IXL Skill Alignment

Alg 2 alignment for HMH California

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Module 1

Analyzing Functions

Textbook section	IXL skills	
1.1: Domain, Range, and End Behavior		
1.2: Characteristics of Function Graphs	**D.9**	Linear functions over unit intervals >>
	D.10	Average rate of change >>
	EE.6	Find the equation of a regression line >>
1.3: Transformations of Function Graphs	**P.1**	Function transformation rules >>
1.4: Inverses of Functions	**O.8**	Identify inverse functions >>
	O.9	Find values of inverse functions from tables >>

Module 2

Absolute Value Functions, Equations, and Inequalities

Textbook section	IXL skills	
2.1: Graphing Absolute Value Functions		
2.2: Solving Absolute Value Equations	**B.4**	Solve absolute value equations >>
	B.5	Graph solutions to absolute value equations >>
2.3: Solving Absolute Value Inequalities	**C.6**	Solve absolute value inequalities >>
	C.7	Graph solutions to absolute value inequalities >>

Module 3

Quadratic Equations

Textbook section	IXL skills	
3.1: Solving Quadratic Equations by Taking Square Roots	**J.4**	Solve a quadratic equation using square roots >>
3.2: Complex Numbers	**H.2**	Add and subtract complex numbers >>
	H.4	Multiply complex numbers >>
3.3: Finding Complex Solutions of Quadratic Equations	**J.8**	Solve a quadratic equation by completing the square >>
	J.9	Solve a quadratic equation using the quadratic formula >>
	J.10	Using the discriminant >>

Module 4

Quadratic Relations and Systems of Equations

Textbook section	IXL skills	
4.1: Circles	**U.3**	Write equations of circles in standard form from graphs >>
	U.4	Write equations of circles in standard form using properties >>
	U.5	Convert equations of circles from general to standard form >>
	U.6	Find properties of circles from equations in general form >>
	U.7	Graph circles >>
4.2: Parabolas	**T.3**	Find the focus or directrix of a parabola >>
	T.8	Find properties of a parabola from equations in general form >>
4.3: Solving Linear-Quadratic Systems	**E.15**	Solve a system of linear and quadratic equations >>
4.4: Solving Linear 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 >>
	G.18	Solve a system of equations using augmented matrices >>
	G.19	Solve a system of equations using augmented matrices: word problems >>

Module 5

Polynomial Functions

Textbook section	IXL skills	
5.1: Graphing Cubic Functions		
5.2: Graphing Polynomial Functions	**K.14**	Match polynomials and graphs >>

Module 6

Polynomials

Textbook section	IXL skills	
6.1: Adding and Subtracting Polynomials	**K.2**	Add and subtract polynomials >>
6.2: Multiplying Polynomials	**K.3**	Multiply polynomials >>
6.3: The Binomial Theorem	**K.16**	Pascal's triangle >>
	K.17	Pascal's triangle and the Binomial Theorem >>
	K.18	Binomial Theorem I >>
6.4: Factoring Polynomials	**I.5**	Factor by grouping >>
	I.6	Factor sums and differences of cubes >>
	I.7	Factor polynomials >>
6.5: Dividing Polynomials	**K.4**	Divide polynomials using long division >>
	K.5	Divide polynomials using synthetic division >>
	K.6	Evaluate polynomials using synthetic division >>

Module 7

Polynomial Equations

Textbook section	IXL skills	
7.1: Finding Rational Solutions of Polynomial Equations	**K.8**	Find the roots of factored polynomials >>
	K.10	Rational root theorem >>
7.2: Finding Complex Solution of Polynomial Equations	**K.7**	Solve polynomial equations >>
	K.9	Write a polynomial from its roots >>

Module 8

Rational Functions

Textbook section	IXL skills	
8.1: Graphing Simple Rational Functions		
8.2: Graphing More Complicated Rational Functions	**N.1**	Rational functions: asymptotes and excluded values >>

Module 9

Rational Expressions and Equations

Textbook section	IXL skills	
9.1: Adding and Subtracting Rational Expressions	**N.6**	Add and subtract rational expressions >>
9.2: Multiplying and Dividing Rational Expressions	**N.5**	Multiply and divide rational expressions >>
9.3: Solving Rational Equations	**N.7**	Solve rational equations >>

Module 10

Radical Functions

Textbook section	IXL skills	
10.1: Inverses of Simple Quadratic and Cubic Functions		
10.2: Graphing Square Root Functions	**L.12**	Domain and range of radical functions >>
10.3: Graphing Cube Root Functions		

Module 11

Radical Expressions and Equations

Textbook section	IXL skills	
11.1: Radical Expressions and Rational Exponents	**M.1**	Evaluate rational exponents >>
	M.4	Power rule >>
11.2: Simplifying Radical Expressions	**L.4**	Simplify radical expressions with variables I >>
	L.5	Simplify radical expressions with variables II >>
	L.7	Multiply radical expressions >>
	L.8	Divide radical expressions >>
	M.5	Simplify expressions involving rational exponents I >>
	M.6	Simplify expressions involving rational exponents II >>
11.3: Solving Radical Equations	**L.13**	Solve radical equations >>

Module 12

Sequences and Series

Textbook section	IXL skills	
12.1: Arithmetic Sequences	**BB.1**	Find terms of an arithmetic sequence >>
	BB.6	Write a formula for an arithmetic sequence >>
12.2: Geometric Sequences	**BB.5**	Classify formulas and sequences >>
	BB.7	Write a formula for a geometric sequence >>
	BB.8	Write a formula for a recursive sequence >>
12.3: Geometric Series	**BB.15**	Partial sums of geometric series >>

Module 13

Exponential Functions

Textbook section	IXL skills	
13.1: Exponential Growth Functions	**S.13**	Compound interest: word problems >>
13.2: Exponential Decay Functions	**S.3**	Match exponential functions and graphs >>
	S.12	Exponential growth and decay: word problems >>
13.3: The Base e		
13.4: Compound Interest	**S.13**	Compound interest: word problems >>
	S.14	Continuously compounded interest: word problems >>

Module 14

Modeling with Exponential and Other Functions

Textbook section	IXL skills
14.1: Fitting Exponential Functions to Data	
14.2: Choosing Among Linear, Quadratic, and Exponential Models	

Module 15

Logarithmic Functions

Textbook section	IXL skills	
15.1: Defining and Evaluating a Logarithmic Function	**R.1**	Convert between exponential and logarithmic form: rational bases >>
	R.4	Evaluate logarithms >>
15.2: Graphing Logarithmic Functions	**S.1**	Domain and range of exponential and logarithmic functions >>

Module 16

Logarithmic Properties and Exponential Equations

Textbook section	IXL skills	
16.1: 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 >>
	R.12	Evaluate logarithms: mixed review >>
16.2: Solving Exponential Equations	**S.5**	Solve exponential equations using common logarithms >>
	S.6	Solve exponential equations using natural logarithms >>

Module 17

Unit-Circle Definition of Trigonometric Functions

Textbook section	IXL skills	
17.1: Angles of Rotation and Radian Measure	**X.1**	Convert between radians and degrees >>
	X.5	Coterminal angles >>
17.2: Defining and Evaluating the Basic Trigonometric Functions	**Y.2**	Special right triangles >>
	Y.7	Sin, cos, and tan of special angles >>
	Y.9	Find trigonometric functions using a calculator >>
17.3: Using a Pythagorean Identity		

Module 18

Graphing Trigonometric Functions

Textbook section	IXL skills	
18.1: Stretching, Compressing, and Reflecting Sine and Cosine Graphs	**Z.1**	Find properties of sine functions >>
	Z.5	Find properties of cosine functions >>
18.2: Stretching, Compressing, and Reflecting Tangent Graphs		
18.3: Translating Trigonometric Graphs	**Z.2**	Write equations of sine functions from graphs >>
	Z.6	Write equations of cosine functions from graphs >>
	Z.9	Graph sine and cosine functions >>
18.4: Fitting Sine Functions to Data		

Module 19

Introduction to Probability

Textbook section	IXL skills	
19.1: Probability and Set Theory	**CC.2**	Calculate probabilities of events >>
19.2: Permutations and Probability	**CC.3**	Counting principle >>
19.3: Combinations and Probability	**CC.4**	Combinations and permutations >>
	CC.5	Find probabilities using combinations and permutations >>
19.4: Mutually Exclusive and Overlapping Events	**CC.6**	Find probabilities using two-way frequency tables >>

Module 20

Conditional Probability and Independence of Events

Textbook section	IXL skills	
20.1: Conditional Probability	**CC.9**	Find conditional probabilities >>
	CC.11	Find conditional probabilities using two-way frequency tables >>
20.2: Independent Events	**CC.7**	Identify independent events >>
	CC.10	Independence and conditional probability >>
20.3: Dependent Events	**CC.8**	Probability of independent and dependent events >>

Module 21

Probability and Decision Making

Textbook section	IXL skills
21.1: Using Probability to Make Fair Decisions	
21.2: Analyzing Decisions	

Module 22

Gathering and Displaying Data

Textbook section	IXL skills	
22.1: Data-Gathering Techniques	**EE.1**	Identify biased samples >>
22.2: Shape, Center, and Spread		

Module 23

Data Distributions

Textbook section	IXL skills	
23.1: Probability Distributions	**DD.1**	Identify discrete and continuous random variables >>
	DD.2	Write a discrete probability distribution >>
	DD.10	Find probabilities using the binomial distribution >>
23.2: Normal Distributions	**DD.11**	Find probabilities using the normal distribution I >>
	DD.12	Find probabilities using the normal distribution II >>
	DD.13	Find z-values >>
23.3: Sampling Distributions	**DD.14**	Distributions of sample means >>

Module 24

Making Inferences from Data

Textbook section	IXL skills	
24.1: Confidence Intervals and Margins of Error	**EE.9**	Find confidence intervals for population means >>
	EE.10	Find confidence intervals for population proportions >>
	EE.11	Interpret confidence intervals for population means >>
24.2: Surveys, Experiments, and Observational Studies	**EE.12**	Experiment design >>
24.3: Determining the Significance of Experimental Results	**EE.13**	Analyze the results of an experiment using simulations >>