

A2.2: Functions & Their Inverses**A2.2A(R)**

Skill Code	Description
520031	Determine domain & range, including real-world context
1140105	Determine symmetry of various functions
1129016	Graph absolute value functions using any transformation
1129020	Compare absolute value functions represented differently
1128004	Graph square root functions using all transformations
1132015	Given reciprocal equation, identify description of transformations
1130016	Graph cubic functions using any transformation
1131016	Graph cube root functions using any transformation
1124014	Graph exponential functions & identify transformations
1124006	Given equation, graph exponential function, including base e
1125013	Graph log functions using all transformations

A2.2B(S)

Skill Code	Description
1121008	Determine inverse of quadratic & square root functions
1121009	Determine inverse of cubic & cube root functions
1121001	Determine inverse of various functions
1121003	Graph function & its inverse
1301012	Determine function & specific term for geometric sequences, real-world context

A2.2C(R)

Skill Code	Description
1121002	Determine domain & range of inverse functions
1121015	Given function, determine equation, graph, & domain & range of inverse

A2.2D(S)

Skill Code	Description
1213011	Evaluate compositions of functions
1121004	Determine if functions are inverses using composition

A2.3: Systems of Equations & Inequalities**A2.3A(R)**

Skill Code	Description
400014	Determine systems of linear equations & solutions, real-world context
1134005	Determine system of three linear equations, real-world context
1134006	Determine system of two equations, one linear & one quadratic

A2.3B(R)	
Skill Code	Description
1134001	Solve systems of three linear equations using Gaussian elimination
1134003	Solve systems of three linear equations using substitution
1134002	Solve systems of three linear equations using matrices
1134015	Solve systems of three linear equations
A2.3C(S)	
Skill Code	Description
1134010	Identify ordered pair solutions to systems of two equations, one linear & one quadratic
1134004	Solve systems of two equations, algebraic, one linear & one quadratic
1134008	Solve systems of two equations, graphic, one linear & one quadratic
1134009	Solve systems of two equations, algebraic, one linear & one quadratic
A2.3D(S)	
Skill Code	Description
1134017	Determine reasonableness of solutions to systems of linear & quadratic equations
A2.3E(S)	
Skill Code	Description
317013	Determine equivalent systems of linear inequalities & graphical solution
317031	Given description, determine system of linear inequalities in standard form & identify graph, real-world context
317043	Given description, determine system of linear inequalities in standard form & shaded region, real-world context
317033	Given description & graph, determine system of linear inequalities in standard form & shaded region, including three inequalities, real-world context
317030	Given description, determine system of linear inequalities in standard form & graph, real-world context
317050	Graph system of inequalities & determine system of linear inequalities, including real-world context
317034	Given description, determine system of linear inequalities in standard form, shaded region, & true statements, real-worl
A2.3F(S)	
Skill Code	Description
1135001	Solve systems of inear inequalities

317008	Graph systems of two linear inequalities, slope intercept form
317009	Graph systems of three linear inequalities, slope intercept form
A2.3G(S)	
Skill Code	Description
1135002	Given graph, determine solution of systems of linear inequalities
317037	Given linear system of inequalities graph, identify true statements
317036	Given description, determine system of linear inequalities in standard form & identify solution point, including three inequalities, real-world context
317035	Given description, determine system of linear inequalities in standard form & solution point, real-world context
317032	Given description, determine system of linear inequalities in standard form & determine solution points, real-world context
317040	Given description, determine system of linear inequalities in standard form & shaded region & determine solution points, real-world context
A2.4: Quadratic & Square Root Functions, Equations, & Inequalities	
A2.4A(S)	
Skill Code	Description
1127007	Given graph of quadratic function, determine equation
1136002	Given three points in plane, determine quadratic equation
A2.4B(R)	
Skill Code	Description
1155010	Given zeros of quadratic function, determine quadratic equation with integer coefficients
1127014	Given graphical attributes, determine equation of parabola
1174001	Given focus & directrix of parabola, determine equation
1174006	Given focus & directrix of parabola, determine equation in standard form
A2.4C(R)	
Skill Code	Description
1128003	Identify & graph reflections or square root functions
1128001	Identify & graph vertical & horizontal shifts of square root functions
1128002	Identify & graph vertical & horizontal stretches & compressions of square root functions

1128015	Given square root equation, identify description of transformations
1128004	Graph square root functions using all transformations
1128016	Given square root functions using any transformation
1122401	Compare radical functions represented differently
A2.4D(S)	
Skill Code	Description
1136001	Given quadratic equation in standard form, determine vertex form of equation
1136003	Given quadratic equation in verte form, determine standard form of equation
1127007	Given graph of quadratic function, determine equation
1127016	Determine graphical attributes of quadratic functions
1127008	Graph quadratic functions using any transformation
1127203	Given quadratic equation, determine attributes & graph
1127092	Given graph, equation, or table, determine attributes of quadratic function
1127009	Given table, determine attributes of quadratic function, real-world context
1127030	Compare quadratic functions represented differently
1136303	Evaluate & compare linear & quadratic functions
A2.4E(S)	
Skill Code	Description
1304010	Determine quadratic regression equations, calculator expected
A2.4F(R)	
Skill Code	Description
324023	Apply zero product property to solve factored quadratic equations
324010	Determine solutions to quadratic equations, $a \neq \pm 1$, $b=0$
324004	Solve quadratic equations using factoring, $a=1$, $b \neq 0$, $c \leq 40$, terms on both sides
324011	Solve quadratic equations using factoring, $ a \leq 10$, $ c \leq 40$, terms on both sides
324005	Solve quadratic equations using factoring, difference of squares
324092	Solve quadratic equations using factoring, perfect square trinomial
324040	Given quadratic equation in standard form, determine attributes & solutions rounded to nearest hundredth

324022	Solve quadratic binomial equation by factoring out GCF, combining like terms necessary
1142029	Solve square root equations, one-step & two-step
1142018	Solve square root equations
1307514	Solve quadratic equations using square root method, $(x \pm h)^2 = \#$, rational solutions
A2.4G(S)	
Skill Code	Description
1142031	Identify extraneous solutions of square root equations
A2.4H(S)	
Skill Code	Description
1141001	Solve quadratic inequalities, "and" solutions
1141002	Solve quadratic inequalities, "or" solutions
1141003	Solve quadratic inequalities
A2.5: Exponential & Logarithmic Functions & Equations	
A2.5A(R)	
Skill Code	Description
1124008	Determine graphical attributes of exponential functions
1124013	Graph exponential functions using all transformations
1124014	Graph exponential functions & identify transformations
1124020	Compare exponential functions represented differently
1125013	Graph log functions using all transformations
1125014	Graph log functions & identify transformations
A2.5B(S)	
Skill Code	Description
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
A2.5C(S)	
Skill Code	Description
1204001	Given exponential equation, determine log equation
1204002	Given log equation, determine exponential equation
1204429	Convert between exponential & log equations
1204004	Evaluate log expressions, using change of base
1205007	Apply power rule to expand or condense log expressions
1205005	Apply product rule to expand or condense log expressions

1205006	Apply quotient rule to expand or condense log expressions
1205009	Apply product, quotient, & power rules to expand or condense log expressions
1205008	Expand or condense log expressions
1202001	Create equivalent exponential expressions using exponent properties
A2.5D(R)	
Skill Code	Description
1204115	Evaluate log expressions
1106002	Solve simple exponential equations
1106101	Solve exponential equations, common bases given
1106102	Solve exponential equations, both bases reduce to common base
1106103	Solve exponential equations, one base reduces to common base
1106007	Solve exponential equations, one variable & one base
1106100	Solve exponential equations, base e
1106018	Solve log equations
1106012	Solve log equations, log =#, using product & quotient rules
1106017	Solve natural log equations
A2.5E(S)	
Skill Code	Description
1106009	Determine if solution to logarithmic equation is reasonable
A2.6: Exponential & Logarithmic Functions & Equations	
A2.6A(R)	
Skill Code	Description
1130008	Determine minimum & maximum of cubic functions
1130010	Determine graphical attributes of cubic function
1130009	Graph cubic functions using key points & intercepts
1130004	Graph cubic functions using all transformations
1130016	Graph cubic functions using any transformations
1131004	Graph cube root functions using all transformations
1131016	Graph cubic functions using any transformations
A2.6B(S)	
Skill Code	Description
1142025	Solve cube root equations, cube root = cube root
1142002	Solve cube root equations, cube root = #
1142021	Solve cube root equations, cube root = variable
1142027	Solve cube root equations, one-step & two-step
1142020	Solve cube root equations, multi-step
1142023	Solve square root & cube root equations

A2.6C(S)	
Skill Code	Description
1129003	Identify & graph reflections of absolute value function
1129001	Identify & graph vertical & horizontal shifts of absolute value functions
1129002	Identify & graph vertical & horizontal stretches & compressions of absolute value functions
1129015	Given absolute value equation, identify description of transformation
1129016	Graph absolute value functions using any transformation
1129004	Graph absolute value functions using all transformations
1129022	Given description of transformation, determine absolute value equation
1129023	Given graph, determine absolute value equation
A2.6D(S)	
Skill Code	Description
316015	Create linear absolute value equations, real-world context
A2.6E(R)	
Skill Code	Description
316001	Solve linear absolute value equations
316004	Solve linear absolute value equations, extra constant or coefficient
316017	Solve linear absolute value equations, variable on both sides
316006	Solve linear absolute value equations, including extra constant or coefficient
A2.6F(S)	
Skill Code	Description
316002	Solve & graph linear absolute value inequalities, "and" solutions, including setup
316022	Solve & graph linear absolute value inequalities, "and" solutions
316003	Solve & graph linear absolute value inequalities, "or" solutions, including setup
316023	Solve & graph linear absolute value inequalities, "or" solutions
316010	Given linear absolute value equality, determine compound inequality
316027	Solve & graph linear absolute value inequalities
316008	Solve & graph linear absolute value inequalities, extra constant or coefficient, multiple choice

316007	Solve & graph linear absolute value inequalities, including extra constant or coefficient & setup
316016	Create linear absolute value inequalities, real-world context
A2.6G(S)	
Skill Code	Description
1132003	Identify & graph reflections of reciprocal functions
1132001	Identify & graph vertical & horizontal shifts of reciprocal functions
1132002	Identify & graph vertical & horizontal stretches & compressions of reciprocal functions
1132015	Given reciprocal equation, identify description of transformations
1132004	Graph reciprocal functions using all transformations
1132016	Graph reciprocal functions using any transformation
1122402	Compare rational functions represented differently
A2.6H(S)	
Skill Code	Description
1143002	Determine rational equations, real-life context
A2.6I(R)	
Skill Code	Description
1143001	Solve rational equations, one term each side
1143004	Solve rational equations, multiple terms on one side
1143006	Solve rational equations
324060	Given proportion, solve resulting quadratic equation, $b = 0$
324062	Given proportion, solve resulting quadratic equation, $b \neq 0$
1143002	Determine rational equations, real-life context
A2.6J(R)	
Skill Code	Description
1143003	Determine if solution to rational equation is reasonable
A2.6K(S)	
Skill Code	Description
1119005	Determine asymptotic domain restrictions of rational functions
1119006	Determine domain & range of rational functions using inequalities, interval notation & set notation
A2.6L(R)	
Skill Code	Description
602003	Determine inverse variation table, multiple choice
602009	Given point & "y varies inversely with x", determine equation

602013	Given point, "y varies inversely with x", & another value, determine equation & missing number
602010	Determine & apply inverse variation equation, real-world context
A2.7: Number & Algebraic Methods	
A2.7A(S)	
Skill Code	Description
1101002	Simplify powers of i
1101001	Simplify imaginary numbers
1101007	Express square roots of negatives using i
1101003	Add & subtract complex numbers
1101004	Multiply complex numbers
1101005	Divide complex numbers
1101051	Square complex numbers
1101006	Divide complex number
1101008	Add or subtract square roots of negative numbers
1101009	Multiply square roots of negative numbers
1101011	Divide complex number by constant
1101010	Add, subtract, & multiply square roots of negative numbers
A2.7B(S)	
Skill Code	Description
321001	Add binomials & trinomials, degrees zero to three
321002	Subtract binomials & trinomials, degrees zero to three
321003	Add or subtract binomials & trinomials
330009	Determine sums or differences of polynomials or missing polynomial operands
321005	Multiply monomial times binomial or trinomial, mixed degrees
321007	Multiply binomial times binomial, both degree one
321008	Square linear binomial
321009	Multiply binomial times binomial, mixed degrees
321015	Multiply binomial times binomial
321011	Multiply linear binomial times quadratic trinomial
321013	Multiply binomial times trinomial, mixed degrees
321094	Add or subtract binomials & trinomials or multiply monomials times binomial or trinomial
A2.7C(S)	
Skill Code	Description
1137092	Divide polynomials, degree one or two by degree one or two
1137001	Divide polynomials, degree three or four by degree one
1137002	Divide polynomials, degree three or four by degree two

1137005	Divide polynomials, degree three or four by degree one or two
1137004	Divide polynomials, divisor supports synthetic division
1137003	Divide polynomials
1137011	Apply remainder theorem
A2.7D(S)	
Skill Code	Description
1138001	Determine linear factors of polynomials, degree three
1138002	Determine linear factors of polynomials, degree four
1138003	Determine linear factors of polynomials, degree three or four
A2.7E(R)	
Skill Code	Description
322037	Factor GCF & remaining quadratic expression, $a = 1$, one variable.
322035	Factor GCF & remaining quadratic expression, $a \geq 1$, one variable.
322042	Factor GCF in polynomials, including two variables
1138010	Factor sum & difference of two cubes, degree three, one variable
322033	Factor cubic polynomial by grouping, one variable
322034	Factor cubic polynomial by grouping & difference of two squares, one variable
1138011	Determine quadratic factors of polynomials, degree four
A2.7F(R)	
Skill Code	Description
1139001	Add rational expressions
1139002	Subtract rational expressions
1139003	Add & subtract rational expressions
390001	Multiply rational expressions
390003	Divide rational expressions
1139004	Multiply & divide rational expressions
1139005	Add, subtract, multiply & divide rational expressions
A2.7G(S)	
Skill Code	Description
1201001	Convert from radical to rational exponent, single value in radicand
1201006	Convert from radical to rational exponent, algebraic term in radicand
1201007	Convert from radical to rational exponent, algebraic term in radicand, algebraic multiplier
1201020	Convert from radical to rational exponent
1201005	Evaluate rational exponent expressions, positive exponents

1201009	Evaluate rational exponent expressions, negative exponents
1171003	Simplify radical expressions, perfect powers
1201008	Simplify radical expressions raised to power that is multiple of index
1201010	Simplify rational exponent expressions using product rule, coefficients not with base
1201011	Simplify rational exponent expressions using quotient rule, with coefficients
1201012	Simplify rational exponent expressions using product rule, coefficients with base
A2.7H(R)	
Skill Code	Description
116001	Solve equations involving rational exponents, one- or two-step
116002	Solve equations involving rational exponents, multi-step
116003	Solve equations involving rational exponents
A2.7I(S)	
Skill Code	Description
1119017	Determine domain & range of various functions using various notations
A2.8: Data	
A2.8A(S)	
Skill Code	Description
1304003	Given table, identify as linear, quadratic, or exponential
A2.8B(S)	
Skill Code	Description
1304004	Determine linear regression equations, calculator expected
1304006	Determine exponential regression equations, calculator expected
1304007	Determine linear, quadratic, or exponential equations, calculator expected
A2.8C(R)	
Skill Code	Description
1304008	Given regression equation, determine predicted value
1304010	Determine quadratic regression equations, calculator expected