



# IXL Skill Alignment

Alg 1 alignment for EngageNY Common Core Curriculum

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# Module 1

## Relationships Between Quantities and Reasoning with Equations and Their Graphs

Textbook section	IXL skills
<b>Topic A:</b> Introduction to Functions Studied this Year - Graphing Stories	<b>Q.11</b> Interpret the graph of a function: word problems >>
<b>Topic B:</b> The Structure of Expressions	<b>Z.1</b> Polynomial vocabulary >> <b>Z.4</b> Add and subtract polynomials >> <b>Z.6</b> Multiply a polynomial by a monomial >> <b>Z.8</b> Multiply two binomials >> <b>Z.9</b> Multiply two binomials: special cases >> <b>Z.10</b> Multiply polynomials >>  <i>See also:</i> <b>H.2</b> Distributive property >> <b>H.3</b> Simplify variable expressions using properties >> <b>I.3</b> Identify equivalent linear expressions >> <b>V.6</b> Multiplication and division with exponents >>
<b>Topic C:</b> Solving Equations and Inequalities	<b>I.8</b> Rearrange multi-variable equations >> <b>J.5</b> Solve advanced linear equations >> <b>J.6</b> Solve equations with variables on both sides >> <b>J.7</b> Solve equations: complete the solution >> <b>K.6</b> Solve one-step linear inequalities >> <b>K.7</b> Graph solutions to one-step linear inequalities >> <b>K.8</b> Solve two-step linear inequalities >> <b>K.9</b> Graph solutions to two-step linear inequalities >> <b>K.10</b> Solve advanced linear inequalities >> <b>K.11</b> Graph solutions to advanced linear inequalities >> <b>K.12</b> Graph compound inequalities >>

- K.13** Write compound inequalities from graphs >>
- K.14** Solve compound inequalities >>
- K.15** Graph solutions to compound inequalities >>
- T.3** Graph a two-variable linear inequality >>
- T.6** Solve systems of linear inequalities by graphing >>
- U.2** Solve a system of equations by graphing >>
- U.3** Solve a system of equations by graphing: word problems >>
- U.10** Solve a system of equations using elimination >>
- BB.6** Solve a quadratic equation using the zero product property >>

*See also:*

- H.4** Properties of equality >>
- I.5** Does  $x$  satisfy the equation? >>
- I.6** Which  $x$  satisfies an equation? >>
- J.9** Create equations with no solutions or infinitely many solutions >>
- T.1** Does  $(x, y)$  satisfy the inequality? >>
- T.5** Is  $(x, y)$  a solution to the system of inequalities? >>
- U.8** Solve a system of equations using substitution >>
- U.11** Solve a system of equations using elimination: word problems >>

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**Topic D:** Creating Equations to Solve Problems

*See also:*

- O.3** Consecutive integer problems >>
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# Module 2

## Descriptive Statistics

Textbook section	IXL skills
<b>Topic A:</b> Shapes and Centers of Distributions	<b>N.5</b> Interpret box-and-whisker plots >>
<b>Topic B:</b> Describing Variability and Comparing Distributions	<b>KK.7</b> Variance and standard deviation >> <i>See also:</i> <b>KK.3</b> Quartiles >> <b>KK.4</b> Identify an outlier >>
<b>Topic C:</b> Categorical Data on Two Variables	
<b>Topic D:</b> Numerical Data on Two Variables	<b>KK.10</b> Match correlation coefficients to scatter plots >> <b>KK.11</b> Calculate correlation coefficients >> <b>KK.13</b> Find the equation of a regression line >> <b>KK.14</b> Interpret regression lines >> <b>KK.15</b> Analyze a regression line of a data set >> <i>See also:</i> <b>KK.8</b> Interpret a scatter plot >>

# Module 3

## Linear and Exponential Functions

Textbook section	IXL skills
<b>Topic A:</b> Linear and Exponential Sequences	<p><b>P.1</b> Identify arithmetic and geometric sequences &gt;&gt;</p> <p><b>P.4</b> Evaluate variable expressions for number sequences &gt;&gt;</p> <p><b>P.5</b> Write variable expressions for arithmetic sequences &gt;&gt;</p> <p><b>X.5</b> Exponential growth and decay: word problems &gt;&gt;</p> <p><i>See also:</i></p> <p><b>P.2</b> Arithmetic sequences &gt;&gt;</p> <p><b>P.3</b> Geometric sequences &gt;&gt;</p>
<b>Topic B:</b> Functions and Their Graphs	<p><b>Q.1</b> Relations: convert between tables, graphs, mappings, and lists of points &gt;&gt;</p> <p><b>Q.7</b> Evaluate a function &gt;&gt;</p> <p><b>Q.8</b> Evaluate a function: plug in an expression &gt;&gt;</p> <p><b>Q.10</b> Complete a function table from an equation &gt;&gt;</p> <p><b>Q.11</b> Interpret the graph of a function: word problems &gt;&gt;</p> <p><i>See also:</i></p> <p><b>Q.2</b> Domain and range of relations &gt;&gt;</p> <p><b>Q.4</b> Identify functions &gt;&gt;</p>
<b>Topic C:</b> Transformations of Functions	<p><b>DD.1</b> Complete a function table: absolute value functions &gt;&gt;</p> <p><b>DD.2</b> Graph an absolute value function &gt;&gt;</p> <p><b>DD.5</b> Transformations of absolute value functions &gt;&gt;</p> <p><i>See also:</i></p> <p><b>DD.3</b> Domain and range of absolute value functions: graphs &gt;&gt;</p>

**Topic D:** Using Functions and Graphs to Solve Problems

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## Module 4

### Polynomial and Quadratic Expressions, Equations, and Functions

Textbook section	IXL skills
<b>Topic A:</b> Quadratic Expressions, Equations, Functions, and Their Connection to Rectangles	<b>AA.2</b> Factor out a monomial >>
	<b>AA.4</b> Factor quadratics with leading coefficient 1 >>
	<b>AA.5</b> Factor quadratics with other leading coefficients >>
	<b>AA.6</b> Factor quadratics: special cases >>
	<b>BB.6</b> Solve a quadratic equation using the zero product property >>
	<b>BB.7</b> Solve a quadratic equation by factoring >>
	<i>See also:</i>
	<b>AA.1</b> GCF of monomials >>
	<b>BB.5</b> Solve a quadratic equation using square roots >>
	<b>BB.12</b> Match quadratic functions and graphs >>
<b>Topic B:</b> Using Different Forms for Quadratic Functions	<b>BB.1</b> Characteristics of quadratic functions >>
	<b>BB.4</b> Graph quadratic functions in vertex form >>
	<b>BB.9</b> Solve a quadratic equation by completing the square >>
	<b>BB.10</b> Solve a quadratic equation using the quadratic formula >>
	<b>BB.11</b> Using the discriminant >>
	<i>See also:</i>
	<b>BB.8</b> Complete the square >>
<b>Topic C:</b> Function Transformations and Modeling	<b>BB.3</b> Transformations of quadratic functions >>
	<b>DD.5</b> Transformations of absolute value functions >>
	<i>See also:</i>
	<b>S.25</b> Transformations of linear functions >>
	<b>FF.2</b> Domain and range of radical functions: graphs >>

# Module 5

## A Synthesis of Modeling with Equations and Functions

Textbook section	IXL skills
<b>Topic A:</b> Elements of Modeling	<b>S.10</b> Slope-intercept form: write an equation from a word problem >>
	<b>S.12</b> Write linear functions to solve word problems >>
	<b>CC.2</b> Identify linear, quadratic, and exponential functions from tables >>
	<i>See also:</i> <b>CC.1</b> Identify linear, quadratic, and exponential functions from graphs >>
<b>Topic B:</b> Completing the Modeling Cycle	<b>X.5</b> Exponential growth and decay: word problems >>
	<b>CC.3</b> Write linear, quadratic, and exponential functions >>
	<b>KK.13</b> Find the equation of a regression line >>
	<b>KK.14</b> Interpret regression lines >>
	<b>KK.15</b> Analyze a regression line of a data set >>