IXL Skill Alignment

Algebra 2 alignment for Big Ideas Math 2019 Common Core Curriculum

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Chapter 1
Linear Functions

Textbook section	IXL skills
Lesson 1.1: Parent Functions and Transformations	1. Function transformation rules R7X 2. Translations of functions F6J 3. Reflections of functions PHV 4. Describe function transformations KT8 5. Transformations of functions RSN
Lesson 1.2: Transformations of Linear Functions and Absolute Value Functions	1. Transformations of linear functions C8G 2. Transformations of absolute value functions FYJ
Lesson 1.3: Modeling With Linear Functions	1. Find the equation of a regression line WJC 2. Write the equation of a linear function PBE
Lesson 1.4: Solving Linear Systems	1. Solve a system of equations using substitution BW5 2. Solve a system of equations using any method FT6 3. Solve a system of equations in three variables using elimination 9S5 4. Solve a system of equations in three variables using substitution X8H 5. Solve a system of equations using any method: word problems ELG

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Chapter 2
Quadratic Functions

Textbook section	IXL skills
Lesson 2.1: Transformations of Quadratic Functions	1. Transformations of quadratic functions KQL
Lesson 2.2: Characteristics of Quadratic Functions	1. Characteristics of quadratic functions: graphs WMS 2. Characteristics of quadratic functions: equations L8C 3. Graph a quadratic function in vertex form VB7
Lesson 2.3: Focus of a Parabola	1. Find the axis of symmetry of a parabola AAY 2. Write equations of parabolas in vertex form using properties EPR 3. Graph parabolas YNJ 4. Find the vertex of a parabola 2NE 5. Find the focus or directrix of a parabola TNG 6. Write equations of parabolas in vertex form from graphs C6U
Lesson 2.4: Modeling with Quadratic Functions	1. Write a quadratic function from its vertex and another point URV

Chapter 3

Quadratic Equations and Complex Numbers

Textbook section	IXL skills
Lesson 3.1: Solving Quadratic Equations	1. Solve a quadratic equation using square roots FG7 2. Solve a quadratic equation by factoring CJC 3. Solve a quadratic equation using the zero product property TRU
Lesson 3.2: Complex Numbers	1. Introduction to complex numbers 5VV 2. Add and subtract complex numbers JVF 3. Multiply complex numbers VZ8
Lesson 3.3: Completing the Square	1. Solve a quadratic equation using square roots FG7 2. Solve a quadratic equation by completing the square NPH 3. Complete the square 9MW
Lesson 3.4: Using the Quadratic Formula	1. Solve a quadratic equation using the quadratic formula YQH 2. Using the discriminant QHK
Lesson 3.5: Solving Non-Linear Systems	1. Solve a nonlinear system of equations GCC 2. Solve a system of linear and quadratic equations HVZ
Lesson 3.6: Quadratic Inequalities	1. Graph solutions to quadratic inequalities DP9 2. Solve quadratic inequalities 56V

Chapter 4
Polynomial Functions

Textbook section	IXL skills
Lesson 4.1: Graphing Polynomial Functions	1. Match polynomials and graphs XJU
Lesson 4.2: Adding, Subtracting, and Multiplying Polynomials	1. Add and subtract polynomials 9A3 2. Multiply polynomials 8GN 3. Pascal's triangle G7Y 4. Pascal's triangle and the Binomial Theorem A7M
Lesson 4.3: Dividing Polynomials	1. Divide polynomials using long division YN5 2. Divide polynomials using synthetic division D6D 3. Evaluate polynomials using synthetic division CHC
Lesson 4.4: Factoring Polynomials	1. Factor polynomials A2W 2. Factor by grouping HVT 3. Factor sums and differences of cubes NJV 4. Factor quadratics UB5 5. Factor using a quadratic pattern QKF
Lesson 4.5: Solving Polynomial Equations	1. Find the roots of factored polynomials PVM 2. Rational root theorem FCX 3. Solve polynomial equations ZCH
Lesson 4.6: The Fundamental Theorem of Algebra	1. Complex conjugate theorem 5WU 2. Descartes' Rule of Signs ZFB 3. Write a polynomial from its roots BTU 4. Fundamental Theorem of Algebra YS8
Lesson 4.7: Transformations of Polynomial Functions	
Lesson 4.8: Analyzing Graphs of Polynomial Functions	1. Match polynomials and graphs XJU
Lesson 4.9: Modeling with Polynomial Functions	

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Chapter 5

Rational Exponents and Radical Functions

Textbook section	IXL skills
Lesson 5.1: Nth Roots and Rational Exponents	1. Roots of integers EUH 2. Roots of rational numbers HNE 3. Find roots using a calculator SD5 4. Evaluate rational exponents KJX
Lesson 5.2: Properties of Rational Exponents and Radicals	1. Nth roots U42 2. Simplify radical expressions with variables I LQX 3. Simplify radical expressions with variables II QGZ 4. Power rule V2J 5. Simplify expressions involving rational exponents I 2VX 6. Simplify expressions involving rational exponents II U96 7. Add and subtract radical expressions L46 8. Simplify radical expressions using conjugates FX7
Lesson 5.3: Graphing Radical Functions	1. Describe function transformations KT8 2. Function transformation rules R7X 3. Domain and range of radical functions HR9
Lesson 5.4: Solving Radical Equations and Inequalities	1. Solve radical equations EHE
Lesson 5.5: Performing Function Operations	1. Add and subtract functions QQD 2. Multiply functions 49K 3. Divide functions 9PH
Lesson 5.6: Inverse of a Function	1. Identify inverse functions 9KT 2. Find inverse functions and relations ZRQ

Chapter 6

Exponential and Logarithmic Functions

Textbook section	IXL skills
Lesson 6.1: Exponential Growth and Decay Functions	1. Exponential growth and decay: word problems TYQ 2. Compound interest: word problems YJW 3. Describe linear and exponential growth and decay KLF
Lesson 6.2: The Natural Base e	1. Continuously compounded interest: word problems 5GU
Lesson 6.3: Logarithms and Logarithmic Functions	1. Convert between exponential and logarithmic form: rational bases TPA 2. Evaluate logarithms GBR 3. Evaluate natural logarithms XG9 4. Evaluate logarithms using a calculator TDF
Lesson 6.4: Transformations of Exponential and Logarithmic Functions	1. Match exponential functions and graphs PCX
Lesson 6.5: Properties of Logarithms	1. Identify properties of logarithms N59 2. Product property of logarithms CW9 3. Quotient property of logarithms ZNT 4. Power property of logarithms 7T3 5. Properties of logarithms: mixed review 5LL 6. Evaluate logarithms using properties RNH 7. Change of base formula J2R
Lesson 6.6: Solving Exponential and Logarithmic Equations	1. Solve exponential equations using factoring YQY 2. Solve logarithmic equations I BXU 3. Solve logarithmic equations II RLX
Lesson 6.7: Modeling with Exponential and Logarithmic Functions	

Chapter 7
Rational Functions

Textbook section	IXL skills
Lesson 7.1: Inverse Variation	1. Write and solve inverse variation equations PNY 2. Write and solve direct variation equations 69A
Lesson 7.2: Graphing Rational Functions	1. Rational functions: asymptotes and excluded values 7JJ
Lesson 7.3: Multiplying and Dividing Rational Expressions	1. Simplify rational expressions 37N 2. Multiply and divide rational expressions MG2
Lesson 7.4: Adding and Subtracting Rational Expressions	1. Add and subtract rational expressions FEX
Lesson 7.5: Solving Rational Equations	1. Solve rational equations CHP

Chapter 8

Sequences and Series

Textbook section	IXL skills
Lesson 8.1: Defining and Using Sequences and Series	1. Write a formula for an arithmetic sequence H82 2. Introduction to sigma notation DHQ 3. Find the sum of an arithmetic series W6A
Lesson 8.2: Analyzing Arithmetic Sequences and Series	1. Write a formula for an arithmetic sequence H82 2. Find the sum of an arithmetic series W6A
Lesson 8.3: Analyzing Geometric Sequences and Series	1. Classify formulas and sequences 2UZ 2. Identify arithmetic and geometric series HS9 3. Write a formula for a geometric sequence Q5V 4. Find the sum of a finite geometric series 9KQ
Lesson 8.4: Finding Sums of Infinite Geometric Series	1. Introduction to partial sums AGV 2. Partial sums of geometric series 9JU 3. Write a repeating decimal as a fraction BPU 4. Find the value of an infinite geometric series ZVH
Lesson 8.5: Using Recursive Rules with Sequences	1. Evaluate recursive formulas for sequences QB9 2. Write a formula for a recursive sequence ZAH 3. Sequences: mixed review 2MX

Chapter 9

Trigonometric Ratios and Functions

Textbook section	IXL skills
Lesson 9.1: Right Angle Trigonometry	1. Trigonometric ratios: sin, cos, and tan PQJ 2. Trigonometric ratios: csc, sec, and cot P82 3. Trigonometric ratios: find a side length MHJ 4. Trigonometric ratios: find an angle measure 84G 5. Solve a right triangle DPP
Lesson 9.2: Angles of Radian Measure	1. Coterminal angles 7CV 2. Radians and arc length UA5 3. Convert between radians and degrees EDC 4. Graphs of angles PSG
Lesson 9.3: Trigonometric Functions of Any Angle	1. Find trigonometric ratios using the unit circle ZF7 2. Reference angles BRP
Lesson 9.4: Graphing Sine and Cosine Functions	1. Find properties of sine functions 2EK 2. Graph sine functions 9NS 3. Graph cosine functions KXG 4. Graph translations of sine functions LCN 5. Graph translations of cosine functions M5K 6. Graph sine and cosine functions A7V 7. Graph translations of sine and cosine functions 9D7 8. Find properties of cosine functions F8Y
Lesson 9.5: Graphing Other Trigonometric Functions	
Lesson 9.6: Modeling with Trigonometric Functions	1. Write equations of sine functions from graphs FGW 2. Write equations of sine functions using properties JDH 3. Write equations of cosine functions from graphs 4G8

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	4. Write equations of cosine functions using properties N6X
Lesson 9.7: Using Trigonometric Identities	1. Trigonometric identities I XJJ 2. Trigonometric identities II F8F
Lesson 9.8: Using Sum and Difference Formulas	1. Solve trigonometric equations I CQB 2. Solve trigonometric equations II SNX

Chapter 10
Probability

Textbook section	IXL skills
Lesson 10.1: Sample Spaces and Probability	1. Introduction to probability 9QC 2. Calculate probabilities of events QRS
Lesson 10.2: Independent and Dependent Events	1. Identify independent events RTZ 2. Probability of independent and dependent events X5U 3. Find conditional probabilities 2M4 4. Independence and conditional probability AJC
Lesson 10.3: Two-Way Tables and Probability	1. Find probabilities using two-way frequency tables HGA 2. Find conditional probabilities using two-way frequency tables HGC
Lesson 10.4: Probability of Disjoint and Overlapping Events	
Lesson 10.5: Permutations and Combinations	1. Combinations and permutations UAB 2. Find probabilities using combinations and permutations SVX 3. Pascal's triangle G7Y 4. Pascal's triangle and the Binomial Theorem A7M 5. Binomial Theorem I CWS 6. Binomial Theorem II NEU
Lesson 10.6: Binomial Distributions	1. Find probabilities using the binomial distribution ZGX

Chapter 11

Data Analysis and Statistics

Textbook section	IXL skills
Lesson 11.1: Using Normal Distributions	1. Find z-values PAJ 2. Find probabilities using the normal distribution I QA9 3. Find probabilities using the normal distribution II 6M9
Lesson 11.2: Populations, Samples, and Hypotheses	
Lesson 11.3: Collecting Data	1. Identify biased samples CH7
Lesson 11.4: Experimental Design	1. Experiment design BKR
Lesson 11.5: Making Inferences from Sample Surveys	
Lesson 11.6: Making Inferences from Experiments	1. Analyze the results of an experiment using simulations RLB