



IXL Skill Alignment

Algebra 1 alignment for CPM Core Connections



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Chapter 1

Functions

Section 1.1

Textbook section	IXL skills
1.1.1: Solving Puzzles in Teams	<ol style="list-style-type: none"> 1. Absolute value and opposites KGR 2. Evaluate numerical expressions involving integers ZFX <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Add, subtract, multiply, and divide integers UNC • Square roots 7PZ
1.1.2: Investigating the Growth of Patterns	<ol style="list-style-type: none"> 1. Identify linear and exponential functions from graphs and tables 8N3 <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Add and subtract rational numbers J8R • Evaluate variable expressions involving integers AZT
1.1.3: Investigating the Graphs of Quadratic Functions	<ol style="list-style-type: none"> 1. Identify linear, quadratic, and exponential functions from graphs DHB <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Multiply and divide rational numbers H6L • Solve two-step linear equations QAK

Section 1.2

Textbook section	IXL skills
1.2.1: Describing a Graph	<ul style="list-style-type: none"> • <i>Coming soon:</i> Graph square root functions • <i>Coming soon:</i> Identify graphs: word problems
1.2.2: Cube Root and Absolute Value Functions	<ol style="list-style-type: none"> 1. Solve equations using cube roots 46S 2. Complete a function table: absolute value functions 2DH 3. Graph an absolute value function TD2

Also consider

- Cube roots RNT

1.2.3: Function Machines

1. Evaluate a function R96
2. Find values using function graphs QCG

Also consider

- Complete a function table from a graph HXF
- Complete a function table from an equation Z73
- Interpret functions using everyday language U98

1.2.4: Functions

1. Identify functions: lists, tables, or discrete graphs XVU

Also consider

- Identify functions: vertical line test HLX

1.2.5: Domain and Range

1. Domain and range of relations 2CG
2. Domain and range of exponential, absolute value, and radical functions: graphs 9HQ
3. Identify independent and dependent variables N55

Also consider

- Domain and range of absolute value functions: equations FCY
- Domain and range of radical functions: equations 73C

Checkpoint opportunity

1. Checkpoint: Function concepts HWA

Chapter 2

Linear Relationships

Section 2.1

Textbook section	IXL skills
2.1.1: Seeing Growth in Linear Relationships	<ol style="list-style-type: none"> 1. Complete a table and graph a linear function JFG 2. Identify linear functions from tables F5G <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Identify linear functions from graphs and equations VMQ
2.1.2: Slope	
2.1.3: Comparing delta y and delta x	<ol style="list-style-type: none"> 1. Find the slope of a graph E7D
2.1.4: $y = mx + b$ and More on Slope	<ol style="list-style-type: none"> 1. Find the slope from two points MD5 2. Slope-intercept form: find the slope and y-intercept R5T 3. Slope-intercept form: graph an equation UWB <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Equations of horizontal and vertical lines K8H • Graph a horizontal or vertical line BTK • Find a missing coordinate using slope 5C7

Section 2.2

Textbook section	IXL skills
2.2.1: Slope as Motion	<ol style="list-style-type: none"> 1. Slope-intercept form: write an equation from a table SSE <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Compare linear functions: graphs and equations EA8

2.2.2: Rate of Change

1. Rate of change: graphs BNH
2. Rate of change: tables PLA
3. Slope-intercept form: write an equation from a graph 9GW
 - *Coming soon:* Graph piecewise functions

2.2.3: Equations of Lines in Situations

1. Slope-intercept form: write an equation from a word problem HWM
2. Standard form: find x- and y-intercepts 8SN

Also consider

- Interpret the graph of a function: word problems STU
- Evaluate numerical expressions involving rational numbers 8CU
- *Coming soon:* Interpret the slope and y-intercept of a linear function

Section 2.3**Textbook section****IXL skills****2.3.1:** Finding an Equation Given a Slope and a Point

1. Write a linear equation from a slope and a point YMZ

2.3.2: Finding the Equation of a Line Through Two Points

1. Write a linear equation from two points VKL

Checkpoint opportunity

- *Coming soon:* Checkpoint: Average rate of change

Chapter 3

Simplifying and Solving

Section 3.1

Textbook section	IXL skills
3.1.1: Simplifying Exponential Expressions	<ol style="list-style-type: none">1. Multiplication and division with positive exponents BZP2. Powers of monomials 7Q8 <p><i>Also consider</i></p> <ul style="list-style-type: none">• Exponents with integer bases EJ8
3.1.2: Zero and Negative Exponents	<ol style="list-style-type: none">1. Understanding negative exponents 73M2. Multiplication with exponents HQD3. Division with exponents 9SS4. Power rule RWY <p><i>Also consider</i></p> <ul style="list-style-type: none">• Exponents with decimal and fractional bases 7SS• Multiplication and division with exponents HPK

Section 3.2

Textbook section	IXL skills
3.2.1: Equations \leftrightarrow Algebra Tiles	<ol style="list-style-type: none">1. Model polynomials with algebra tiles TYV2. Model and solve equations using algebra tiles GRH <p><i>Also consider</i></p> <ul style="list-style-type: none">• Add and subtract polynomials using algebra tiles J7V
3.2.2: Exploring an Area Model	<ol style="list-style-type: none">1. Multiply two polynomials using algebra tiles WR5

3.2.3: Multiplying Binomials and the Distributive Property

1. Multiply a polynomial by a monomial G2G
2. Multiply two binomials M7Q

Also consider

- Multiply two binomials: special cases 9JN

3.2.4: Using Generic Rectangles to Multiply

1. Multiply polynomials 58A
2. Properties of addition and multiplication TQS

Also consider

- Simplify variable expressions using properties HHR

Section 3.3

Textbook section
IXL skills
3.3.1: Solving Equations With Multiplication and Absolute Value

1. Solve advanced linear equations 28N
2. Solve equations with variables on both sides 7S7
3. Solve equations involving absolute value 7GP

Also consider

- Simplify variable expressions involving like terms and the distributive property ZXX

3.3.2: Working With Multi-Variable Equations

1. Linear equations in standard form: solve for y VQB
2. Rearrange multi-variable equations WSJ

Also consider

- Write equations in standard form ESP

Chapter 4

Systems of Equations

Section 4.1

Textbook section

4.1.1: Solving Word Problems by Writing Equations

IXL skills

1. Solve linear equations: word problems UFG
2. Write linear functions: word problems 9RQ

Also consider

- Multiply numbers written in scientific notation TPB

4.1.2: One Equation or Two?

Section 4.2

Textbook section

4.2.1: Solving Systems of Equations Using Substitution

IXL skills

1. Solve a system of equations using substitution 8P9
2. Is (x, y) a solution to the system of equations? LRL

Also consider

- Solve a system of equations using substitution: word problems US9

4.2.2: Making Connections: Systems, Solutions, and Graphs

1. Solve a system of equations by graphing TSS
2. Find the number of solutions to a system of equations by graphing HJW

Also consider

- Solve a system of equations by graphing: word problems BVB
- Find the number of solutions to a system of equations ACN
- Classify a system of equations by graphing T2D
- Classify a system of equations LTA

4.2.3: Solving Systems Using Elimination

1. Solve a system of equations by adding or subtracting RMJ

4.2.4: More Elimination

1. Solve a system of equations using elimination A48

Also consider

- Solve a system of equations using elimination: word problems NHR

4.2.5: Choosing a Strategy for Solving Systems

1. Solve a system of equations using any method HLV

Section 4.3**Textbook section****IXL skills****4.3.1: Pulling it all Together**

1. Solve a system of equations using any method: word problems GDQ

Chapter 5

Sequences

Section 5.1

Textbook section	IXL skills
5.1.1: Representing Exponential Growth	1. Identify linear and exponential functions from tables LZF <i>Also consider</i> <ul style="list-style-type: none"> Identify equivalent expressions involving exponents I EUF
5.1.2: Rebound Ratios	
5.1.3: The Bouncing Ball and Exponential Decay	

Section 5.2

Textbook section	IXL skills
5.2.1: Generating and Investigating Sequences	1. Identify arithmetic and geometric sequences X76 2. Arithmetic sequences ALG 3. Geometric sequences HLJ <i>Also consider</i> <ul style="list-style-type: none"> Evaluate variable expressions for number sequences PMN Divide numbers written in scientific notation PY5
5.2.2: Generalizing Arithmetic Sequences	1. Write variable expressions for arithmetic sequences 5VF
5.2.3: Recursive Sequences	1. Write a recursive formula: arithmetic sequences QYM 2. Evaluate recursive formulas for sequences 9YD 3. Identify a sequence as explicit or recursive Y9B

Also consider

- Convert a recursive formula to an explicit formula ZBQ
- Convert an explicit formula to a recursive formula 42Y

Section 5.3

Textbook section

IXL skills

5.3.1: Patterns of Growth in Tables and Graphs

1. Identify linear, quadratic, and exponential functions from tables SP5

Also consider

- *Coming soon:* Choose linear and exponential models: word problems

5.3.2: Using Multipliers to Solve Problems

1. Write variable expressions for geometric sequences XPC
2. Write a recursive formula: geometric sequences JM6

5.3.3: Comparing Sequences to Functions

1. Write a formula for a recursive sequence KP9

Also consider

- Number sequences: mixed review FEL

Checkpoint opportunity

- *Coming soon:* Checkpoint: Sequences

Chapter 6

Modeling Two-Variable Data

Section 6.1

Textbook section	IXL skills
6.1.1: Line of Best Fit	<ol style="list-style-type: none"> 1. Interpret a scatter plot 8BS 2. Outliers in scatter plots EG5 3. Scatter plots: line of best fit Y2S
6.1.2: Residuals	
6.1.3: Upper and Lower Bounds	
6.1.4: Least Squares Regression Line	<ol style="list-style-type: none"> 1. Find the equation of a regression line WJC 2. Interpret regression lines SEQ 3. Analyze a regression line of a data set 8D8

Section 6.2

Textbook section	IXL skills
6.2.1: Residual Plots	<ul style="list-style-type: none"> • <i>Coming soon:</i> Calculate and plot residuals • <i>Coming soon:</i> Understand residuals
6.2.2: Correlation	<ol style="list-style-type: none"> 1. Calculate correlation coefficients E8T
6.2.3: Association is Not Causation	<ul style="list-style-type: none"> • <i>Coming soon:</i> Association and causation
6.2.4: Interpreting Correlation in Context	<ol style="list-style-type: none"> 1. Match correlation coefficients to scatter plots FQ7 • <i>Coming soon:</i> Interpret correlation coefficients
6.2.5: Curved Best-Fit Models	<ol style="list-style-type: none"> 1. Write linear, quadratic, and exponential functions AFA
Checkpoint opportunity	<ul style="list-style-type: none"> • <i>Coming soon:</i> Checkpoint: Linear modeling

Chapter 7

Exponential Functions

Section 7.1

Textbook section	IXL skills
7.1.1: Investigating $y = b^x$	<ul style="list-style-type: none"> • <i>Coming soon:</i> Graph exponential functions: $y=b^x$
7.1.2: Multiple Representations of Exponential Functions	<ul style="list-style-type: none"> • <i>Coming soon:</i> Interpreting exponential functions • <i>Coming soon:</i> Graph exponential functions
7.1.3: More Applications of Exponential Growth	1. Exponential growth: word problems LVU <i>Also consider</i> <ul style="list-style-type: none"> • Theoretical probability 2MS
7.1.4: Exponential Decay	1. Exponential decay: word problems H7Z
7.1.5: Graph Equation	
7.1.6: Completing the Multiple Representations Web	1. Exponential functions over unit intervals S7D <i>Also consider</i> <ul style="list-style-type: none"> • Linear functions over unit intervals L5P • Describe linear and exponential growth and decay S7T • Domain and range of exponential functions: graphs ANC • Domain and range of exponential functions: equations DZE

Section 7.2

Textbook section	IXL skills
7.2.1: Curve Fitting and Fractional Exponents	1. Evaluate integers raised to rational exponents PQH 2. Power rule with rational exponents QF8

7.2.2: More Curve Fitting

1. Negative exponents SCM

Also consider

- Evaluate expressions using properties of exponents LRR
- Identify equivalent expressions involving exponents II RKA

7.2.3: Solving a System of Exponential Functions Graphically

1. Write variable expressions for arithmetic and geometric sequences NDN

Also consider

- *Coming soon:* Compare linear, exponential, and quadratic functions

Checkpoint opportunity

- *Coming soon:* Checkpoint: Linear and exponential functions

Chapter 8

Quadratic Functions

Section 8.1

Textbook section	IXL skills
8.1.1: Introduction to Factoring Quadratics	1. Factor quadratics using algebra tiles Y6U 2. Factor out a monomial JZL <i>Also consider</i> <ul style="list-style-type: none"> GCF of monomials ZZU Factor by grouping HAA Polynomial vocabulary MTT
8.1.2: Factoring with Generic Rectangles	1. Factor quadratics with leading coefficient 1 S9P
8.1.3: Factoring with Special Cases	1. Factor quadratics with other leading coefficients GYR
8.1.4: Factoring Completely	1. Factor quadratics completely WVG
8.1.5: Factoring Shortcuts	1. Factor quadratics: differences of squares DFZ 2. Factor quadratics: perfect squares 56C <i>Also consider</i> <ul style="list-style-type: none"> Factor quadratics: special cases 56E Factor polynomials TAH

Section 8.2

Textbook section	IXL skills
8.2.1: Multiple Representations for Quadratic Functions	1. Characteristics of quadratic functions: graphs HW8 <i>Also consider</i> <ul style="list-style-type: none"> Complete a function table: quadratic functions LFV <i>Coming soon:</i> Interpreting quadratic functions

8.2.2: Zero Product Property

1. Solve a quadratic equation using the zero product property TNM
2. Match quadratic functions and graphs AU8
3. Characteristics of quadratic functions: equations YJZ

8.2.3: More Ways To Find the x-Intercepts

1. Graph quadratic functions in vertex form C7T

Also consider

- Graph quadratic functions in standard form HMW

8.2.4: Completing the Quadratic Web

1. Write a quadratic function from its zeroes N2S

Also consider

- Write a quadratic function from its vertex and another point YGV

8.2.5: Completing the Square

1. Complete the square RD2
2. Write a quadratic function in vertex form W2Q

Chapter 9

Solving Quadratics and Inequalities

Section 9.1

Textbook section	IXL skills
9.1.1: Solving Quadratic Equations	<ol style="list-style-type: none"> 1. Solve a quadratic equation by factoring CSS 2. Identify rational and irrational square roots SNP
9.1.2: Introduction to the Quadratic Formula	<ol style="list-style-type: none"> 1. Solve a quadratic equation using the quadratic formula XCF
9.1.3: More Solving Quadratic Equations	<ol style="list-style-type: none"> 1. Solve a quadratic equation by completing the square XCL <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Solve a quadratic equation using square roots ERF
9.1.4: Choosing a Strategy	<ol style="list-style-type: none"> 1. Simplify radical expressions ZFF <ul style="list-style-type: none"> • <i>Coming soon:</i> Solve quadratic equations: word problems

Section 9.2

Textbook section	IXL skills
9.2.1: Solving Linear, One-Variable Inequalities	<ol style="list-style-type: none"> 1. Write inequalities from graphs SEK 2. Solve two-step linear inequalities NPZ 3. Graph solutions to two-step linear inequalities XVM 4. Write compound inequalities from graphs 6UV <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Identify solutions to inequalities 5UE • Graph compound inequalities BQX
9.2.2: More Solving Inequalities	<ol style="list-style-type: none"> 1. Solve advanced linear inequalities 9K8 2. Graph solutions to advanced linear inequalities 5GC

Also consider

- Solve compound inequalities [GXA](#)

Section 9.3

Textbook section	IXL skills
9.3.1: Graphing Two-Variable Inequalities	1. Does (x, y) satisfy the inequality? N9L 2. Graph a two-variable linear inequality HHP <i>Also consider</i> • Linear inequalities: solve for y UYU
9.3.2: Graphing Linear and Non-Linear Inequalities	1. Graph solutions to two-variable absolute value inequalities FR8

Section 9.4

Textbook section	IXL skills
9.4.1: Systems of Inequalities	1. Is (x, y) a solution to the system of inequalities? VFC 2. Solve systems of linear inequalities by graphing SGH
9.4.2: More Systems of Inequalities	1. Solve systems of linear and absolute value inequalities by graphing J8P
9.4.3: Applying Inequalities to Solve Problems	1. Linear inequalities: word problems ZAY

Checkpoint opportunity

Chapter 9

1. Checkpoint: Quadratic equations [NXG](#)
2. Checkpoint: Solve linear equations and inequalities [VYL](#)

Chapters 1-9

3. Checkpoint: Systems of equations and inequalities [LQW](#)
4. Checkpoint: Polynomial operations [2B7](#)
 - *Coming soon:* Checkpoint: Problem solving with equations and inequalities
 - *Coming soon:* Checkpoint: Equivalent expressions



- *Coming soon:* Checkpoint: Represent constraints
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Chapter 10

Solving Complex Equations

Section 10.1

Textbook section

IXL skills

10.1.1: Association in Two-Way Tables

1. Find probabilities using two-way frequency tables 93R
2. Find conditional probabilities using two-way frequency tables BZZ
 - *Coming soon:* Associations in bivariate data

Also consider

- Identify independent and dependent events 5A7
- Probability of independent and dependent events WRJ
- Probability of opposite, mutually exclusive, and overlapping events SPS

Section 10.2

Textbook section

IXL skills

10.2.1: Solving by Rewriting

1. Solve linear equations with decimal coefficients X62
2. Rewrite and solve quadratic equations DM8
3. Solve exponential equations using factoring G5H

Also consider

- Identify equivalent equations XNQ

10.2.2: Fraction Busters

1. Solve rational equations VLW
 - *Coming soon:* Solve multi-step equations with fractional coefficients

10.2.3: Multiple Methods for Solving Equations

1. Solve radical equations I MMG

Also consider

- Solve radical equations II ZGH

10.2.4: Determining the Number of Solutions

10.2.5: Deriving the Quadratic Formula and the Number System

1. Properties of operations on rational and irrational numbers C7S
2. Classify numbers RB8
 - *Coming soon:* Derive the quadratic formula by completing the square

Also consider

- Sort rational and irrational numbers ALH
- Classify rational and irrational numbers 3S8

10.2.6: More Solving and an Application

1. Solve absolute value equations 9LF

Section 10.3
Textbook section
IXL skills
10.3.1: Intersection of Two Functions

1. Systems of linear and quadratic equations 4U9
 - *Coming soon:* Solve systems of linear and quadratic equations by graphing

10.3.2: Number of Parabola Intersections

- *Coming soon:* Solve an equation by graphing

10.3.3: Solving Quadratic and Absolute Value Inequalities

1. Solve absolute value inequalities HXH
2. Graph solutions to absolute value inequalities NE9
3. Graph solutions to quadratic inequalities ZUJ
4. Solve quadratic inequalities QEC

Checkpoint opportunity
Chapter 10

- *Coming soon:* Checkpoint: Two-way frequency tables

Chapters 1-10

1. Checkpoint: Radicals and rational exponents KTK
 - *Coming soon:* Checkpoint: Solve equations using graphs and tables

Chapter 11

Functions and Data

Section 11.1

Textbook section	IXL skills
11.1.1: Transforming Functions	<ol style="list-style-type: none"> Function transformation rules ZEG Transformations of linear and quadratic functions HQ5 Describe transformations of linear and quadratic functions 6VZ <p><i>Also consider</i></p> <ul style="list-style-type: none"> Translations of functions L92 Reflections of functions KD2 Dilations of functions 6EC <i>Coming soon:</i> Given a transformation, complete a table of values
11.1.2: Inverse Functions	<ol style="list-style-type: none"> Find the inverse of a function VME Using the discriminant SMF

Section 11.2

Textbook section	IXL skills
11.2.1: Investigating Data Representations	<ol style="list-style-type: none"> Interpret histograms 2QR Create histograms WZU Interpret circle graphs UHY Box plots YE9 Calculate quartiles and interquartile range 8H9 <ul style="list-style-type: none"> <i>Coming soon:</i> Understand characteristics of line plots, histograms, and box plots <p><i>Also consider</i></p> <ul style="list-style-type: none"> Interpret bar graphs, line graphs, and histograms B9A Create bar graphs, line graphs, and histograms EF6

11.2.2: Comparing Data

1. Identify an outlier 87L
 - *Coming soon:* Describe the shape of a distribution

Also consider

- Identify an outlier and describe the effect of removing it XGC

11.2.3: Standard Deviation

1. Mean, median, mode, and range MHB
2. Mean absolute deviation A5C
3. Standard deviation WA2
 - *Coming soon:* Compare the centers and spreads of distributions
 - *Coming soon:* Choose appropriate statistics

Section 11.3

Textbook section	IXL skills
11.3.1: Using a Best-Fit Line to Make a Prediction	<ul style="list-style-type: none"> • <i>Coming soon:</i> Interpret linear models
11.3.2: Relation Treasure Hunt	<ol style="list-style-type: none"> 1. Identify functions L7L
11.3.3: Investigating a Complex Function	
11.3.4: Using Algebra to Find a Maximum	<ul style="list-style-type: none"> • <i>Coming soon:</i> Interpret features of quadratic functions
11.3.5: Exponential Functions and Linear Inequalities	<ul style="list-style-type: none"> • <i>Coming soon:</i> Systems of linear inequalities: word problems
Checkpoint opportunity	<p>Chapter 11</p> <ol style="list-style-type: none"> 1. Checkpoint: Function transformations QKX 2. Checkpoint: Line plots, histograms, and box plots UVL <ul style="list-style-type: none"> • <i>Coming soon:</i> Checkpoint: Compare data sets <p>Chapters 1-11</p> <ul style="list-style-type: none"> • <i>Coming soon:</i> Checkpoint: Features of functions • <i>Coming soon:</i> Checkpoint: Function graphs • <i>Coming soon:</i> Checkpoint: Build functions



- *Coming soon:* Checkpoint: Quantitative reasoning
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