



IXL Skill Alignment

Integrated Mathematics 3 alignment for Big Ideas Math



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Chapter 1

Geometric Modeling

Textbook section	IXL skills
Lesson 1.1: Modeling with Area	
Lesson 1.2: Modeling with Volume	1. Calculate density, mass, and volume YKJ
Lesson 1.3: Cross Sections of Solids	1. Cross sections of three-dimensional figures 7Z4
Lesson 1.4: Solids of Revolution	1. Solids of revolution LKT

Chapter 2

Linear and Quadratic Functions

Textbook section	IXL skills
Lesson 2.1: Parent Functions and Transformations	<ol style="list-style-type: none"> 1. Function transformation rules R7X 2. Translations of functions F6J 3. Reflections of functions PHV 4. Dilations of functions NNY 5. Transformations of functions RSN 6. Describe function transformations KT8
Lesson 2.2: Transformations of Linear and Absolute Value Functions	<ol style="list-style-type: none"> 1. Transformations of absolute value functions FYJ
Lesson 2.3: Modeling with Linear Functions	<p>Correlation coefficients</p> <ol style="list-style-type: none"> 1. Match correlation coefficients to scatter plots RVE 2. Calculate correlation coefficients HZ9 <p>Slope</p> <ol style="list-style-type: none"> 3. Find the slope of a linear function W67 <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Find the equation of a regression line 7R9 • Interpret regression lines AU6 • Analyze a regression line of a data set HZH
Lesson 2.4: Solving Linear Systems	<ol style="list-style-type: none"> 1. Solve a system of equations in three variables using substitution X8H 2. Solve a system of equations in three variables using elimination 9S5 3. Determine the number of solutions to a system of equations in three variables XAX
Lesson 2.5: Transformations of Quadratic Functions	<ol style="list-style-type: none"> 1. Transformations of quadratic functions KQL

Lesson 2.6: Characteristics of Quadratic Functions

1. Characteristics of quadratic functions: graphs WMS
 2. Characteristics of quadratic functions: equations L8C
 3. Graph a quadratic function S9G
 4. Match quadratic functions and graphs QCE
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Lesson 2.7: Modeling with Quadratic Functions

1. Write a quadratic function from its zeroes G2Q
 2. Write a quadratic function from its vertex and another point URV
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Chapter 3

Polynomial Functions

Textbook section

IXL skills

Lesson 3.1: Graphing Polynomial Functions

Lesson 3.2: Adding, Subtracting, and Multiplying Polynomials

Addition and subtraction

1. Add and subtract polynomials 9A3

Multiplication

2. Multiply polynomials 8GN

Pascal's triangle and Binomial theorem

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 3.3: Dividing Polynomials

1. Divide polynomials using long division YN5
2. Divide polynomials using synthetic division D6D
3. Evaluate polynomials using synthetic division CHC

Lesson 3.4: Factoring Polynomials

1. Factor by grouping HVT
2. Factor sums and differences of cubes NJV
3. Factor polynomials A2W
4. Factor using a quadratic pattern SZN

Lesson 3.5: Solving Polynomial Equations

1. Solve polynomial equations ZCH
2. Find the roots of factored polynomials PVM
3. Write a polynomial from its roots BTU
4. Rational root theorem FCX
5. Conjugate root theorems EYD

Lesson 3.6: The Fundamental Theorem of Algebra

1. Fundamental Theorem of Algebra YS8
2. Complex conjugate theorem 5WU
3. Descartes' Rule of Signs ZFB

Lesson 3.7: Transformations of Polynomial Functions

Lesson 3.8: Analyzing Graphs of Polynomial Functions

1. Match polynomials and graphs XJU

Lesson 3.9: Modeling with Polynomial Functions

Chapter 4

Rational Exponents and Radical Functions

Textbook section

IXL skills

Lesson 4.1: n th Roots and Rational Exponents

1. Roots of rational numbers 28Q
2. Find roots using a calculator 9E4
3. Evaluate rational exponents 26H
4. Nth roots 6NE

Lesson 4.2: Properties of Rational Exponents and Radicals

Simplify radical expressions

1. Simplify radical expressions with variables I LQX
2. Simplify radical expressions with variables II QGZ

Multiply and divide radical expressions

3. Multiply radical expressions PUM
4. Divide radical expressions CCU

Add and subtract radical expressions

5. Add and subtract radical expressions L46

Conjugates

6. Simplify radical expressions using conjugates FX7

Also consider

- Multiplication with rational exponents LMC
- Division with rational exponents AN5
- Power rule V2J

Lesson 4.3: Graphing Radical Functions

1. Domain and range of radical functions HR9
2. Graph parabolas YNJ
3. Graph circles 2PL

Lesson 4.4: Solving Radical Equations and Inequalities

1. Solve radical equations EHE

Lesson 4.5: Performing Function Operations

1. Add and subtract functions QQD
 2. Multiply functions 49K
 3. Divide functions 9PH
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Lesson 4.6: Inverse of a Function

1. Identify inverse functions 9KT
 2. Find values of inverse functions from tables YLX
 3. Find values of inverse functions from graphs Z5C
 4. Find inverse functions and relations ZRQ
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Chapter 5

Exponential and Logarithmic Functions

Textbook section

IXL skills

Lesson 5.1: The Natural Base e

1. Continuously compounded interest: word problems 5GU

Lesson 5.2: Logarithms and Logarithmic Functions

Convert between forms

1. Convert between exponential and logarithmic form: rational bases TPA
2. Convert between natural exponential and logarithmic form 5KM
3. Convert between exponential and logarithmic form: all bases 8RK

Evaluate logarithms

4. Evaluate logarithms GBR
5. Evaluate natural logarithms XG9
6. Evaluate logarithms using a calculator TDF

Lesson 5.3: Transformations of Exponential and Logarithmic Functions

Lesson 5.4: Properties of Logarithms

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

Change of base

6. Change of base formula J2R

Lesson 5.5: Solving Exponential and Logarithmic Equations

Exponential graphs

1. Match exponential functions and graphs PCX

Exponential equations

2. Solve exponential equations using common logarithms 9F2

3. Solve exponential equations using natural logarithms KVL

Logarithmic equations

4. Solve logarithmic equations I BXU
5. Solve logarithmic equations II RLX

Lesson 5.6: Modeling with Exponential and Logarithmic Functions

1. Identify linear and exponential functions CWH
2. Identify linear, quadratic, and exponential functions from tables XMB

Also consider

- Identify linear, quadratic, and exponential functions from graphs 32N
 - Write linear, quadratic, and exponential functions K2B
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Chapter 6

Rational Functions

Textbook section	IXL skills
Lesson 6.1: Inverse Variation	<ol style="list-style-type: none">1. Write and solve inverse variation equations PNY2. Classify variation C9D
Lesson 6.2: Graphing Rational Functions	<ol style="list-style-type: none">1. Rational functions: asymptotes and excluded values 7JJ
Lesson 6.3: Multiplying and Dividing Rational Expressions	<ol style="list-style-type: none">1. Simplify rational expressions 37N2. Multiply and divide rational expressions MG2
Lesson 6.4: Adding and Subtracting Rational Expressions	<ol style="list-style-type: none">1. Add and subtract rational expressions FEX
Lesson 6.5: Solving Rational Equations	<ol style="list-style-type: none">1. Solve rational equations CHP

Chapter 7

Sequences and Series

Textbook section	IXL skills
Lesson 7.1: Defining and Using Sequences and Series	1. Introduction to sigma notation FTV
Lesson 7.2: Analyzing Arithmetic Sequences and Series	1. Find terms of an arithmetic sequence C8R 2. Write a formula for an arithmetic sequence H82 3. Find the sum of an arithmetic series HM5
Lesson 7.3: Analyzing Geometric Sequences and Series	<p>Find terms</p> <p>1. Find terms of a geometric sequence BHV</p> <p>Sequence formulas</p> <p>2. Classify formulas and sequences 2UZ 3. Write a formula for a geometric sequence Q5V</p> <p>Identify series</p> <p>4. Identify arithmetic and geometric series LUB</p> <p>Sum of series</p> <p>5. Find the sum of a finite geometric series 9KQ</p>
Lesson 7.4: Finding Sums of Infinite Geometric Series	1. Introduction to partial sums AGV 2. Partial sums of geometric series 9JU 3. Find the value of an infinite geometric series ZVH 4. Write a repeating decimal as a fraction BPU
Lesson 7.5: Using Recursive Rules with Sequences	<p>Identify and find terms</p> <p>1. Find terms of a recursive sequence VSG 2. Identify a sequence as explicit or recursive DKZ 3. Find a recursive formula FE2</p> <p>Recursive and explicit formulas</p> <p>4. Find recursive and explicit formulas FJB 5. Convert a recursive formula to an explicit formula 7KT</p>



6. Convert an explicit formula to a recursive formula ZL9
 7. Convert between explicit and recursive formulas PZA
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Chapter 8

Trigonometric Ratios and Functions

Textbook section

Lesson 8.1: Right Triangle Trigonometry

Lesson 8.2: Angles and Radian Measure

Lesson 8.3: Trigonometric Functions of Any Angle

Lesson 8.4: Graphing Sine and Cosine Functions

IXL skills

Trigonometric ratios

1. Trigonometric ratios: sin, cos, and tan P QJ
2. Trigonometric ratios: csc, sec, and cot P82

Find trigonometric functions

3. Find trigonometric functions using a calculator SPL

Use trigonometric ratios

4. Trigonometric ratios: find a side length MHJ
5. Trigonometric ratios: find an angle measure 84G

Solve a right triangle

6. Solve a right triangle DPP

1. Convert between radians and degrees EDC
2. Radians and arc length UA5
3. Graphs of angles PSG
4. Quadrants ANN
5. Coterminal angles 7CV
6. Reference angles BRP

1. Find trigonometric ratios using the unit circle ZF7
2. Sin, cos, and tan of special angles 6H8
3. Find trigonometric ratios using reference angles 9QB

Sine functions

1. Find properties of sine functions 2EK
2. Graph sine functions 9NS
3. Graph translations of sine functions LCN

Cosine functions

4. Find properties of cosine functions F8Y

5. Graph cosine functions KXG

6. Graph translations of cosine functions M5K

Sine and cosine functions

7. Graph sine and cosine functions A7V

8. Graph translations of sine and cosine functions 9D7

Lesson 8.5: Graphing Other Trigonometric Functions

Lesson 8.6: Modeling with Trigonometric Functions

Chapter 9

Trigonometric Identities and Formulas

Textbook section	IXL skills
Lesson 9.1: Using Trigonometric Identities	<ol style="list-style-type: none">1. Trigonometric identities I XJJ2. Trigonometric identities II F8F
Lesson 9.2: Using Sum and Difference Formulas	<ol style="list-style-type: none">1. Solve trigonometric equations I CQB2. Solve trigonometric equations II SNX
Lesson 9.3: Law of Sines	<ol style="list-style-type: none">1. Law of Sines BSY
Lesson 9.4: Law of Cosines	<ol style="list-style-type: none">1. Law of Cosines ZQB2. Solve a triangle YPP3. Area of a triangle: sine formula LNQ

Chapter 10

Data Analysis and Statistics

Textbook section	IXL skills
Lesson 10.1: Using Normal Distributions	<ol style="list-style-type: none">1. Find probabilities using the normal distribution I QA92. Find probabilities using the normal distribution II 6M93. Find z-values PAJ4. Find values of normal variables 9B3
Lesson 10.2: Populations, Samples, and Hypotheses	
Lesson 10.3: Collecting Data	<ol style="list-style-type: none">1. Identify biased samples CH7
Lesson 10.4: Experimental Design	<ol style="list-style-type: none">1. Experiment design BKR
Lesson 10.5: Making Inferences from Sample Surveys	
Lesson 10.6: Making Inferences from Experiments	<ol style="list-style-type: none">1. Analyze the results of an experiment using simulations RLB