IXL Skill Alignment

Alg 2 alignment for Pearson Texas

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Topic 1
Functions

Textbook section	IXL skills	
Lesson 1-1: Relations and Functions	**D.1**	Domain and range >>
	D.2	Identify functions >>
	D.3	Evaluate functions >>
Lesson 1-2: Attributes of Functions	**D.4**	Find values using function graphs >>
	D.5	Complete a table for a function graph >>
	D.6	Find the slope of a linear function >>
	D.7	Graph a linear function >>
Lesson 1-3: Function Operations and Composition	**O.1**	Add and subtract functions >>
	O.2	Multiply functions >>
	O.3	Divide functions >>
	O.4	Composition of linear functions: find a value >>
	O.5	Composition of linear functions: find an equation >>
	O.6	Composition of linear and quadratic functions: find a value >>
	O.7	Composition of linear and quadratic functions: find an equation >>
Lesson 1-4: Inverse Functions	**O.8**	Identify inverse functions >>
	O.9	Find values of inverse functions from tables >>
	O.10	Find values of inverse functions from graphs >>
	O.11	Find inverse functions and relations >>

Topic 2

Absolute Value Equations and Functions

Textbook section	IXL skills	
Lesson 2-1: Absolute Value Equations	**B.4**	Solve absolute value equations >>
	B.5	Graph solutions to absolute value equations >>
Lesson 2-2: Solving Absolute Value Inequalities	**C.6**	Solve absolute value inequalities >>
	C.7	Graph solutions to absolute value inequalities >>
Lesson 2-3: Attributes of Absolute Value Functions		
Lesson 2-4: Transformations of Absolute Value Functions		
Lesson 2-5: Graphing Absolute Value Inequalities		

Topic 3

Systems of Linear Equations

Textbook section	IXL skills	
Lesson 3-1: Solving Systems Using Tables and Graphs	**E.2**	Solve a system of equations by graphing >>
	E.3	Solve a system of equations by graphing: word problems >>
	E.5	Classify a system of equations >>
Lesson 3-2: Solving Systems Algebraically	**E.6**	Solve a system of equations using substitution >>
	E.7	Solve a system of equations using substitution: word problems >>
	E.8	Solve a system of equations using elimination >>
	E.9	Solve a system of equations using elimination: word problems >>
	E.10	Solve a system of equations using any method >>
	E.11	Solve a system of equations using any method: word problems >>
Lesson 3-3: Systems of Inequalities	**F.1**	Is (x, y) a solution to the system of inequalities? >>
	F.2	Solve systems of linear inequalities by graphing >>
Lesson 3-4: Linear Programming	**F.4**	Find the vertices of a solution set >>
	F.5	Linear programming >>
Lesson 3-5: Systems in Three Variables	**E.12**	Solve a system of equations in three variables using substitution >>
	E.13	Solve a system of equations in three variables using elimination >>
	E.14	Determine the number of solutions to a system of equations in three variables >>
Lesson 3-6: Solving Systems Using Matrices	**G.18**	Solve a system of equations using augmented matrices >>
	G.19	Solve a system of equations using augmented matrices: word problems >>

Topic 4

Matrices

Textbook section	IXL skills	
Lesson 4-1: Adding and Subtracting Matrices	**G.1**	Matrix vocabulary >>
	G.3	Add and subtract matrices >>
Lesson 4-2: Matrix Multiplication	**G.2**	Matrix operation rules >>
	G.4	Multiply a matrix by a scalar >>
	G.5	Add and subtract scalar multiples of matrices >>
	G.6	Multiply two matrices >>
	G.8	Properties of matrices >>
	G.9	Solve matrix equations >>
Lesson 4-3: Determinants and Inverses	**G.10**	Determinant of a matrix >>
	G.11	Is a matrix invertible? >>
	G.12	Inverse of a matrix >>
	G.13	Identify inverse matrices >>
Lesson 4-4: Systems and Matrices	**G.14**	Solve matrix equations using inverses >>

Topic 5

Quadratic Functions and Equations

Textbook section	IXL skills	
Lesson 5-1: Attributes and Transformations of Quadratic Functions	**J.3**	Graph a quadratic function >>
Lesson 5-2: Standard Form of a Quadratic Function	**J.1**	Characteristics of quadratic functions >>
Lesson 5-3: Modeling with Quadratic Functions		
Lesson 5-4: Focus and Directrix of a Parabola	**T.3**	Find the focus or directrix of a parabola >>
Lesson 5-5: Factoring Quadratic Expressions	**I.1**	Factor out a monomial >>
	I.3	Factor quadratics >>
	I.5	Factor by grouping >>
Lesson 5-6: Quadratic Equations	**J.5**	Solve a quadratic equation using the zero product property >>
	J.6	Solve a quadratic equation by factoring >>
Lesson 5-7: Completing the Square	**J.4**	Solve a quadratic equation using square roots >>
	J.7	Complete the square >>
	J.8	Solve a quadratic equation by completing the square >>
Lesson 5-8: The Quadratic Formula	**J.9**	Solve a quadratic equation using the quadratic formula >>
	J.10	Using the discriminant >>
Lesson 5-9: Complex Numbers	**H.1**	Introduction to complex numbers >>
	H.2	Add and subtract complex numbers >>
	H.3	Complex conjugates >>
	H.4	Multiply complex numbers >>
	H.5	Divide complex numbers >>
	H.6	Add, subtract, multiply, and divide complex numbers >>
Lesson 5-10: Quadratic Inequalities	**C.11**	Solve quadratic inequalities >>

Lesson 5-11: Systems of Linear and Quadratic Equations	**E.15**	Solve a system of linear and quadratic equations >>

Topic 6

Square Root Functions and Equations

Textbook section	IXL skills	
Lesson 6-1: Square Root Functions as Inverses		
Lesson 6-2: Attributes of Square Root Functions	**L.12**	Domain and range of radical functions >>
Lesson 6-3: Transformations of Square Root Functions		
Lesson 6-4: Introduction to Square Root Equations		
Lesson 6-5: Solving Square Root Equations	**L.13**	Solve radical equations >>

Topic 7

Exponential and Logarithmic Functions and Equations

Textbook section	IXL skills	
Lesson 7-1: Attributes of Exponential Functions	**S.12**	Exponential growth and decay: word problems >>
Lesson 7-2: Transformations of Exponential Functions	**S.3**	Match exponential functions and graphs >>
Lesson 7-3: Attributes and Transformations of f(x)= ex	**S.14**	Continuously compounded interest: word problems >>
Lesson 7-4: Exponential Models in Recursive Form		
Lesson 7-5: Attributes of Logarithmic Functions	**R.1**	Convert between exponential and logarithmic form: rational bases >>
	R.4	Evaluate logarithms >>
	S.1	Domain and range of exponential and logarithmic functions >>
Lesson 7-6: Properties of Logarithms	**R.6**	Change of base formula >>
	R.7	Identify properties of logarithms >>
	R.8	Product property of logarithms >>
	R.9	Quotient property of logarithms >>
	R.10	Power property of logarithms >>
	R.11	Properties of logarithms: mixed review >>
Lesson 7-7: Transformations of Logarithmic Functions		
Lesson 7-8: Attributes and Transformations of the Natural Logarithm Function		
Lesson 7-9: Exponential and Logarithmic Equations	**S.4**	Solve exponential equations using factoring >>
	S.5	Solve exponential equations using common logarithms >>
	S.7	Solve logarithmic equations I >>
	S.8	Solve logarithmic equations II >>

Lesson 7-10: Natural Logarithms

R.5 Evaluate natural logarithms >>

S.6 Solve exponential equations using natural logarithms >>

Topic 8

Polynomials

Textbook section	IXL skills	
Lesson 8-1: Attributes of Polynomial Functions	**K.1**	Polynomial vocabulary >>
	K.14	Match polynomials and graphs >>
Lesson 8-2: Adding, Subtracting, and Multiplying Polynomials	**K.2**	Add and subtract polynomials >>
	K.3	Multiply polynomials >>
Lesson 8-3: Polynomials, Linear Factors, and Zeros	**K.8**	Find the roots of factored polynomials >>
	K.9	Write a polynomial from its roots >>
Lesson 8-4: Solving Polynomial Equations	**I.6**	Factor sums and differences of cubes >>
	I.7	Factor polynomials >>
	K.7	Solve polynomial equations >>
Lesson 8-5: Dividing Polynomials	**K.4**	Divide polynomials using long division >>
	K.5	Divide polynomials using synthetic division >>
	K.6	Evaluate polynomials using synthetic division >>
Lesson 8-6: Theorems About Roots of Polynomial Equations	**K.10**	Rational root theorem >>
	K.11	Complex conjugate theorem >>
	K.12	Conjugate root theorems >>
	K.13	Descartes' Rule of Signs >>
Lesson 8-7: The Fundamental Theorem of Algebra	**K.15**	Fundamental Theorem of Algebra >>

Topic 9

Radical Expressoins

Textbook section	IXL skills	
Lesson 9-1: Roots and Radical Expressions	**L.1**	Roots of integers >>
	L.2	Roots of rational numbers >>
	L.4	Simplify radical expressions with variables I >>
	L.5	Simplify radical expressions with variables II >>
	L.6	Nth roots >>
Lesson 9-2: Multiplying and Dividing Radical Expressions	**L.7**	Multiply radical expressions >>
	L.8	Divide radical expressions >>
Lesson 9-3: Binomial Radical Expressions	**L.9**	Add and subtract radical expressions >>
	L.10	Simplify radical expressions using the distributive property >>
	L.11	Simplify radical expressions using conjugates >>
Lesson 9-4: Rational Exponents	**M.1**	Evaluate rational exponents >>
	M.2	Multiplication with rational exponents >>
	M.3	Division with rational exponents >>
	M.4	Power rule >>
	M.5	Simplify expressions involving rational exponents I >>
	M.6	Simplify expressions involving rational exponents II >>

Topic 10

Cubic and Cube Root Functions and Equations

Textbook section	IXL skills
Lesson 10-1: Attributes and Transformations of Cubic Functions	
Lesson 10-2: Attributes of Cube Root Functions	
Lesson 10-3: Transformations of Cube Root Functions	
Lesson 10-4: Cube Root Equations	

Topic 11

Rational Functions and Equations

Textbook section	IXL skills	
Lesson 11-1: Inverse Variation	**Q.1**	Write and solve direct variation equations >>
	Q.2	Write and solve inverse variation equations >>
	Q.3	Classify variation >>
	Q.4	Write joint and combined variation equations I >>
Lesson 11-2: Transformations of Reciprocal Functions		
Lesson 11-3: Asymptotes of Rational Functions	**N.1**	Rational functions: asymptotes and excluded values >>
Lesson 11-4: Rational Expressions	**N.4**	Simplify rational expressions >>
	N.5	Multiply and divide rational expressions >>
Lesson 11-5: Adding and Subtracting Rational Expressions	**N.6**	Add and subtract rational expressions >>
Lesson 11-6: Solving Rational Equations	**N.7**	Solve rational equations >>

Topic 12

Data

Textbook section	IXL skills	
Lesson 12-1: Analyzing Linear, Quadratic, and Exponential Data		
Lesson 12-2: Using Regression to Choose a Model and Make Predictions	**EE.6**	Find the equation of a regression line >>
Lesson 12-3: Using Models to Make Decisions and Judgements	**EE.7**	Interpret regression lines >>
	EE.8	Analyze a regression line of a data set >>