



IXL Skill Alignment

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Chapter 1

Functions

Section 1.1

Textbook section	IXL skills
1.1.1: How can I work with my team to figure it out? Solving Puzzles in Teams	Absolute value 1. Absolute value and opposites KGR Square roots 2. Square roots 7PZ Order of operations 3. Evaluate numerical expressions involving integers ZFX 4. Evaluate numerical expressions involving rational numbers 8CU Variable expressions 5. Evaluate variable expressions involving integers AZT 6. Evaluate variable expressions involving rational numbers M9A
1.1.2: How does it grow? Investigating the Growth of Patterns	1. Identify proportional relationships PAV
1.1.3: How can I describe a graph? Multiple Representations of Functions	Cube roots 1. Cube roots RNT Families of functions 2. Identify direct variation and inverse variation 9Y5 3. Identify linear and exponential functions from graphs UEC

Section 1.2

Textbook section

IXL skills

1.2.1: What is the function? Function Machines

Evaluate functions

1. Evaluate a function R96
2. Evaluate an exponential function D6H

Function tables and graphs

3. Find values using function graphs QCG
4. Complete a function table from a graph HXF
5. Complete a function table from an equation Z73
6. Complete a table and graph a linear function JFG
7. Complete a function table: quadratic functions LFV
8. Complete a function table: absolute value functions 2DH

Angle relationships

9. Identify complementary, supplementary, vertical, adjacent, and congruent angles 7P7
10. Find measures of complementary, supplementary, vertical, and adjacent angles VZU

1.2.2: Can I predict the output? Functions

1. Identify functions VLL
2. Identify functions: vertical line test HLX

1.2.3: What can go in? What can come out? Domain and range

Independent and dependent variables

1. Identify independent and dependent variables N55

Domain and range

2. Domain and range of relations 2CG
3. Domain and range of exponential functions: graphs ANC
4. Domain and range of absolute value functions: graphs NV7
5. Domain and range of radical functions: graphs UXG

Section 1.3

Textbook section

IXL skills

1.3.1: How can I rewrite it? Rewriting Expressions with Exponents

1. Convert between standard and scientific notation 7DX
2. Compare numbers written in scientific notation V8N
3. Add and subtract numbers written in scientific notation VJL
4. Multiply numbers written in scientific notation TPB
5. Divide numbers written in scientific notation PY5

1.3.2: How can I rewrite it? Zero and Negative Exponents

Laws of exponents

1. Negative exponents SCM
2. Multiplication with exponents HQD
3. Division with exponents 9SS
4. Multiplication and division with exponents HPK
5. Power rule RWY

Numerical expressions with exponents

6. Identify equivalent expressions involving exponents I EUF
7. Identify equivalent expressions involving exponents II RKA

Variable expressions with exponents

8. Multiply monomials 52N
9. Divide monomials B48
10. Multiply and divide monomials 48P
11. Powers of monomials 7Q8

Chapter 2

Linear Functions

Section 2.1

Textbook section	IXL skills
2.1.1: How does it grow? Seeing Growth in Linear Functions	
2.1.2: How can I measure steepness? Comparing Δx and Δy	1. Find the slope of a graph E7D
2.1.3: How steep is it? Slope	
2.1.4: What information determines a line? $y = mx + b$ and More on Slope	1. Find the slope from two points MD5 2. Find a missing coordinate using slope 5C7 3. Slope-intercept form: find the slope and y-intercept R5T

Section 2.2

Textbook section	IXL skills
2.2.1: What is the equation of the line? Modeling Linear Functions	1. Outliers in scatter plots EG5
2.2.2: What can rate of change represent? Rate of Change	Interpret slope 1. Find the constant of variation 9TD Slope-intercept form 2. Slope-intercept form: graph an equation UWB 3. Slope-intercept form: write an equation from a graph 9GW
2.2.3: How can I use $y = mx + b$? Equations of Lines in a Situation	Slope-intercept form 1. Slope-intercept form: write an equation from a word problem HWM Standard form 2. Standard form: find x- and y-intercepts 8SN

3. Standard form: graph an equation U6U

2.2.4: How can I convert rates? Dimensional Analysis

1. Convert rates and measurements: customary units TXC

2. Convert rates and measurements: metric units 6W2

3. Unit prices with unit conversions LT6

4. Multi-step problems with unit conversions EHV

Section 2.3

Textbook section

IXL skills

2.3.1: How can I use slope and a point to write an equation? Writing the Equation of a Line Given the Slope and a Point

2.3.2: What is the equation of a line? Writing the equation of a Line Through Two Points

1. Slope-intercept form: write an equation A42

2.3.3: What is the equation of the line? Writing $y = mx + b$ from Graphs and Tables

1. Slope-intercept form: write an equation from a table SSE

Chapter 3

Transformations and Solving

Section 3.1

Textbook section

IXL skills

3.1.1: How can I see it? Spatial Visualization and Reflections

3.1.2: What if it is reflected more than once? Rotations and Translations

3.1.3: What is the relationship? Slopes of parallel and perpendicular lines

3.1.4: How can I move it? Defining Rigid Transformations

Congruence transformations

1. Classify congruence transformations CXT

Classify triangles and polygons

2. Classify triangles TNN

3. Polygon vocabulary KHQ

Lines and angles

1. Lines, line segments, and rays XFC

2. Angle vocabulary 9U2

Parallel and perpendicular lines

3. Slopes of parallel and perpendicular lines ADB

4. Write an equation for a parallel or perpendicular line 5SH

Mixed congruence transformations

1. Sequences of congruence transformations: graph the image WHW

2. Congruence transformations: mixed review XQ7

Translations

3. Translations: graph the image 7AC

4. Translations: find the coordinates F8U

5. Translations: write the rule 9PR

Reflections

6. Reflections: graph the image SM9

7. Reflections: find the coordinates SVY

Rotations

8. Rotate polygons about a point XM7
9. Rotations: graph the image 6SD
10. Rotations: find the coordinates ZX5

3.1.5: What shapes can I create with triangles?
Using Transformations to Create Polygons

3.1.6: What shapes have symmetry? Symmetry

1. Line symmetry WBX
2. Rotational symmetry ERP
3. Draw lines of symmetry JU7
4. Count lines of symmetry M7U

Section 3.2

Textbook section

IXL skills

3.2.1: How can algebra tiles help me multiply?
Modeling Area and Perimeter with Algebra Tiles

Understand polynomials

1. Identify monomials QSC
2. Polynomial vocabulary MTT
3. Model polynomials with algebra tiles TYV

Add and subtract polynomials

4. Add and subtract polynomials using algebra tiles J7V
5. Add and subtract polynomials 5EK
6. Add polynomials to find perimeter 8AS

3.2.2: How can rectangles help me multiply?
Exploring an Area Model

1. Multiply two polynomials using algebra tiles WR5

3.2.3: How can I rewrite a product? Multiplying
Polynomials and the Distributive Property

Multiply polynomials

1. Multiply a polynomial by a monomial G2G
2. Multiply two binomials M7Q
3. Multiply two binomials: special cases 9JN
4. Multiply polynomials 58A

Distributive property

5. Distributive property BHL

Section 3.3

Textbook section	IXL skills
3.3.1: How can I solve it? Multiple Methods for Solving Equations	Properties <ol style="list-style-type: none">1. Properties of addition and multiplication TQS2. Properties of equality H8Q Linear equations <ol style="list-style-type: none">3. Solve two-step linear equations QAK4. Solve advanced linear equations 28N5. Solve equations with variables on both sides 7S76. Solve equations: complete the solution EVP
3.3.2: How can I rewrite or undo it? Fraction Busters	<ol style="list-style-type: none">1. Identify equivalent equations XNQ
3.3.3: Which solving strategy should I use? Solving Exponential and Complex Equations	<ol style="list-style-type: none">1. Solve linear equations: mixed review DN6

Chapter 4

Modeling Two-Variable Data

Section 4.1

Textbook section	IXL skills
4.1.1: How can I make predictions? Line of Best Fit	Pythagorean theorem 1. Pythagorean theorem F55 Scatter plots and line of best fit 2. Interpret a scatter plot 8BS 3. Scatter plots: line of best fit Y2S
4.1.2: How close is the model? Residuals	
4.1.3: What are the bounds of my predictions? Upper and Lower Bounds	
4.1.4: How do I determine the LSRL? Least Squares Regression Line	1. Find the equation of a regression line WJC 2. Interpret regression lines SEQ

Section 4.2

Textbook section	IXL skills
4.2.1: When is my model appropriate? Residual Plots	1. Analyze a regression line of a data set 8D8
4.2.2: How can I measure my linear fit? Correlation	1. Match correlation coefficients to scatter plots FQ7 2. Calculate correlation coefficients E8T
4.2.3: Why can't studies determine cause and effect? Association is Not Causation	
4.2.4: What does the correlation mean? Interpreting Correlation in Context	

Chapter 5

Sequences

Section 5.1

Textbook section	IXL skills
5.1.1: How does the pattern grow? Representing Exponential Growth	<ol style="list-style-type: none"> 1. Identify linear and exponential functions from graphs UEC 2. Identify linear and exponential functions from tables LZF
5.1.2: How high will it bounce? Rebound Ratios	
5.1.3: What is the pattern? The Bouncing Ball and Exponential Decay	

Section 5.2

Textbook section	IXL skills
5.2.1: How can I describe a sequence? Generating and Investigating Sequences	<ol style="list-style-type: none"> 1. Identify arithmetic and geometric sequences X76
5.2.2: How do arithmetic sequences work? Generalizing Arithmetic Sequences	<ol style="list-style-type: none"> 1. Arithmetic sequences ALG 2. Write variable expressions for arithmetic sequences 5VF
5.2.3: How else can I write the equation? Recursive Sequences	

Section 5.3

Textbook section	IXL skills
5.3.1: What is the rate of change? Comparing Growth in Tables and Graphs	
5.3.2: How can I use a multiplier? Using Multipliers to Solve Problems	<ol style="list-style-type: none"> 1. Geometric sequences HLJ 2. Write variable expressions for geometric sequences XPC

5.3.3: Is it a function? Comparing Sequences to Functions**Arithmetic and geometric sequences**

1. Evaluate variable expressions for number sequences PMN
2. Evaluate recursive formulas for sequences 9YD
3. Write a formula for a recursive sequence KP9

Convert recursive and explicit formulas

4. Convert a recursive formula to an explicit formula ZBQ
 5. Convert an explicit formula to a recursive formula 42Y
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Chapter 6

Systems of Equations

Section 6.1

Textbook section	IXL skills
6.1.1: How can I change it into $y = mx + b$ form? Working with Multi-Variable Equations	1. Linear equations: solve for y T5F
6.1.2: What kinds of equations can I solve now? Summary of Solving Equations	1. Rearrange multi-variable equations WSJ
6.1.3: How can I use multiple representations to solve? Solving Word Problems Using Different Representations	
6.1.4: How can I use variables to solve problems? Solving Word Problems by Writing Equations	1. Solve linear equations: word problems UFG 2. Write linear functions: word problems 9RQ

Section 6.2

Textbook section	IXL skills
6.2.1: How can I solve the system? Solving Systems of Equations Using the Equal Values Method	
6.2.2: How can I solve the system? Solving Systems of Equations Using Substitution	1. Solve a system of equations using substitution 8P9 2. Solve a system of equations using substitution: word problems US9
6.2.3: How can a solution be represented? Making Connections: Systems and Multiple Representations	1. Is (x, y) a solution to the system of equations? LRL

Section 6.3

Textbook section	IXL skills
6.3.1: Can I solve it without substituting? Solving Systems Using Elimination	
6.3.2: How can I eliminate a variable? More Elimination	<ol style="list-style-type: none"> 1. Solve a system of equations using elimination A48 2. Solve a system of equations using elimination: word problems NHR
6.3.3: How can a graph show the solution? Making Connections: Systems, Solutions, and Graphs	<ol style="list-style-type: none"> 1. Solve a system of equations by graphing TSS 2. Solve a system of equations by graphing: word problems BVB

Section 6.4

Textbook section	IXL skills
6.4.1: What is the best method? Choosing a Strategy for Solving a System	<p>Number of solutions</p> <ol style="list-style-type: none"> 1. Find the number of solutions to a system of equations by graphing HJW 2. Find the number of solutions to a system of equations ACN <p>Solve using any method</p> <ol style="list-style-type: none"> 3. Solve a system of equations using any method HLV 4. Solve a system of equations using any method: word problems GDQ
6.4.2: What can I do now? Pulling it all Together	

Chapter 7

Congruence and Coordinate Geometry

Section 7.1

Textbook section	IXL skills
7.1.1: Are the polygons congruent? Defining Congruence	Congruent figures <ol style="list-style-type: none"> 1. Congruence statements and corresponding parts CYL 2. Solve problems involving corresponding parts WYB 3. Identify congruent figures HU9
7.1.2: Do I need to know every measurement? Conditions for Triangle Congruence	<ol style="list-style-type: none"> 1. Triangle Angle-Sum Theorem UBU 2. ASA and AAS Theorems N94
7.1.3: How can I organize my information? Creating a Flowchart	
7.1.4: Are the triangles congruent? Justifying Triangle Congruence Using Flowcharts	
7.1.5: How else can I determine congruence? More Conditions for Triangle Congruence	<ol style="list-style-type: none"> 1. SSS and SAS Theorems 48Q 2. SSS Theorem in the coordinate plane C5G
7.1.6: How can I prove it? Congruence of Triangles Through Rigid Transformations	
7.1.7: Are the triangles congruent? More Congruence Flowcharts	<ol style="list-style-type: none"> 1. SSS, SAS, ASA, and AAS Theorems LER

Section 7.2

Textbook section	IXL skills
7.2.1: What makes a quadrilateral special? Studying Quadrilaterals on the Coordinate Grid	Classify quadrilaterals <ol style="list-style-type: none"> 1. Identify trapezoids TRZ 2. Classify quadrilaterals I 86L 3. Classify quadrilaterals II MVK

Graph quadrilaterals

4. Graph quadrilaterals M5F

Properties of quadrilaterals

5. Properties of parallelograms LLK
6. Properties of rhombuses QVX
7. Properties of squares and rectangles R9M
8. Properties of trapezoids UC9
9. Properties of kites LZ9
10. Review: properties of quadrilaterals Q2R

7.2.2: How can I find the midpoint? Coordinate Geometry and Midpoints

Midpoint and distance formulas

1. Midpoint formula: find the midpoint 2YG
2. Midpoint formula: find the endpoint EUW
3. Distance formula 59F

Midsegments of triangles

4. Midsegments of triangles 8GT

7.2.3: What kind of quadrilateral is it? Identifying Quadrilateral on the Coordinate Grid

Chapter 8

Exponential Functions

Section 8.1

Textbook section	IXL skills
8.1.1: What do exponential graphs look like? Investigating $y=b^x$	1. Evaluate an exponential function D6H
8.1.2: What is the connection? Multiple Representations of Exponential Functions	
8.1.3: How does it grow? More Applications of Exponential Functions	
8.1.4: What if it does not grow? Exponential Decay	1. Exponential growth and decay: word problems UKG
8.1.5: What are the connections? Graph Equation	
8.1.6: What is the connection? Completing the Multiple Representations Web	

Section 8.2

Textbook section	IXL skills
8.2.1: How can I write the equation? Curve Fitting	
8.2.2: What if a line does not fit the data? Curved Best Fit Models	
8.2.3: How can I use exponential functions? Investigating $y=b^x$	

Chapter 9

Inequalities

Section 9.1

Textbook section	IXL skills
9.1.1: What if the quantities are not equal? Solving Linear, One-Variable Inequalities	Understand inequalities <ol style="list-style-type: none"> Graph inequalities H68 Write inequalities from graphs SEK Identify solutions to inequalities 5UE One-step linear inequalities <ol style="list-style-type: none"> Solve one-step linear inequalities: addition and subtraction RZV Solve one-step linear inequalities: multiplication and division BRJ Solve one-step linear inequalities EEX Graph solutions to one-step linear inequalities E2Z Two-step linear inequalities <ol style="list-style-type: none"> Solve two-step linear inequalities NPZ Graph solutions to two-step linear inequalities XVM
9.1.2: How can I use inequalities? More Solving Inequalities	<ol style="list-style-type: none"> Solve advanced linear inequalities 9K8 Graph solutions to advanced linear inequalities 5GC
9.1.3: How can I solve the inequality? Solving Absolute Value Equations and Inequalities	Absolute value equations <ol style="list-style-type: none"> Solve absolute value equations 9LF Graph solutions to absolute value equations KXA Absolute value inequalities <ol style="list-style-type: none"> Solve absolute value inequalities HXH Graph solutions to absolute value inequalities NE9

Section 9.2

Textbook section	IXL skills
9.2.1: What if the inequality has two variables? Graphing Two-Variable Inequalities	<ol style="list-style-type: none">1. Does (x, y) satisfy the inequality? N9L2. Linear inequalities: solve for y UYU3. Graph a two-variable linear inequality HHP4. Linear inequalities: word problems ZAY
9.2.2: What if the inequality is not linear? Graphing Linear and Nonlinear Inequalities	

Section 9.3

Textbook section	IXL skills
9.3.1: How can I represent it? Systems of Inequalities	<ol style="list-style-type: none">1. Is (x, y) a solution to the system of inequalities? VFC2. Solve systems of linear inequalities by graphing SGH
9.3.2: How can I apply it? More Systems of Inequalities	
9.3.3: How can I use inequalities to solve problems? Applying Inequalities to Solve Problems	

Chapter 10

Functions and Data

Section 10.1

Textbook section	IXL skills
10.1.1: What can I tell from a survey? Association in Two-Way Tables	Two-way tables 1. Find probabilities using two-way frequency tables 93R
10.1.2: How do I represent consistency? Investigating Data Representations	Box and whisker plots 1. Box plots YE9 Measures of center and spread 2. Mean, median, mode, and range MHB 3. Calculate quartiles and interquartile range 8H9 Outliers 4. Identify an outlier 87L 5. Identify an outlier and describe the effect of removing it XGC
10.1.3: How can I compare results? Comparing Data	
10.1.4: How can I measure variability? Standard Deviation	1. Mean absolute deviation A5C 2. Variance and standard deviation HX5

Section 10.2

Textbook section	IXL skills
10.2.1: How can I make it different? Transforming Functions	1. Transformations of linear functions C8G 2. Match exponential functions and graphs 72J
10.2.2: How can I combine functions? Arithmetic Operations with Functions	

10.2.3: How can I prove growth? Proving Linear and Exponential Growth Patterns

1. Linear functions over unit intervals L5P
 2. Exponential functions over unit intervals S7D
 3. Describe linear and exponential growth and decay S7T
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Chapter 11

Constructions and Closure

Section 11.1

Textbook section	IXL skills
11.1.1: How can I construct it? Introduction to Constructions	<ol style="list-style-type: none"> 1. Construct an angle bisector FHL 2. Construct a congruent angle F7V
11.1.2: How can I construct it? Constructing Bisectors	<ol style="list-style-type: none"> 1. Construct the midpoint or perpendicular bisector of a segment HDT
11.1.3: How do I construct it? More Explorations with Constructions	<p>Parallel and perpendicular lines</p> <ol style="list-style-type: none"> 1. Construct a perpendicular line BZR 2. Construct parallel lines 6EB <p>Regular polygons</p> <ol style="list-style-type: none"> 3. Construct an equilateral triangle or regular hexagon USF 4. Construct a square QQZ <p>Polygons inscribed in circles</p> <ol style="list-style-type: none"> 5. Construct an equilateral triangle inscribed in a circle RBF 6. Construct a square inscribed in a circle WEH 7. Construct a regular hexagon inscribed in a circle MCM

Section 11.2

Textbook section	IXL skills
11.2.1: How can I solve it? Solving Work and Mixture Problems	<ol style="list-style-type: none"> 1. Rate of travel: word problems 2C8
11.2.2: How do I use a graph to solve? Solving Systems of Equations Graphically	
11.2.3: How can I make a prediction? Using a Best Fit Line to Make a Prediction	<ol style="list-style-type: none"> 1. Interpret regression lines SEQ 2. Analyze a regression line of a data set 8D8

11.2.4: Can I find it? Treasure Hunt

1. Identify functions: vertical line test HLX
 2. Domain and range of exponential functions: graphs ANC
 3. Domain and range of absolute value functions: graphs NV7
 4. Domain and range of radical functions: graphs UXG
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11.2.5: What is the shape? Using Coordinate Geometry and Constructions to Explore Shapes

1. Midsegments of triangles 8GT
 2. Proving a quadrilateral is a parallelogram H89
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11.2.6: How much will I need? Modeling with Exponential Functions and Linear Inequalities

Appendix

Solving Equations

Textbook section	IXL skills
A.1.1 How can I represent an expression?: Exploring Variables and Expressions	<ol style="list-style-type: none"> 1. Simplify variable expressions involving like terms and the distributive property ZXX 2. Model polynomials with algebra tiles TYV 3. Add and subtract polynomials using algebra tiles J7V 4. Add and subtract polynomials 5EK
A.1.2 What makes zero?: Using Zero to Simplify Algebraic Expressions	<ol style="list-style-type: none"> 1. Evaluate numerical expressions involving integers ZFX
A.1.3 How can I simplify the expression?: Using Algebra Tiles to Compare Expressions	<ol style="list-style-type: none"> 1. Evaluate variable expressions involving integers AZT 2. Evaluate a function R96
A.1.4 How can I write it?: Justifying and Recording Work	
A.1.5 What if both sides are equal?: Using Algebra Tiles to Solve for x	<ol style="list-style-type: none"> 1. Model and solve equations using algebra tiles GRH
A.1.6 What is x?: More Solving Equations	<ol style="list-style-type: none"> 1. Solve advanced linear equations 28N 2. Solve equations with variables on both sides 7S7 3. Solve linear equations: mixed review DN6
A.1.7 How can I check my answer?: Checking Solutions	<ol style="list-style-type: none"> 1. Does x satisfy the equation? JPC 2. Which x satisfies an equation? YTT
A.1.8 How many solutions are there?: Determining the Number of Solutions	<ol style="list-style-type: none"> 1. Find the number of solutions KBP 2. Create equations with no solutions or infinitely many solutions PUK
A.1.9 How can I use my equation-solving skills?: Using Equations to Solve Problems	<ol style="list-style-type: none"> 1. Solve linear equations: word problems UFG