope
302008	Given two points, determine linear equation, zero slope
311102	Determine equation of line through specified point parallel or perpendicular to x- or y-axis
308204	Given graph of horizontal or vertical line, determine equation
A1.2H(S)	
Skill Code	Description
317010	Given graph, identify linear inequality, slope-intercept form

317011	Given graph, determine linear inequality
317016	Given graph, determine inequalities in standard form, real-world context
317025	Given description, determine linear inequalities in standard form, including tables, real-world context
317039	Given description, determine linear inequalities in standard form, & specific solutions, real-world context
317017	Given description, determine linear inequality in standard form, graph & determine specific solutions, real-world context
317015	Given description, determine linear inequality in various forms, graph, & determine specific solutions, real-world context
A1.2I(R)	
Skill Code	Description
401025	Given tables, determine system of linear equations
400095	Given graph of systems of linear equations, determine equations in slope-intercept form
400014	Determine systems of linear equations & solutions, real-world context
A1.3: Linear Functions, Equations, & Inequalities: Graphically	
A1.3A(S)	
Skill Code	Description
301135	Given table of linear function, determine slope & y-intercept
301015	Given linear graph, determine rate of change
301001	Given two points with integer coordinates, determine rate of change
301024	Given two points with integer coordinates, determine rate of change, including zero & undefined
301114	Given equation in slope-intercept form, determine rate of change, integer solution
301113	Given equation in slope-intercept form, determine rate of change
301117	Given linear equation in standard form, determine rate of change
301095	Given equation in point-slope form, identify slope
301201	Given right triangle, use legs to determine slope, real-world context
301100	Given graph of similar right triangles, identify equivalent slopes
A1.3B(R)	
Skill Code	Description

301130	Given table of linear equation, determine rate of change
301131	Given table of linear equation, determine rate of change & specific value
301112	Given table, determine rate of change & specific value, function notation, integer rate of change
301111	Given table, determine rate of change & specific value, function notation
301019	Given linear graph, determine rate of change, various scales
301114	Given equation in slope-intercept form, determine rate of change, integer solution
301116	Given equation of horizontal or vertical line, determine rate of change
301502	Compare rates of changes represented differently
A1.3C(R)	
Skill Code	Description
318095	Given table of linear equation, determine slope & intercepts
309503	Given linear equation, determine intercepts
308093	Given linear equation, determine slope & intercepts
318092	Given graph of linear equation, determine slope & intercepts
301021	Given point & slope, graph line
306505	Graph linear equations, integer slope not including one & negative one
307505	Graph linear equations, if fractional slope
312003	Given linear equation in standard form, graph, scrambled variable terms
1302002	Given description or table, determine linear graph, real-world context
A1.3D(R)	
Skill Code	Description
317003	Given linear inequality, determine solutions & non-solutions
317006	Given linear inequality, identify correct graph, slope-intercept form
317010	Given graph, identify linear inequality slope-intercept form
317001	Graph linear inequalities, slope-intercept form, only oblique lines
317004	Graph linear inequalities, vertical & horizontal
317005	Graph linear inequalities, slope-intercept form, including vertical & horizontal lines
317012	Given linear inequality, determine graph, slope-intercept form

317015	Given description, determine linear inequality in various forms, graph, & determine specific solutions, real-world context
A1.3E(S)	
Skill Code	Description
1303001	Identify & graph vertical & horizontal shifts of linear functions
1303002	Identify & graph vertical & horizontal stretches & compression of linear functions
1303003	Identify & graph reflections of linear functions
1303101	Identify descriptions of graphs of linear parent functions & transformed functions
1303100	Describe parameter changes to linear parent functions
1303102	Determine effects of parameter changes in linear relationships, real-world context
1303095	Given description of transformation, determine linear function
1303004	Graph linear functions using all transformations
1303005	Graph linear functions & identify transformations
A1.3F(S)	
Skill Code	Description
400006	Given system of linear equations, graph system, including tables
400060	Given description of system of linear equations, graph & determine equations or tables
400061	Given system of linear equations or description, graph system, including real-world context
A1.3G(S)	
Skill Code	Description
400300	Given graph of system of linear equations, rays on graph to establish pattern
400301	Given table representing system of linear equations, determine solution, real-world context
400060	Given description of system of linear equations, graph & determine equations or tables
400302	Determine & justify solutions to systems of linear equations, real-world context
400061	Given system of linear equations or description, graph system, including real-world context
A1.3H(S)	
Skill Code	Description
1135002	Given graph, determine solution of systems of linear inequalities

317013	Determine equivalent systems of linear inequalities & graphical solutions
317008	Graph systems of two linear inequalities, slope-intercept form
317037	Given linear system of inequalities graph, identify true statements
401089	Given description of system of linear inequalities, identify graph of system
317033	Given description & graph, determine system of linear inequalities in standard form & shaded region, including three inequalities, real-world context
317031	Given description, determine system of linear inequalities in standard form & identify graph, real-world context
317030	Given description, determine system of linear inequalities in standard form & graph, real-world context
317017	Given description, determine linear inequality in standard form, graph, & determine specific solutions, real-world context
1135001	Solve systems of linear inequalities
A1.4: Linear Functions, Equations, & Inequalities: Statistical Relationships	
A1.4A(S)	
Skill Code	Description
1304001	Given table, determine & interpret correlation coefficient
A1.4B(S)	
Skill Code	Description
1304002	Identify association & causation
A1.4C(S)	
Skill Code	Description
314006	Sketch line of best fit & determine equation, graph scales of one
314009	Sketch line of best fit & determine equation, various graph scales
314010	Sketch line of best fit & determine equation, real-world context
314012	Sketch line of best fit & determine equation
314020	Sketch line of best fit & determine predicted value
1304004	Determine linear regression equations, calculator expected
314095	Determine residuals
A1.5: Linear Functions, Equations, & Inequalities: Solve Equations	
A1.5A(R)	
Skill Code	Description
71053	Solve two-step linear equations, algebra tiles

84003	Given algebra tiles, determine & solve one-variable equations with variables on both sides
80010	Solve three-step linear equations involving distribution, fractional multiplier cancels if distributed
80011	Solve three-step linear equations involving distribution, fractional multiplier doesn't cancel if distributed
81005	Solve multi-step linear equations
84016	Solve linear equations, distributive property on both sides, integers
84017	Solve linear equations, distributive property on both sides, rationals
84018	Solve linear equations, distributive property on both sides, additional term on one side
139050	Identify steps to solve linear equations
1302010	Identify appropriate steps to solve problem, real-world context
A1.5B(S)	
Skill Code	Description
315002	Solve & graph one-step inequalities, integer coefficients
315007	Solve & graph inequalities
315009	Determine equivalence of inequalities & solution set
117085	Solve two-step inequalities modeled with algebra tiles
117031	Solve two-step inequalities, integers
117050	Solve two-step inequalities, fractions
117051	Solve two-step inequalities, decimals
315070	Solve & graph inequalities, variables on both sides, including distributive property
315003	Solve multi-step inequalities, including variables on both sides
315095	Solve multi-step inequalities using distributive property
A1.5C(R)	
Skill Code	Description
400020	Given graph of system of linear equations, identify specific domain value, real-world context
400013	Given system of linear equations, identify solution, including real-world context
400008	Given system of linear equations, determine solution, substitution bias
400061	Given system of linear equations or description, graph system, including real-world context

400042	Determine systems of linear equations & solutions, elimination bias, real-world context
400045	Determine systems of linear equations & solutions
400071	Solve or determine system of equations, likely to have same variable isolated
400072	Solve or determine system of equations, both equations in standard form
A1.6: Quadratic Functions & Equations: Write Function	
A1.6A(R)	
Skill Code	Description
1136025	Given graph of quadratic function, determine domain & range
1136096	Determine restricted domain & range of quadratic functions
1136026	Given equation of quadratic function, determine domain & range
1136091	Given description of domain & range of quadratic function, choose graph
1136027	Determine domain & range of quadratic function
A1.6B(S)	
Skill Code	Description
1127007	Given graph of quadratic function, determine equation
1136092	Given vertex & point, determine quadratic equation, vertex form
1136093	Given vertex & point, determine quadratic equation, standard form
1136001	Given quadratic equation in standard form, determine vertex form of equation
1136003	Given quadratic equation in vertex form, determine form standard of equation
A1.6C(S)	
Skill Code	Description
1816100	Given integer solutions of quadratic equation, determine function in standard form
1816101	Given rational solutions of quadratic equation, determine function in standard form
1816102	Given leading coefficient & double root of quadratic function, determine function in standard form
1816103	Given graph of quadratic function, determine equation in standard form
A1.7: Quadratic Functions & Equations: Graphically	
A1.7A(R)	
Skill Code	Description

320014	Determine zero(s)/x-intercept(s) of quadratic functions, $b = 0$
320010	Given quadratic equation, determine minimum or maximum value
320001	Given quadratic equation in vertex form, determine graph
320002	Given quadratic equation in standard form, determine graph
320006	Graph quadratic equations
1127204	Given quadratic equation, determine attributes & graph
1127092	Given graph, equation, or table, determine attributes of quadratic function
320009	Given graph of quadratic function, identify equation, including tables
A1.7B(S)	
Skill Code	Description
324095	Identify zeros of factored quadratics
324023	Apply zero product property to solve factored quadratic equations
1155010	Given zeros of quadratic function, determine quadratic equation with integer coefficients
324096	Determine relationship between zeros & linear factors of quadratic functions
A1.7C(R)	
Skill Code	Description
1127010	Identify & graph vertical & horizontal shifts of quadratic functions
1127011	Identify & graph vertical & horizontal stretches & compressions of quadratic functions
1127012	Identify & graph reflections of quadratic functions
1127015	Given quadratic equation, identify description of transformation
1136301	Identify descriptions of graphs of quadratic parent functions & transformed functions
1136300	Describe parameter changes to quadratic parent functions
1136302	Determine effects of parameter changes in quadratic relationships, real-world context
1127013	Graph quadratic functions using all transformations
1127008	Graph quadratic functions using any transformations
A1.8: Quadratic Functions & Equations: Solve & Evaluate	
A1.8A(R)	
Skill Code	Description
324023	Apply zero product property to solve factored quadratic equations

324010	Determine solutions to quadratic equations $a \neq \pm 1, b=0$
1156094	Solve quadratic equations, complete the square, real solutions
324006	Determine exact solution to quadratic equations, $a = \pm 1, b = 0$
324051	Determine exact solution to quadratic equations, $a \neq \pm 1, b = 0$
1155301	Determine or use quadratic equations, real-world context
324050	Determine solutions to quadratic equations $a \neq \pm 1, b=0$, integer solutions
324040	Given quadratic equation in standard form, determine attributes & solutions rounded to nearest hundredth
324071	Solve quadratic equations using factoring, $1 \leq a \leq 10, b > 0, 1 \leq 0 \leq 10$, terms on both sides
324004	positive
324005	Solve quadratic equations using factoring, difference of squares
324009	Solve quadratic equations using factoring, $ a \leq 10, b \neq 0, c \leq 40$, zero on one side
324011	Solve quadratic equations using factoring, $ a \leq 10, c \leq 40$, terms on both sides
1153092	Solve quadratic equations, perfect square trinomial
A1.8B(S)	
Skill Code	Description
1304010	Determine quadratic regression equations, calculator expected
325002	Given height of dropped object, determine position function & specific time
325007	Given initial height & negative velocity of object in vertical motion. determine position function & specific time
325001	Given initial height & velocity of object in vertical motion. determine function, table & graph of position
325004	Given initial height & velocity of object in vertical motion. determine position function & maximum height
325005	Given initial height & velocity of object in vertical motion. determine position function & specific time
325008	Given initial height & velocity of object in vertical motion. determine position function & time to ground
325003	Given initial height & velocity of object in vertical motion. determine position function & time to maximum height

325009	Given initial height & positive velocity of object in vertical motion. determine position function & time to ground
A1.9: Exponential Functions & Equations	
A1.9A(S)	
Skill Code	Description
1117300	Determine domain & range of discrete exponential functions, real-world context
1117302	Determine restricted domain & range of exponential functions
1117095	Given equation, determine domain & range of exponential function
1117094	Given verbal description & graph, determine domain & range of exponential function
A1.9B(S)	
Skill Code	Description
503124	Interpret values in exponential functions, real-world context
A1.9C(R)	
Skill Code	Description
503123	Determine exponential function, real-world context
503026	Given table, determine exponential growth function
503030	Given table, determine linear or exponential growth function
A1.9D(R)	
Skill Code	Description
1117303	Determine asymptote of exponential functions, real-world context
1124001	Determine x-intercepts/ zeros & y-intercepts of exponential functions
1124700	Determine y-intercept of exponential function, real-world context
503034	Given equation, graph exponential function
503020	Given exponential growth function, determine graph
503022	Given exponential growth function, determine graph, including fractional coefficients
503024	Given exponential growth or decay function, determine graph, including fractional coefficients
1124050	Given graph, determine asymptote of exponential function
A1.9E(S)	
Skill Code	Description
1304006	Determine exponential regression equations, calculator expected
503032	Given table, determine exponential decay function

1106001	Solve exponential growth & decay problems, real-world context
1106200	Solve equations involving population decrease
503001	Calculate investment value, annual compounding
503003	Calculate investment value, various compounding
503015	Calculate depreciating asset value, annual compounding
503002	Calculate investment & depreciating asset values, annual compounding
A1.10: Number & Algebraic Methods: Polynomials	
A1.10A(S)	
Skill Code	Description
321095	Add binomials & trinomials, degrees zero to two
321094	Subtract binomials & trinomials, degrees zero to two
321300	Add & Subtract polynomials to determine expressions for perimeter of various shapes
51005	Simplify algebraic expressions, combine two terms
A1.10B(S)	
Skill Code	Description
321007	Multiply binomial times binomial, both degree one
321007	Square linear binomial
321011	Multiply linear binomial times quadratic trinomial
321093	Multiply monomial times binomial or trinomial, degree zero to two
321092	Add or subtract binomials & trinomials or multiply monomial times binomial or trinomial
321302	Add & multiply polynomials to determine expressions for area & perimeter of rectangles & triangles
321301	Multiply polynomials to determine expressions for area of rectangles & triangles
A1.10C(S)	
Skill Code	Description
1137092	Divide polynomials, degree one or two by degree one or two
1137004	Divide polynomials, divisor supports synthetic division
321303	Divide quadratic trinomial by linear binomial, word problem context
A1.10D(S)	
Skill Code	Description
321093	Multiply monomial times binomial or trinomial, degree zero to two
51101	Simplify algebraic expressions, one variable, distribute once, integer multiplier

51051	Simplify algebraic expressions, one variable, distribute once, decimal multiplier
51050	Simplify algebraic expressions, one variable, distribute once, fraction multiplier
51300	Simplify algebraic expressions, one variable, distribute once, including rationals
51104	Simplify algebraic expressions, one variable, distribute once, variable multiplier
51107	Simplify algebraic expressions, one variable, distribute once, variable with coefficient multiplier
51301	Simplify algebraic expressions, one variable, distribute twice
A1.10E(R)	
Skill Code	Description
322004	Factor quadratic trinomials, $a = 1$
322006	Factor quadratic trinomials, $a = 1$, terms scrambled
322026	Factor quadratic trinomials, $1 < a \leq 10$, no GCF
322037	Factor GCF & remaining quadratic expression, $a = 1$, one variable
322300	Factor GCF in polynomials, degree one or two, one variable
322030	Factor common binomial
324092	Solve quadratic equations using factoring, perfect square trinomial
A1.10F(S)	
Skill Code	Description
322092	Factor difference of two squares, degree two, one variable
322013	Factor difference of two squares, degree two, one variable, terms scrambled
322005	Factor difference of two squares, degree two, one variable, coefficient one
322301	Factor difference of two squares, two variables
A1.11: Number & Algebraic Methods: Algebraic Expressions	
A1.11A(S)	
Skill Code	Description
147018	Determine result of adding & multiplying rational & irrational numbers
326515	Determine principal square root of perfect squares
326001	Simplify square roots
326095	Simplify square roots, coefficient greater than one
326092	Simplify square roots, including algebraic expressions
326010	Identify steps to simplify square roots
A1.11B(R)	

Skill Code	Description
501043	Apply power rule of exponents, negative exponents
501041	Apply product rule of exponents, negative exponents
501042	Apply quotient rule of exponents, negative exponents
501050	Apply product, quotient, & power rules of exponents, multiple variables
1201015	Simplify rational exponent expressions using power rule, no coefficients
1201014	Simplify rational exponent expressions using product rule, no coefficients
1201016	Simplify rational exponent expressions using quotient rule, no coefficients
500400	Determine algebraic expressions for perimeter & area of rectangles
500095	Given algebraic expressions for area & sides of reactangles, determine expression for missing side
A1.12: Number & Algebraic Methods: Equations, Relations & Functions	
A1.12A(S)	
520024	Identify & justify functions & non-functions, graphical representations
520001	Determine & justify functions, set representations
520003	Determine & justify functions, table representations
520004	Identify & justify functions, set & table representations
520002	Determine & justify functions, mapping representations
520049	Identify functions using equivalent mapping diagrams & sets of ordered pairs
520005	Determine & justify functions, graphical representations
520028	Given relation & additional point, determine functions, multiple representations
A1.12B(S)	
520010	Given set or table, determine function value
520012	Given graph, determine function value
520014	Given linear graph, determine function value
520016	Given quadratic function, determine function value
520300	Interpret & solve problems involving function notation, real-world context
A1.12C(S)	
89001	Identify relationships between patterns
1301001	Determine terms in arithmetic sequences
1301003	Given formula, determine specific term of arithmetic sequence

1301023	Determine formula & specific terms of arithmetic sequences
1301012	Determine function & specific term for geometric sequences, real-world context
1301024	Determine formula or specific term of geometric sequences
1301005	Identify arithmetic & geometric sequences & determine common difference or common ratio
1301006	Given formula, determine terms in arithmetic & geometric sequence
1301025	Identify arithmetic & geometric sequences & determine components of sequence
A1.12D(S)	
1301007	Determine common difference, first term, & formula of arithmetic sequences
1301022	Determine formula & specific term of geometric sequences
1301300	Determine function & specific term for arithmetic & geometric sequences, real-world context
A1.12E(S)	
310011	Given linear equation in various forms, solve for specified variable.
1817100	Solve for specific variable in mathematical formula
1817101	Solve for specific variable in scientific formula