



# IXL Skill Alignment

Algebra 1 alignment for HMH Common Core Curriculum



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# Module 1

## Quantitative Reasoning

Textbook section	IXL skills
<b>1.1:</b> Solving Equations	1. Solve one-step linear equations TXJ 2. Solve two-step linear equations QAK
<b>1.2:</b> Modeling Quantities	1. Scale drawings: word problems 8B7 2. Convert rates and measurements: customary units TXC
<b>1.3:</b> Reporting with Precision and Accuracy	1. Precision QK9

# Module 2

## Algebraic Models

Textbook section	IXL skills
<b>2.1:</b> Modeling with Expressions	<ol style="list-style-type: none"><li>1. Write variable expressions D7K</li><li>2. Identify equivalent linear expressions 62A</li></ol>
<b>2.2:</b> Creating and Solving Equations	<ol style="list-style-type: none"><li>1. Write variable equations YVW</li><li>2. Solve advanced linear equations 28N</li><li>3. Solve equations with variables on both sides 7S7</li><li>4. Solve linear equations: word problems UFG</li></ol>
<b>2.3:</b> Solving for a Variable	<ol style="list-style-type: none"><li>1. Rearrange multi-variable equations WSJ</li></ol>
<b>2.4:</b> Creating and Solving Inequalities	<ol style="list-style-type: none"><li>1. Solve two-step linear inequalities NPZ</li><li>2. Solve advanced linear inequalities 9K8</li></ol>
<b>2.5:</b> Creating and Solving Compound Inequalities	<ol style="list-style-type: none"><li>1. Graph compound inequalities BQX</li><li>2. Write compound inequalities from graphs 6UV</li><li>3. Solve compound inequalities GXA</li><li>4. Graph solutions to compound inequalities LHX</li></ol>

# Module 3

## Functions and Models

Textbook section	IXL skills
<b>3.1:</b> Graphing Relationships	
<b>3.2:</b> Understanding Relations and Functions	<ol style="list-style-type: none"><li>1. Relations: convert between tables, graphs, mappings, and lists of points RBG</li><li>2. Domain and range of relations 2CG</li><li>3. Identify functions VLL</li><li>4. Identify functions: vertical line test HLX</li></ol>
<b>3.3:</b> Modeling with Functions	<ol style="list-style-type: none"><li>1. Identify independent and dependent variables N55</li></ol>
<b>3.4:</b> Graphing Functions	<ol style="list-style-type: none"><li>1. Evaluate a function R96</li><li>2. Complete a function table from a graph HXF</li><li>3. Complete a function table from an equation Z73</li></ol>

# Module 4

## Patterns and Sequences

Textbook section	IXL skills
<b>4.1:</b> Identifying and Graphing Sequences	1. Evaluate variable expressions for number sequences PMN
<b>4.2:</b> Constructing Arithmetic Sequences	1. Arithmetic sequences ALG 2. Write variable expressions for arithmetic sequences 5VF
<b>4.3:</b> Modeling with Arithmetic Sequences	

# Module 5

## Linear Functions

Textbook section	IXL skills
<b>5.1:</b> Understanding Linear Functions	<ol style="list-style-type: none"><li>1. Complete a table and graph a linear function JFG</li><li>2. Standard form: graph an equation U6U</li></ol>
<b>5.2:</b> Using Intercepts	<ol style="list-style-type: none"><li>1. Standard form: find x- and y-intercepts 8SN</li></ol>
<b>5.3:</b> Interpreting Rate of Change and Slope	<ol style="list-style-type: none"><li>1. Find the slope of a graph E7D</li><li>2. Find the slope from two points MD5</li></ol>

# Module 6

## Forms of Linear Functions

Textbook section	IXL skills
<b>6.1:</b> Slope-Intercept Form	<ol style="list-style-type: none"><li>1. Slope-intercept form: find the slope and y-intercept R5T</li><li>2. Slope-intercept form: graph an equation UWB</li><li>3. Slope-intercept form: write an equation A42</li><li>4. Slope-intercept form: write an equation from a word problem HWM</li></ol>
<b>6.2:</b> Point-Slope Form	<ol style="list-style-type: none"><li>1. Point-slope form: write an equation PPE</li><li>2. Point-slope form: write an equation from a graph LBX</li></ol>
<b>6.3:</b> Standard Form	<ol style="list-style-type: none"><li>1. Write equations in standard form ESP</li></ol>
<b>6.4:</b> Transforming Linear Functions	<ol style="list-style-type: none"><li>1. Transformations of linear functions C8G</li></ol>
<b>6.5:</b> Comparing Properties of Linear Functions	<ol style="list-style-type: none"><li>1. Compare linear functions: tables, graphs, and equations GD7</li></ol>

# Module 7

## Linear Equations and Inequalities

Textbook section	IXL skills
<b>7.1:</b> Modeling Linear Relationships	1. Write linear functions: word problems 9RQ
<b>7.2:</b> Using Functions to Solve One-Variable Equations	
<b>7.3:</b> Linear Inequalities in Two Variables	1. Does $(x, y)$ satisfy the inequality? N9L 2. Linear inequalities: solve for $y$ UYU 3. Graph a two-variable linear inequality HHP 4. Linear inequalities: word problems ZAY



# Module 8

## Multi-Variable Categorical Data

Textbook section	IXL skills
<b>8.1:</b> Two-Way Frequency Tables	
<b>8.2:</b> Relative Frequency	

# Module 9

## One-Variable Data Distributions

Textbook section	IXL skills
<b>9.1:</b> Measures of Center and Spread	<ol style="list-style-type: none"><li>1. Mean, median, mode, and range MHB</li><li>2. Calculate quartiles and interquartile range 8H9</li></ol>
<b>9.2:</b> Data Distributions and Outliers	<ol style="list-style-type: none"><li>1. Identify an outlier 87L</li><li>2. Identify an outlier and describe the effect of removing it XGC</li></ol>
<b>9.3:</b> Histograms and Box Plots	<ol style="list-style-type: none"><li>1. Box plots YE9</li></ol>
<b>9.4:</b> Normal Distributions	

# Module 10

## Linear Modeling and Regression

Textbook section	IXL skills
<b>10.1:</b> Scatter Plots and Trend Lines	<ol style="list-style-type: none"><li>1. Interpret a scatter plot 8BS</li><li>2. Match correlation coefficients to scatter plots FQ7</li><li>3. Scatter plots: line of best fit Y2S</li></ol>
<b>10.2:</b> Fitting a Linear Model to Data	<ol style="list-style-type: none"><li>1. Find the equation of a regression line WJC</li><li>2. Interpret regression lines SEQ</li><li>3. Analyze a regression line of a data set 8D8</li></ol>

# Module 11

## Solving Systems of Linear Equations

Textbook section	IXL skills
<b>11.1:</b> Solving Linear Systems by Graphing	<ol style="list-style-type: none"><li>1. Solve a system of equations by graphing TSS</li><li>2. Solve a system of equations by graphing: word problems BVB</li><li>3. Find the number of solutions to a system of equations by graphing HJW</li><li>4. Classify a system of equations by graphing T2D</li></ol>
<b>11.2:</b> Solving Linear Systems by Substitution	<ol style="list-style-type: none"><li>1. Solve a system of equations using substitution 8P9</li><li>2. Solve a system of equations using substitution: word problems US9</li></ol>
<b>11.3:</b> Solving Linear Systems by Adding or Subtracting	
<b>11.4:</b> Solving Linear Systems by Multiplying First	<ol style="list-style-type: none"><li>1. Solve a system of equations using elimination A48</li><li>2. Solve a system of equations using elimination: word problems NHR</li></ol>

# Module 12

## Modeling with Linear Systems

Textbook section	IXL skills
<b>12.1:</b> Creating Systems of Linear Equations	
<b>12.2:</b> Graphing Systems of Linear Inequalities	<ol style="list-style-type: none"><li>1. Is <math>(x, y)</math> a solution to the system of inequalities? VFC</li><li>2. Solve systems of linear inequalities by graphing SGH</li></ol>
<b>12.3:</b> Modeling with Linear Systems	<ol style="list-style-type: none"><li>1. Solve a system of equations using any method: word problems GDQ</li></ol>

# Module 13

## Piecewise-Defined Functions

### Textbook section

### IXL skills

#### 13.1: Understanding Piecewise-Defined Functions

#### 13.2: Absolute Value Functions and Transformations

1. Complete a function table: absolute value functions 2DH
2. Graph an absolute value function TD2
3. Domain and range of absolute value functions: graphs NV7
4. Domain and range of absolute value functions: equations FCY
5. Transformations of absolute value functions 9TC

#### 13.3: Solving Absolute Value Equations

1. Solve absolute value equations 9LF
2. Graph solutions to absolute value equations KXA

#### 13.4: Solving Absolute Value Inequalities

1. Solve absolute value inequalities HXH
2. Graph solutions to absolute value inequalities NE9

# Module 14

## Rational Exponents and Radicals

Textbook section	IXL skills
<b>14.1:</b> Understanding Rational Exponents and Radicals	1. Evaluate integers raised to rational exponents PQH
<b>14.2:</b> Simplifying Expressions with Rational Exponents and Radicals	1. Simplify radical expressions ZFF 2. Simplify radical expressions with variables 82V

# Module 15

## Geometric Sequences and Exponential Functions

Textbook section	IXL skills
<b>15.1:</b> Understanding Geometric Sequences	1. Geometric sequences HLJ
<b>15.2:</b> Constructing Geometric Sequences	1. Write variable expressions for geometric sequences XPC
<b>15.3:</b> Constructing Exponential Functions	1. Evaluate an exponential function D6H
<b>15.4:</b> Graphing Exponential Functions	
<b>15.5:</b> Transforming Exponential Functions	1. Match exponential functions and graphs 72J 2. Domain and range of exponential functions: graphs ANC



# Module 16

## Exponential Equations and Models

Textbook section	IXL skills
<b>16.1:</b> Using Graphs and Properties to Solve Equations with Exponents	
<b>16.2:</b> Modeling Exponential Growth and Decay	1. Exponential growth and decay: word problems UKG
<b>16.3:</b> Using Exponential Regression Models	
<b>16.4:</b> Comparing Linear and Exponential Models	

# Module 17

## Adding and Subtracting Polynomials

Textbook section	IXL skills
<b>17.1:</b> Understanding Polynomial Expressions	<ol style="list-style-type: none"><li>1. Identify monomials QSC</li><li>2. Polynomial vocabulary MTT</li></ol>
<b>17.2:</b> Adding Polynomial Expressions	
<b>17.3:</b> Subtracting Polynomial Expressions	<ol style="list-style-type: none"><li>1. Add and subtract polynomials using algebra tiles J7V</li><li>2. Add and subtract polynomials 5EK</li></ol>

# Module 18

## Multiplying Polynomials

Textbook section	IXL skills
<b>18.1:</b> Multiplying Polynomial Expressions by Monomials	1. Multiply a polynomial by a monomial G2G
<b>18.2:</b> Multiplying Polynomial Expressions	1. Multiply two polynomials using algebra tiles WR5 2. Multiply two binomials M7Q
<b>18.3:</b> Special Products of Binomials	1. Multiply two binomials: special cases 9JN 2. Multiply polynomials 58A

# Module 19

## Graphing Quadratic Functions

Textbook section	IXL skills
<b>19.1:</b> Understanding Quadratic Functions	
<b>19.2:</b> Transforming Quadratic Functions	<ol style="list-style-type: none"><li>1. Transformations of quadratic functions 6YS</li><li>2. Graph quadratic functions in vertex form C7T</li></ol>
<b>19.3:</b> Interpreting Vertex Form and Standard Form	<ol style="list-style-type: none"><li>1. Characteristics of quadratic functions: graphs HW8</li></ol>

# Module 20

## Connecting Intercepts, Zeros, and Factors

Textbook section	IXL skills
<p><b>20.1:</b> Connecting Intercepts and Zeros</p>	
<p><b>20.2:</b> Connecting Intercepts and Linear Factors</p>	
<p><b>20.3:</b> Applying the Zero Product Property to Solve Equations</p>	<p>1. Solve a quadratic equation using the zero product property <small>TNM</small></p>

# Module 21

## Using Factors to Solve Quadratic Equations

Textbook section	IXL skills
<b>21.1:</b> Solving Equations by Factoring $x^2 + bx + c$	1. Factor quadratics with leading coefficient 1 S9P
<b>21.2:</b> Solving Equations by Factoring $ax^2 + bx + c$	1. Factor quadratics using algebra tiles Y6U 2. Factor quadratics with other leading coefficients 7ED
<b>21.3:</b> Using Special Factors to Solve Equations	1. Factor quadratics: special cases 56E 2. Solve a quadratic equation by factoring CSS

## Module 22

### Using Square Roots to Solve Quadratic Equations

Textbook section	IXL skills
<b>22.1:</b> Solving Equations by Taking Square Roots	1. Solve a quadratic equation using square roots <small>ERF</small>
<b>22.2:</b> Solving Equations by Completing the Square	1. Complete the square <small>RD2</small> 2. Solve a quadratic equation by completing the square <small>XCL</small>
<b>22.3:</b> Using the Quadratic Formula to Solve Equations	1. Solve a quadratic equation using the quadratic formula <small>XCF</small>
<b>22.4:</b> Choosing a Method for Solving Quadratic Equations	
<b>22.5:</b> Solving Nonlinear Systems	1. Systems of linear and quadratic equations <small>4U9</small>

# Module 23

## Linear, Exponential, and Quadratic Models

Textbook section	IXL skills
<b>23.1:</b> Modeling with Quadratic Functions	
<b>23.2:</b> Comparing Linear, Exponential, and Quadratic Models	<ol style="list-style-type: none"><li>1. Identify linear, quadratic, and exponential functions from graphs DHB</li><li>2. Identify linear, quadratic, and exponential functions from tables SP5</li></ol>



# Module 24

## Functions and Inverses

Textbook section	IXL skills
<b>24.1:</b> Graphing Polynomial Functions	
<b>24.2:</b> Understanding Inverse Functions	
<b>24.3:</b> Graphing Square Root Functions	
<b>24.4:</b> Graphing Cube Root Functions	