



IXL Skill Alignment

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Chapter 1

Investigations and Functions

Section 1.1

Textbook section	IXL skills
1.1.1: How can I work with my team to figure it out? Solving a Function Puzzle in Teams	Domain and range 1. Domain and range 78A Identify functions 2. Identify functions LBJ Evaluate functions 3. Evaluate functions PS2 4. Find values using function graphs FS8 5. Complete a table for a function graph W5Z
1.1.2: How can I use a graphing calculator? Using a Graphing Calculator to Explore a Function	1. Domain and range of radical functions HR9
1.1.3: How can I describe a function? Function Investigation	1. Rational functions: asymptotes and excluded values 7JJ
1.1.4: What is the new function? Combining Linear Functions	Polynomial vocabulary 1. Polynomial vocabulary DYB Combining functions 2. Add and subtract functions QQD 3. Multiply functions 49K 4. Divide functions 9PH

Section 1.2

Textbook section	IXL skills
1.2.1: How can I represent intersections? Representing Points of Intersection	Points of intersection 1. Solve a system of linear and quadratic equations: parabolas HVZ

Properties of exponents

2. Properties of exponents LNK

1.2.2: How can I model it? Modeling a Geometric Relationship

1. Calculate quartiles and interquartile range 8H9

2. Variance and standard deviation HX5

1.2.3: What story does the data tell? Describing Data

1. Box plots YE9

2. Mean, median, mode, and range MHB

3. Identify an outlier 87L

Chapter 2

Transformations of Parent Graphs

Section 2.1

Textbook section

2.1.1: How can I graph it? Transforming Quadratic Functions

IXL skills

Characteristics of quadratic functions

1. Characteristics of quadratic functions: graphs WMS
2. Characteristics of quadratic functions: equations L8C

Function tables and graphs

3. Complete a function table: quadratic functions Q9X
4. Graph a quadratic function S9G
5. Match quadratic functions and graphs QCE

Transformations of functions

6. Transformations of quadratic functions KQL

2.1.2: How can I model the relationship? Modeling with Parabolas

Section 2.2

Textbook section

2.2.1: How can I transform any graph? Transforming Other Parent Graphs

IXL skills

Function transformations

1. Translations of functions F6J
2. Dilations of functions NNY

Radicals

3. Simplify radical expressions ZFF

2.2.2: What is the significance of (h, k) ? Describing (h, k) for Each Family of Functions

2.2.3: How can I reflect a function?
Transformations of Functions

Reflections of functions

1. Reflections of functions PHV

Mixed function transformations

2. Function transformation rules R7X
3. Transformations of functions RSN
4. Describe function transformations KT8

Point-slope form

5. Point-slope form: graph an equation F8H
6. Point-slope form: write an equation PPE
7. Point-slope form: write an equation from a graph LBX

2.2.4: How can I transform other graphs?
Transforming Non-Functions

1. Graph parabolas YNJ
2. Graph circles 2PL

2.2.5: How can I model the relationship?
Developing a Mathematical Model

1. Find the equation of a regression line D9Y
2. Interpret regression lines UWX
3. Analyze a regression line of a data set 6CM

Section 2.3

Textbook section

IXL skills

2.3.1: How can I write it in graphing form?
Completing the Square

1. Complete the square 9MW
2. Convert equations of parabolas from general to vertex form WHK

Chapter 3

Solving and Inequalities

Section 3.1

Textbook section

3.1.1: How can I solve the equation? Strategies for Solving Equations

IXL skills

Linear equations

1. Solve linear equations SNN
2. Solve equations: complete the solution N83

Absolute value equations

3. Solve absolute value equations 2JZ

Quadratic equations

4. Solve a quadratic equation using square roots FG7
5. Solve a quadratic equation using the zero product property TRU
6. Solve a quadratic equation by factoring CJC
7. Solve a quadratic equation by completing the square NPH
8. Solve a quadratic equation using the quadratic formula YQH

Radical equations

9. Solve radical equations EHE

3.1.2: How can I use a graph to solve an equation? Solving Equations Graphically

3.1.3: How many solutions are there? Multiple Solutions to Systems of Equations

Find the number of solutions

1. Find the number of solutions to a system of equations P5A

Solve a system of linear equations

2. Solve a system of equations by graphing M69
3. Solve a system of equations using substitution BW5
4. Solve a system of equations using elimination 2CN

- Solve a system of equations using any method FT6

Solve a system of linear and quadratic equations

- Solve a system of linear and quadratic equations: parabolas HVZ

3.1.4: How can I use systems? Using Systems of Equations to Solve Problems

- Solve a system of equations by graphing: word problems T86
- Solve a system of equations using substitution: word problems DKW
- Solve a system of equations using elimination: word problems ARY
- Solve a system of equations using any method: word problems ELG

Section 3.2

Textbook section

IXL skills

3.2.1: How can I solve inequalities? Solving Inequalities with One or Two Variables

Linear inequalities

- Graph a two-variable linear inequality RWU

Systems of inequalities

- Is (x, y) a solution to the system of inequalities? RFY
- Solve systems of linear inequalities by graphing U5D

3.2.2: How can I organize the possibilities? Using Systems to Solve a Problem

- Solve absolute value inequalities UKU
- Graph solutions to absolute value inequalities G85

3.2.3: What is the optimal amount? Application of Systems of Inequalities

Absolute value inequalities

- Graph solutions to two-variable absolute value inequalities QYX

Systems of inequalities

- Solve systems of linear and absolute value inequalities by graphing 47Y
- Find the vertices of a solution set FRG

3.2.4: What can I learn from a graph? Using Graphs to Determine Solutions

Chapter 4

Normal Distributions and Geometric Modeling

Section 4.1

Textbook section	IXL skills
4.1.1: What questions will I ask? Survey Design	
4.1.2: Whom should I survey? Samples and the Role of Randomness	
4.1.3: What if random is not possible? Bias in Convenience Samples	1. Identify biased samples CH7

Section 4.2

Textbook section	IXL skills
4.2.1: How can experiments show cause and effect? Testing Cause and Effect with Experiments	1. Experiment design BKR
4.2.2: How can I answer the question? Conclusions from Studies	

Section 4.3

Textbook section	IXL skills
4.3.1: What percentage is it? Relative Frequency Histograms	
4.3.2: How can I make predictions? The Normal Probability Density Function	<p>Use the 68, 95, 99.7 rule</p> <p>1. Find probabilities using the normal distribution I QA9</p> <p>Use z-values</p> <p>2. Find z-values PAJ</p> <p>3. Find values of normal variables 9B3</p>
4.3.3: How well did I do? Percentiles	

Section 4.4

Textbook section	IXL skills
4.4.1: How can I picture it? Cross-sections and Solids of Revolution	<ol style="list-style-type: none">1. Cross sections of three-dimensional figures 7Z42. Solids of revolution LKT
4.4.2: How can I use geometric solids? Modeling with Geometric Solids	<ol style="list-style-type: none">1. Parts of three-dimensional figures VW92. Three-dimensional figure vocabulary NKH3. Nets and drawings of three-dimensional figures PKE
4.4.3: How can I make it? Designing to Meet Constraints	

Chapter 5

Inverses and Logarithms

Section 5.1

Textbook section	IXL skills
5.1.1: How can I "undo" a function? "Undo" Equations	1. Identify inverse functions 9KT
5.1.2: How can I determine an inverse? Using a Graph to Determine an Inverse	
5.1.3: What can I do with inverses? More Inverse Functions	1. Find inverse functions and relations ZRQ

Section 5.2

Textbook section	IXL skills
5.2.1: How can I undo an exponential function? The Inverse of an Exponential Function	
5.2.2: What is a logarithm? Defining the Inverse of an Exponential Function	1. Convert between exponential and logarithmic form: rational bases TPA 2. Evaluate logarithms GBR
5.2.3: What can I learn about logs? Investigating the Family of Logarithmic Functions	1. Domain and range of exponential and logarithmic functions GLL
5.2.4: How can I transform log functions? Transformations of Logarithmic Functions	

Chapter 6

Simulating Sampling Variability

Section 6.1

Textbook section	IXL skills
6.1.1: How can I estimate complex probabilities? Simulations of Probability	<ol style="list-style-type: none"> 1. Find conditional probabilities 2M4 2. Find conditional probabilities using two-way frequency tables HGC
6.1.2: How many in a streak? More Simulations of Probability	
6.1.3: How much do samples vary? Simulating Sampling Variability	

Section 6.2

Textbook section	IXL skills
6.2.1: Can I make a decision based on my sample? Statistical Test Using Sampling Variability	
6.2.2: Did my experiment show results? Variability in Experimental Results	
6.2.3: Should I reject poor quality? Quality Control	
6.2.4: Is the process out of control? Statistical Process Control	<ol style="list-style-type: none"> 1. Analyze the results of an experiment using simulations RLB

Section 6.3

Textbook section	IXL skills
6.3.1: When is probability counterintuitive? Analyzing Decisions and Strategies	

Chapter 7

Logarithms and Triangles

Section 7.1

Textbook section	IXL skills
7.1.1: How can I solve exponential equations? Using Logarithms to Solve Exponential Equations	1. Power property of logarithms 7T3
7.1.2: How can I rewrite it? Investigating the Properties of Logarithms	1. Identify properties of logarithms N59 2. Product property of logarithms CW9 3. Quotient property of logarithms ZNT 4. Properties of logarithms: mixed review 5LL 5. Evaluate logarithms using properties RNH
7.1.3: How can I write an exponential function? Writing Equations of Exponential Functions	1. Compound interest: word problems YJW
7.1.4: Who killed Dr. Dedman? An Application of Logarithms	1. Exponential growth and decay: word problems TYQ

Section 7.2

Textbook section	IXL skills
7.2.1: What triangle tools do I still need? Determining Missing Parts of Triangles	1. Pythagorean theorem F55 2. Trigonometric ratios: find a side length MHJ 3. Trigonometric ratios: find an angle measure 84G 4. Solve a right triangle DPP
7.2.2: Is there a better way? Law of Sines	1. Law of Sines BSY 2. Area of a triangle: sine formula LNQ 3. Area of a triangle: Law of Sines 5NP
7.2.3: Is there another tool? Law of Cosines	1. Law of Cosines ZQB
7.2.4: Is there more than one possible triangle? The Ambiguous Case	



7.2.5: Which tool should I use? Choosing a Tool

1. Solve a triangle YPP

Chapter 8

Polynomials

Section 8.1

Textbook section	IXL skills
8.1.1: How can I describe the graph? Sketching Graphs of Polynomial Functions	1. Domain and range of polynomials Y86
8.1.2: How can I predict the graph? More Graphs of Polynomial Functions	1. Match polynomials and graphs XJU 2. Write a polynomial from its roots BTU
8.1.3: How can I write the equation? Stretch Factors for Polynomial Functions	

Section 8.2

Textbook section	IXL skills
8.2.1: What is the equation? Writing Equations Using Complex Roots	1. Complex conjugates 7U5
8.2.2: What do I know about the roots? More Real and Complex Roots	1. Match polynomials and graphs XJU

Section 8.3

Textbook section	IXL skills
8.3.1: How can I divide polynomials? Polynomial Division	1. Divide polynomials using long division YN5 2. Divide polynomials using synthetic division D6D 3. Evaluate polynomials using synthetic division CHC 4. Fundamental Theorem of Algebra YS8
8.3.2: How can I solve it? Factors and Rational Zeros	1. Rational root theorem FCX
8.3.3: How can I use it? An Application of Polynomials	



8.3.4: Is there a pattern? Special Cases of Factoring

1. Factor sums and differences of cubes NJV

Chapter 9

Trigonometric Functions

Section 9.1

Textbook section	IXL skills
9.1.1: What periodic relationships can I model? Introduction to Periodic Models	
9.1.2: How can I graph it? Graphing the Sine Function	
9.1.3: How are circles and sine graphs connected? Unit Circle Graph	
9.1.4: How can I graph cosine? Graphing and Interpreting the Cosine Function	
9.1.5: How else can I measure angles? Defining a Radian	1. Convert between radians and degrees EDC 2. Graphs of angles PSG
9.1.6: What do I know about a unit circle? Building a Unit Circle	1. Reference angles BRP 2. Find trigonometric ratios using the unit circle ZF7
9.1.7: How can I graph tangent? The Tangent Function	

Section 9.2

Textbook section	IXL skills
9.2.1: How can I transform a sine graph? Transformations of $y = \sin(x)$	
9.2.2: What is missing? One More Parameter for a Periodic Function	1. Graph sine functions 9NS 2. Graph translations of sine functions LCN

9.2.3: What is the period of a function? Period of a Trigonometric Function

1. Find properties of sine functions 2EK
2. Write equations of sine functions from graphs FGW
3. Write equations of sine functions using properties JDH

9.2.4: What are the connections? Graph Equation**Cosine functions**

1. Find properties of cosine functions F8Y
2. Write equations of cosine functions from graphs 4G8
3. Write equations of cosine functions using properties N6X
4. Graph cosine functions KXG
5. Graph translations of cosine functions M5K

Sine and cosine functions

6. Graph sine and cosine functions A7V
7. Graph translations of sine and cosine functions 9D7

Chapter 10

Series

Section 10.1

Textbook section	IXL skills
10.1.1: Can I calculate a sum without adding? Introduction to Arithmetic Series	Arithmetic sequences <ol style="list-style-type: none"> Find terms of an arithmetic sequence C8R Write a formula for an arithmetic sequence H82 Combinations and permutations <ol style="list-style-type: none"> Combinations and permutations UAB
10.1.2: How can I calculate a sum? More Arithmetic Series	
10.1.3: How else can I see it? General Arithmetic Series	
10.1.4: How else can I express it? Summation Notation and Combinations of Series	<ol style="list-style-type: none"> Introduction to sigma notation DHQ Find the sum of an arithmetic series W6A
10.1.5: How can I prove it? Mathematical Induction	

Section 10.2

Textbook section	IXL skills
10.2.1: What if the series is geometric? Geometric Series	Geometric sequences <ol style="list-style-type: none"> Find terms of a geometric sequence BHV Write a formula for a geometric sequence Q5V Geometric series <ol style="list-style-type: none"> Identify arithmetic and geometric series HS9 Find the sum of a finite geometric series 9KQ
10.2.2: What if n is very large? Infinite Series	<ol style="list-style-type: none"> Find the value of an infinite geometric series ZVH

Section 10.3

Textbook section	IXL skills
10.3.1: How many successful outcomes are there? Using a Binomial Probability Model	1. Find probabilities using the binomial distribution ZGX
10.3.2: How can I rewrite $(x + y)^6$? Pascal's Triangle and the Binomial Theorem	1. Pascal's triangle G7Y 2. Pascal's triangle and the Binomial Theorem A7M
10.3.3: What is e ? The Number e	Natural logarithms and e 1. Evaluate natural logarithms XG9 2. Continuously compounded interest: word problems 5GU Binomial Theorem 3. Binomial Theorem I CWS 4. Binomial Theorem II NEU

Chapter 11

Rational Expressions and Three-Variable Systems

Section 11.1

Textbook section	IXL skills
11.1.1: How can "1" be useful? Simplifying Rational Expressions	1. Simplify rational expressions 37N
11.1.2: How can I rewrite it? Multiplying and Dividing Rational Expressions	1. Multiply and divide rational expressions MG2
11.1.3: How can I rewrite it? Adding and Subtracting Rational Expressions	1. Add and subtract rational expressions FEX
11.1.4: Putting it all together: Operations with Rational Expressions	

Section 11.2

Textbook section	IXL skills
11.2.1: How can I plot points in three dimensions? Creating a Three-Dimensional Model	
11.2.2: How can I graph a three-dimensional equation? Graphing Equations in Three Dimensions	
11.2.3: What is a solution in three dimensions? Solving Systems of Three Equations with Three Variables	<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
11.2.4: How can I apply systems of equations? Using Systems of Three Equations for Curve Fitting	

Chapter 12

Analytic Trigonometry

Section 12.1

Textbook section	IXL skills
12.1.1: When is it true? Analyzing Trigonometric Equations	
12.1.2: How many solutions are there? Solutions to Trigonometric Equations	
12.1.3: Is it a function? Inverses of Trigonometric Functions	1. Inverses of sin, cos, and tan JVB
12.1.4: What is the reciprocal? Reciprocal Trigonometric Functions	1. Solve trigonometric equations I CQB 2. Solve trigonometric equations II SNX

Section 12.2

Textbook section	IXL skills
12.2.1: How can I rewrite it? Trigonometric Identities	1. Trigonometric identities I XJJ 2. Trigonometric identities II F8F
12.2.2: How can I prove it? Proving Trigonometric Identities	
12.2.3: What about sums and differences? Angle Sums and Difference Identities	