IXL Skill Alignment

Algebra 1 alignment for enVision Mathematics Common Core

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Topic 1

Solving Equations and Inequalities

Textbook section	IXL skills
Lesson 1-1: Operations on Real Numbers	1. Properties of operations on rational and irrational numbers C7S *Also consider* • Compare and order rational numbers ALW • Add and subtract rational numbers J8R • Multiply and divide rational numbers H6L • Sort rational and irrational numbers ALH
Lesson 1-2: Solving Linear Equations	1. Solve advanced linear equations 28N 2. Solve linear equations: word problems UFG *Also consider* • Solve two-step linear equations QAK • Model and solve equations using algebra tiles GRH
Lesson 1-3: Solving Equations With a Variable on Both Sides	1. Solve equations with variables on both sides 7S7 2. Find the number of solutions KBP 3. Weighted averages: word problems 2TQ *Also consider* • Solve linear equations: mixed review DN6 • Create equations with no solutions or infinitely many solutions PUK • Solve equations: complete the solution EVP
Lesson 1-4: Literal Equations and Formulas	1. Rearrange multi-variable equations WSJ *Also consider* • Rate of travel: word problems 2C8

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Lesson 1-5: Solving Inequalities in One Variable

1. Solve advanced linear inequalities 9K8
2. Graph solutions to advanced linear inequalities 5GC

Also consider

- Solve two-step linear inequalities NPZ
- Graph solutions to two-step linear inequalities XVM

Lesson 1-6: Compound Inequalities

1. Write compound inequalities from graphs 6UV
2. Solve compound inequalities GXA
3. Graph solutions to compound inequalities LHX

Also consider

- Graph compound inequalities BQX

Lesson 1-7: Absolute Value Equations and Inequalities

1. Solve absolute value equations 9LF
2. Solve absolute value inequalities HXH

Also consider

- Graph solutions to absolute value equations KXA
- Graph solutions to absolute value inequalities NE9

Checkpoint opportunity

1. Checkpoint: Solve linear equations and inequalities VYL

Topic 2

Linear Equations

Textbook section	IXL skills
Lesson 2-1: Slope-Intercept Form	1. Slope-intercept form: graphs and equations G7B 2. Slope-intercept form: write an equation from a word problem HWM *Also consider* • Slope-intercept form: write an equation A42 • Find a missing coordinate using slope 5C7
Lesson 2-2: Point-Slope Form	1. Point-slope form: graphs and equations QCQ 2. Point-slope form: write an equation PPE
Lesson 2-3: Standard Form	1. Standard form: find x- and y-intercepts 8SN 2. Standard form: graph an equation U6U 3. Graph a horizontal or vertical line BTK *Also consider* • Write equations in standard form ESP • Equations of horizontal and vertical lines K8H
Lesson 2-4: Parallel and Perpendicular Lines	1. Slopes of parallel and perpendicular lines ADB 2. Write an equation for a parallel or perpendicular line 5SH

Topic 3
Linear Functions

Textbook section	IXL skills
Lesson 3-1: Relations and Functions	1. Domain and range of relations 2CG 2. Identify functions VLL • *Coming soon:* Identify the domain of a function: word problems *Also consider* • Relations: convert between tables, graphs, mappings, and lists of points RBG • Identify functions: vertical line test HLX
Lesson 3-2: Linear Functions	1. Slope-intercept form: write an equation from a table SSE 2. Find values using function graphs TJM 3. Interpret the graph of a function: word problems STU *Also consider* • Identify linear functions from tables F5G • Complete a function table from an equation Z73 • Interpret functions using everyday language U98
Lesson 3-3: Transforming Linear Functions	1. Transformations of linear functions XWQ
Lesson 3-4: Arithmetic Sequences	1. Write variable expressions for arithmetic sequences 5VF 2. Write a recursive formula: arithmetic sequences QYM 3. Convert between explicit and recursive formulas: arithmetic sequences SBG *Also consider* • Arithmetic sequences ALG

Lesson 3-5: Scatter Plots and Lines of Fit

1. Interpret a scatter plot 8BS
2. Scatter plots: line of best fit Y2S
- *Coming soon:* Interpret linear models

Also consider
- Create scatter plots HZJ

Lesson 3-6: Analyzing Lines of Fit

1. Analyze a regression line of a data set 8D8
- *Coming soon:* Interpret correlation coefficients
- *Coming soon:* Association and causation

Also consider
- Calculate correlation coefficients E8T

Checkpoint opportunity

- *Coming soon:* Checkpoint: Linear modeling
- *Coming soon:* Checkpoint: Quantitative reasoning

Topic 4

Systems of Linear Equations and Inequalities

Textbook section	IXL skills
Lesson 4-1: Solving Systems of Equations by Graphing	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 • Is (x, y) a solution to the system of equations? LRL
Lesson 4-2: Solving Systems of Equations by Substitution	1. Solve a system of equations using substitution 8P9 *Also consider* • Solve a system of equations using substitution: word problems US9 • Find the number of solutions to a system of equations ACN
Lesson 4-3: Solving Systems of Equations by Elimination	1. Solve a system of equations using elimination A48 2. Solve a system of equations using any method: word problems GDQ *Also consider* • Solve a system of equations using elimination: word problems NHR • Solve a system of equations using any method HLV
Lesson 4-4: Linear Inequalities in Two Variables	1. Graph a two-variable linear inequality HHP 2. Linear inequalities: word problems ZAY *Also consider* • Does (x, y) satisfy the inequality? N9L • Linear inequalities: solve for y UYU

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Lesson 4-5: Systems of Linear Inequalities

1. Solve systems of linear inequalities by graphing SGH
   - *Coming soon:* Systems of linear inequalities: word problems

Also consider

- Is (x, y) a solution to the system of inequalities? VFC

Checkpoint opportunity

1. Checkpoint: Systems of equations and inequalities LQW
   - *Coming soon:* Checkpoint: Represent constraints

Topic 5

Piecewise Functions

Textbook section	IXL skills
Lesson 5-1: The Absolute Value Function	1. Graph an absolute value function TKR *Also consider* • Complete a function table: absolute value functions 2DH • Domain and range of absolute value functions: graphs NV7 • Domain and range of absolute value functions: equations FCY • Rate of change: graphs BNH
Lesson 5-2: Piecewise-Defined Functions	• *Coming soon:* Graph piecewise functions
Lesson 5-3: Step Functions	
Lesson 5-4: Transformations of Piecewise-Defined Functions	1. Transformations of absolute value functions 9TC • *Coming soon:* Compare absolute value functions: tables, graphs, and equations

Topic 6

Exponents and Exponential Functions

Textbook section	IXL skills
Lesson 6-1: Rational Exponents and Properties of Exponents	1. Solve exponential equations using factoring G5H *Also consider* • Multiplication with rational exponents YG7 • Division with rational exponents H47 • Power rule with rational exponents QF8 • Simplify expressions involving rational exponents 89Q
Lesson 6-2: Exponential Functions	1. Write linear and exponential functions JGJ • *Coming soon:* Graph exponential functions *Also consider* • Identify linear and exponential functions from graphs and tables 8N3
Lesson 6-3: Exponential Growth and Decay	1. Exponential growth and decay: word problems 8A6 2. Compound interest: word problems QSF *Also consider* • Describe linear and exponential growth and decay S7T
Lesson 6-4: Geometric Sequences	1. Identify arithmetic and geometric sequences X76 2. Write variable expressions for geometric sequences XPC 3. Write a recursive formula: geometric sequences JM6 *Also consider* • Geometric sequences HLJ
Lesson 6-5: Transformations of Exponential Functions	1. Match exponential functions and graphs 72J • *Coming soon:* Compare exponential functions: tables, graphs, and equations

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Checkpoint opportunity

Topics 1–6

1. Checkpoint: Radicals and rational exponents KTK
2. Checkpoint: Sequences 5W7

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

Topic 7
Polynomials and Factoring

Textbook section	IXL skills
Lesson 7-1: Adding and Subtracting Polynomials	1. Polynomial vocabulary MTT 2. Add and subtract polynomials 5EK *Also consider* • Add and subtract polynomials using algebra tiles J7V • Add polynomials to find perimeter 8AS
Lesson 7-2: Multiplying Polynomials	1. Multiply polynomials 58A *Also consider* • Multiply two polynomials using algebra tiles WR5 • Multiply two binomials M7Q
Lesson 7-3: Multiplying Special Cases	1. Multiply two binomials: special cases 9JN
Lesson 7-4: Factoring Polynomials	1. GCF of monomials ZZU 2. Factor out a monomial JZL
Lesson 7-5: Factoring $x^2 + bx + c$	1. Factor quadratics with leading coefficient 1 S9P
Lesson 7-6: Factoring $ax^2 + bx + c$	1. Factor quadratics with other leading coefficients 7ED 2. Factor by grouping HAA *Also consider* • Factor quadratics using algebra tiles Y6U
Lesson 7-7: Factoring Special Cases	1. Factor quadratics: special cases 56E *Also consider* • Factor polynomials TAH
Checkpoint opportunity	1. Checkpoint: Polynomial operations 2B7

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Topic 8

Quadratic Functions

Textbook section	IXL skills
Lesson 8-1: Key Features of a Quadratic Function	1. Characteristics of quadratic functions: graphs HW8
Lesson 8-2: Quadratic Functions in Vertex Form	1. Transformations of quadratic functions 6YS 2. Graph quadratic functions in vertex form C7T • *Coming soon:* Compare quadratic functions: tables, graphs, and equations *Also consider* • Write a quadratic function from its vertex and another point YGV • Describe function transformations ZRR
Lesson 8-3: Quadratic Functions in Standard Form	1. Graph quadratic functions in standard form HMW 2. Characteristics of quadratic functions: equations YJZ
Lesson 8-4: Modeling with Quadratic Functions	• *Coming soon:* Interpret features of quadratic functions
Lesson 8-5: Linear, Exponential, and Quadratic Models	1. Write linear, quadratic, and exponential functions AFA • *Coming soon:* Compare linear, exponential, and quadratic functions *Also consider* • Identify linear, quadratic, and exponential functions from tables SP5
Checkpoint opportunity	**Topics 1–8** • *Coming soon:* Checkpoint: Average rate of change

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Topic 9

Solving Quadratic Equations

Textbook section	IXL skills
Lesson 9-1: Solving Quadratic Equations Using Graphs and Tables	1. Find solutions using a table VWE *Also consider* • Approximate solutions using a table FK2
Lesson 9-2: Solving Quadratic Equations by Factoring	1. Solve a quadratic equation by factoring CSS *Also consider* • Solve a quadratic equation using the zero product property TNM • Write a quadratic function from its zeroes N2S
Lesson 9-3: Rewriting Radical Expressions	1. Simplify radical expressions with variables 82V 2. Multiply radical expressions HMX *Also consider* • Simplify radical expressions ZFF
Lesson 9-4: Solving Quadratic Equations Using Square Roots	1. Solve a quadratic equation using square roots ERF
Lesson 9-5: Completing the Square	1. Write a quadratic function in vertex form W2Q 2. Solve a quadratic equation by completing the square XCL *Also consider* • Complete the square RD2
Lesson 9-6: The Quadratic Formula and the Discriminant	1. Solve a quadratic equation using the quadratic formula XCF 2. Using the discriminant SMF
Lesson 9-7: Solving Systems of Linear and Quadratic Equations	1. Systems of linear and quadratic equations 4U9

Checkpoint opportunity

Topic 9

1. Checkpoint: Quadratic equations NXG

Topics 1–9

2. Checkpoint: Problem solving with equations and inequalities QZQ
3. Checkpoint: Write and interpret equivalent expressions YJJ

- *Coming soon:* Checkpoint: Solve equations using graphs and tables

Topic 10

Working with Functions

Textbook section	IXL skills
Lesson 10-1: The Square Root Function	1. Domain and range of radical functions: equations 73C *Also consider* • Domain and range of radical functions: graphs UXG
Lesson 10-2: The Cube Root Function	1. Cube roots RNT
Lesson 10-3: Analyzing Functions Graphically	1. Domain and range of exponential, absolute value, and radical functions: graphs 9HQ
Lesson 10-4: Translations of Functions	1. Translations of functions L92
Lesson 10-5: Compressions and Stretches of Functions	1. Reflections of functions KD2 2. Dilations of functions 6EC *Also consider* • Transformations of functions AAB
Lesson 10-6: Operations With Functions	1. Add and subtract functions 45B 2. Multiply functions 8PM
Lesson 10-7: Inverse Functions	1. Find values of inverse functions from tables U5E 2. Find the inverse of a function VME
Checkpoint opportunity	**Topic 10** 1. Checkpoint: Function transformations QKX **Topics 1–10** • *Coming soon:* Checkpoint: Function concepts • *Coming soon:* Checkpoint: Features of functions • *Coming soon:* Checkpoint: Function graphs • *Coming soon:* Checkpoint: Build functions

Topic 11
Statistics

Textbook section	IXL skills
Lesson 11-1: Analyzing Data Displays	1. Interpret line plots, histograms, and box plots UCW • *Coming soon:* Understand characteristics of line plots, histograms, and box plots *Also consider* • Create histograms WZU • Create line plots N2E • Identify an outlier and describe the effect of removing it XGC
Lesson 11-2: Comparing Data Sets	• *Coming soon:* Compare the centers and spreads of distributions • *Coming soon:* Choose appropriate measures of center • *Coming soon:* Choose appropriate measures of spread *Also consider* • Mean, median, mode, and range MHB • Calculate quartiles and interquartile range 8H9 • Mean absolute deviation A5C
Lesson 11-3: Interpreting the Shapes of Data Displays	• *Coming soon:* Describe the shape of a distribution
Lesson 11-4: Standard Deviation	1. Variance and standard deviation HX5
Lesson 11-5: Two-Way Frequency Tables	• *Coming soon:* Create and interpret two-way relative frequency tables
Checkpoint opportunity	1. Checkpoint: Line plots, histograms, and box plots UVL • *Coming soon:* Checkpoint: Compare data sets • *Coming soon:* Checkpoint: Two-way frequency tables

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