



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 $f(x) = e^x$	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 Expressions

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
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 >>