



# IXL Skill Alignment

Alg 1 alignment for Glencoe High School Math

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# Chapter 0

## Preparing for Algebra

Textbook section	IXL skills
<b>0.1:</b> Plan for Problem Solving	<b>O.1</b> Word problems: mixed review >>
<b>0.2:</b> Real Numbers	<b>A.6</b> Square roots >> <b>A.8</b> Sort rational and irrational numbers >> <b>A.9</b> Classify rational and irrational numbers >> <b>A.10</b> Classify numbers >>
<b>0.3:</b> Operations with Integers	<b>A.2</b> Absolute value and opposites >> <b>B.1</b> Add, subtract, multiply, and divide integers >>
<b>0.4:</b> Adding and Subtracting Rational Numbers	<b>A.1</b> Compare and order rational numbers >> <b>B.4</b> Add and subtract rational numbers >>
<b>0.5:</b> Multiplying and Dividing Rational Numbers	<b>B.5</b> Multiply and divide rational numbers >>
<b>0.6:</b> The Percent Proportion	<b>D.2</b> Solve percent equations >> <b>D.3</b> Percent word problems >>
<b>0.7:</b> Perimeter	<b>F.1</b> Perimeter >>
<b>0.8:</b> Area	
<b>0.9:</b> Volume	
<b>0.1:</b> Surface Area	
<b>0.11:</b> Simple Probability and Odds	<b>JJ.1</b> Theoretical probability >> <b>JJ.7</b> Counting principle >>
<b>0.12:</b> Measures of Center, Variation, and Position	<b>KK.2</b> Mean, median, mode, and range >> <b>KK.3</b> Quartiles >> <b>KK.4</b> Identify an outlier >> <b>KK.5</b> Identify an outlier and describe the effect of removing it >>

**0.13:** Representing Data

- N.1** Interpret bar graphs, line graphs, and histograms >>
  - N.2** Create bar graphs, line graphs, and histograms >>
  - N.4** Interpret stem-and-leaf plots >>
  - N.5** Interpret box-and-whisker plots >>
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# Chapter 1

## Expressions, Equations, and Functions

Textbook section	IXL skills
<b>1.1:</b> Variables and Expressions	<b>I.1</b> Write variable expressions >>
<b>1.2:</b> Order of Operations	<b>B.2</b> Evaluate numerical expressions involving integers >>
	<b>B.3</b> Evaluate variable expressions involving integers >>
<b>1.3:</b> Properties of Numbers	<b>H.1</b> Properties of addition and multiplication >>
	<b>H.4</b> Properties of equality >>
<b>1.4:</b> The Distributive Property	<b>H.2</b> Distributive property >>
	<b>H.3</b> Simplify variable expressions using properties >>
	<b>I.2</b> Simplify variable expressions involving like terms and the distributive property >>
	<b>I.3</b> Identify equivalent linear expressions >>
<b>1.5:</b> Equations	<b>I.7</b> Solve equations using order of operations >>
	<b>J.5</b> Solve advanced linear equations >>
	<b>J.6</b> Solve equations with variables on both sides >>
<b>1.6:</b> Relations	<b>Q.1</b> Relations: convert between tables, graphs, mappings, and lists of points >>
	<b>Q.2</b> Domain and range of relations >>
<b>1.7:</b> Functions	<b>Q.4</b> Identify functions >>
	<b>Q.5</b> Identify functions: vertical line test >>
	<b>Q.7</b> Evaluate a function >>
<b>1.8:</b> Interpreting Graphs of Functions	

# Chapter 2

## Linear Equations

Textbook section	IXL skills
<b>2.1:</b> Writing Equations	<b>I.4</b> Write variable equations >> <b>S.12</b> Write linear functions to solve word problems >>
<b>2.2:</b> Solving One-Step Equations	<b>J.3</b> Solve one-step linear equations >>
<b>2.3:</b> Solving Multi-Step Equations	<b>J.4</b> Solve two-step linear equations >> <b>J.5</b> Solve advanced linear equations >> <b>J.10</b> Solve linear equations: word problems >> <b>J.11</b> Solve linear equations: mixed review >> <b>O.3</b> Consecutive integer problems >>
<b>2.4:</b> Solving Equations with the Variable on Each Side	<b>J.6</b> Solve equations with variables on both sides >> <b>J.7</b> Solve equations: complete the solution >> <b>J.8</b> Find the number of solutions >> <b>J.9</b> Create equations with no solutions or infinitely many solutions >>
<b>2.5:</b> Solving Equations Involving Absolute Value	<b>L.1</b> Solve absolute value equations >> <b>L.2</b> Graph solutions to absolute value equations >>
<b>2.6:</b> Ratios and Proportions	<b>C.1</b> Identify equivalent ratios >> <b>C.2</b> Write an equivalent ratio >> <b>C.5</b> Solve proportions >> <b>C.6</b> Solve proportions: word problems >> <b>C.7</b> Scale drawings: word problems >>
<b>2.7:</b> Percent of Change	<b>D.4</b> Percent of change >> <b>D.5</b> Percent of change: word problems >>
<b>2.8:</b> Literal Equations and Dimensional Analysis	<b>I.8</b> Rearrange multi-variable equations >>
<b>2.9:</b> Weighted Averages	<b>O.5</b> Weighted averages: word problems >>

# Chapter 3

## Linear Functions

Textbook section	IXL skills
<b>3.1:</b> Graphing Linear Equations	<p><b>S.1</b> Identify linear functions &gt;&gt;</p> <p><b>S.13</b> Complete a table and graph a linear function &gt;&gt;</p> <p><b>S.16</b> Standard form: find x- and y-intercepts &gt;&gt;</p> <p><b>S.17</b> Standard form: graph an equation &gt;&gt;</p>
<b>3.2:</b> Solving Linear Equations by Graphing	
<b>3.3:</b> Rate of Change and Slope	<p><b>S.2</b> Find the slope of a graph &gt;&gt;</p> <p><b>S.3</b> Find the slope from two points &gt;&gt;</p> <p><b>S.4</b> Find a missing coordinate using slope &gt;&gt;</p>
<b>3.4:</b> Direct Variation	<p><b>R.2</b> Find the constant of variation &gt;&gt;</p> <p><b>R.3</b> Graph a proportional relationship &gt;&gt;</p> <p><b>R.4</b> Write direct variation equations &gt;&gt;</p> <p><b>R.5</b> Write and solve direct variation equations &gt;&gt;</p>
<b>3.5:</b> Arithmetic Sequences as Linear Functions	<p><b>P.2</b> Arithmetic sequences &gt;&gt;</p> <p><b>P.5</b> Write variable expressions for arithmetic sequences &gt;&gt;</p>
<b>3.6:</b> Proportional and Nonproportional Relationships	<p><b>R.1</b> Identify proportional relationships &gt;&gt;</p>

# Chapter 4

## Equations of Linear Functions

Textbook section	IXL skills
<b>4.1:</b> Graphing Equations in Slope-Intercept Form	<b>S.5</b> Slope-intercept form: find the slope and y-intercept >>
	<b>S.6</b> Slope-intercept form: graph an equation >>
	<b>S.7</b> Slope-intercept form: write an equation from a graph >>
<b>4.2:</b> Writing Equations in Slope-Intercept Form	<b>S.8</b> Slope-intercept form: write an equation >>
	<b>S.9</b> Slope-intercept form: write an equation from a table >>
	<b>S.10</b> Slope-intercept form: write an equation from a word problem >>
<b>4.3:</b> Writing Equations in Point-Slope Form	<b>S.20</b> Point-slope form: graph an equation >>
	<b>S.21</b> Point-slope form: write an equation >>
	<b>S.22</b> Point-slope form: write an equation from a graph >>
<b>4.4:</b> Parallel and Perpendicular Lines	<b>S.23</b> Slopes of parallel and perpendicular lines >>
	<b>S.24</b> Write an equation for a parallel or perpendicular line >>
<b>4.5:</b> Scatter Plots and Lines of Fit	<b>KK.8</b> Interpret a scatter plot >>
	<b>KK.12</b> Scatter plots: line of best fit >>
<b>4.6:</b> Regression and Median-Fit Lines	<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 >>
<b>4.7:</b> Inverse Linear Functions	

# Chapter 5

## Linear Inequalities

Textbook section	IXL skills
<b>5.1:</b> Solving Inequalities by Addition and Subtraction	<b>K.1</b> Graph inequalities >>
	<b>K.2</b> Write inequalities from graphs >>
	<b>K.4</b> Solve one-step linear inequalities: addition and subtraction >>
<b>5.2:</b> Solving Inequalities by Multiplication and Division	<b>K.5</b> Solve one-step linear inequalities: multiplication and division >>
	<b>K.6</b> Solve one-step linear inequalities >>
	<b>K.7</b> Graph solutions to one-step linear inequalities >>
<b>5.3:</b> Solving Multi-Step 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>5.4:</b> Solving Compound Inequalities	<b>K.12</b> Graph compound inequalities >>
	<b>K.13</b> Write compound inequalities from graphs >>
	<b>K.14</b> Solve compound inequalities >>
	<b>K.15</b> Graph solutions to compound inequalities >>
<b>5.5:</b> Inequalities Involving Absolute Value	
<b>5.6:</b> Graphing Inequalities in Two Variables	<b>T.1</b> Does $(x, y)$ satisfy the inequality? >>
	<b>T.2</b> Linear inequalities: solve for $y$ >>
	<b>T.3</b> Graph a two-variable linear inequality >>
	<b>T.4</b> Linear inequalities: word problems >>



# Chapter 6

## Systems of Linear Equations and Inequalities

Textbook section	IXL skills
<b>6.1:</b> Graphing Systems of Equations	<b>U.1</b> Is $(x, y)$ a solution to the system of equations? >> <b>U.2</b> Solve a system of equations by graphing >> <b>U.3</b> Solve a system of equations by graphing: word problems >> <b>U.4</b> Find the number of solutions to a system of equations by graphing >> <b>U.6</b> Classify a system of equations by graphing >>
<b>6.2:</b> Substitution	<b>U.8</b> Solve a system of equations using substitution >> <b>U.9</b> Solve a system of equations using substitution: word problems >>
<b>6.3:</b> Elimination Using Addition and Subtraction	
<b>6.4:</b> Elimination Using Multiplication	<b>U.5</b> Find the number of solutions to a system of equations >> <b>U.7</b> Classify a system of equations >> <b>U.10</b> Solve a system of equations using elimination >> <b>U.11</b> Solve a system of equations using elimination: word problems >>
<b>6.5:</b> Applying Systems of Linear Equations	<b>U.14</b> Solve a system of equations using any method >> <b>U.15</b> Solve a system of equations using any method: word problems >>
<b>6.6:</b> Systems of Inequalities	<b>T.5</b> Is $(x, y)$ a solution to the system of inequalities? >> <b>T.6</b> Solve systems of linear inequalities by graphing >>

# Chapter 7

## Exponents and Exponential Functions

Textbook section	IXL skills
<b>7.1:</b> Multiplication Properties of Exponents	<b>Y.1</b> Identify monomials >> <b>Y.2</b> Multiply monomials >> <b>Y.5</b> Powers of monomials >>
<b>7.2:</b> Division Properties of Exponents	<b>V.3</b> Negative exponents >> <b>V.4</b> Multiplication with exponents >> <b>V.5</b> Division with exponents >> <b>V.6</b> Multiplication and division with exponents >> <b>V.7</b> Power rule >> <b>Y.3</b> Divide monomials >> <b>Y.4</b> Multiply and divide monomials >>
<b>7.3:</b> Rational Exponents	<b>V.10</b> Evaluate integers raised to rational exponents >>
<b>7.4:</b> Scientific Notation	<b>W.1</b> Convert between standard and scientific notation >> <b>W.3</b> Multiply numbers written in scientific notation >> <b>W.4</b> Divide numbers written in scientific notation >>
<b>7.5:</b> Exponential Functions	<b>X.2</b> Match exponential functions and graphs >> <b>X.3</b> Domain and range of exponential functions: graphs >> <b>X.4</b> Domain and range of exponential functions: equations >>
<b>7.6:</b> Growth and Decay	<b>X.5</b> Exponential growth and decay: word problems >>
<b>7.7:</b> Geometric Sequences as Exponential Functions	<b>P.1</b> Identify arithmetic and geometric sequences >> <b>P.3</b> Geometric sequences >> <b>P.6</b> Write variable expressions for geometric sequences >>

## 7.8: Recursive Formulas

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# Chapter 8

## Quadratic Expressions and Equations

Textbook section	IXL skills
<b>8.1:</b> Adding and Subtracting Polynomials	<b>Z.1</b> Polynomial vocabulary >>
	<b>Z.3</b> Add and subtract polynomials using algebra tiles >>
	<b>Z.4</b> Add and subtract polynomials >>
	<b>Z.5</b> Add polynomials to find perimeter >>
<b>8.2:</b> Multiplying a Polynomial by a Monomial	<b>Z.6</b> Multiply a polynomial by a monomial >>
<b>8.3:</b> Multiplying Polynomials	<b>Z.7</b> Multiply two polynomials using algebra tiles >>
	<b>Z.8</b> Multiply two binomials >>
<b>8.4:</b> Special Products	<b>Z.9</b> Multiply two binomials: special cases >>
	<b>Z.10</b> Multiply polynomials >>
<b>8.5:</b> Using the Distributive Property	<b>AA.1</b> GCF of monomials >>
	<b>AA.2</b> Factor out a monomial >>
<b>8.6:</b> Solving $x^2 + bx + c = 0$	<b>AA.4</b> Factor quadratics with leading coefficient 1 >>
	<b>BB.6</b> Solve a quadratic equation using the zero product property >>
<b>8.7:</b> Solving $ax^2 + bx + c = 0$	<b>AA.3</b> Factor quadratics using algebra tiles >>
	<b>AA.5</b> Factor quadratics with other leading coefficients >>
<b>8.8:</b> Differences of Squares	
<b>8.9:</b> Perfect Squares	<b>AA.6</b> Factor quadratics: special cases >>
	<b>AA.8</b> Factor polynomials >>
	<b>BB.7</b> Solve a quadratic equation by factoring >>

# Chapter 9

## Quadratic Functions and Equations

Textbook section	IXL skills
<b>9.1:</b> Graphing Quadratic Functions	<b>BB.1</b> Characteristics of quadratic functions >> <b>BB.2</b> Complete a function table: quadratic functions >> <b>BB.12</b> Match quadratic functions and graphs >>
<b>9.2:</b> Solve Quadratic Equations by Graphing	
<b>9.3:</b> Transformations of Quadratic Functions	<b>BB.3</b> Transformations of quadratic functions >> <b>BB.4</b> Graph quadratic functions in vertex form >>
<b>9.4:</b> Solving Quadratic Equations by Completing the Square	<b>BB.8</b> Complete the square >> <b>BB.9</b> Solve a quadratic equation by completing the square >>
<b>9.5:</b> Solving Quadratic Equations by Using the Quadratic Formula	<b>BB.10</b> Solve a quadratic equation using the quadratic formula >> <b>BB.11</b> Using the discriminant >>
<b>9.6:</b> Analyzing Functions with Successive Differences	<b>CC.1</b> Identify linear, quadratic, and exponential functions from graphs >> <b>CC.2</b> Identify linear, quadratic, and exponential functions from tables >> <b>CC.3</b> Write linear, quadratic, and exponential functions >>
<b>9.7:</b> Special Functions	<b>DD.1</b> Complete a function table: absolute value functions >> <b>DD.2</b> Graph an absolute value function >> <b>DD.3</b> Domain and range of absolute value functions: graphs >> <b>DD.5</b> Transformations of absolute value functions >>

# Chapter 10

## Radical Functions and Geometry

Textbook section	IXL skills
<b>10.1:</b> Square Root Functions	<b>FF.2</b> Domain and range of radical functions: graphs >>
	<b>FF.3</b> Domain and range of radical functions: equations >>
<b>10.2:</b> Simplifying Radical Expressions	<b>EE.1</b> Simplify radical expressions >>
	<b>EE.2</b> Simplify radical expressions with variables >>
	<b>EE.7</b> Divide radical expressions >>
<b>10.3:</b> Operations with Radical Expressions	<b>EE.4</b> Multiply radical expressions >>
	<b>EE.5</b> Add and subtract radical expressions >>
	<b>EE.6</b> Simplify radical expressions using the distributive property >>
	<b>EE.8</b> Simplify radical expressions: mixed review >>
<b>10.4:</b> Radical Equations	<b>FF.4</b> Solve radical equations I >>
	<b>FF.5</b> Solve radical equations II >>
<b>10.5:</b> The Pythagorean Theorem	<b>F.14</b> Pythagorean theorem >>
	<b>F.15</b> Pythagorean theorem: word problems >>
	<b>F.16</b> Converse of the Pythagorean theorem: is it a right triangle? >>
<b>10.6:</b> Trigonometric Ratios	<b>HH.1</b> Trigonometric ratios: sin, cos, and tan >>
	<b>HH.2</b> Find trigonometric ratios using a calculator >>
	<b>HH.3</b> Inverses of trigonometric functions >>
	<b>HH.4</b> Trigonometric ratios: find a side length >>
	<b>HH.5</b> Trigonometric ratios: find an angle measure >>
	<b>HH.6</b> Solve a right triangle >>

# Chapter 11

## Rational Functions and Equations

Textbook section	IXL skills
<b>11.1:</b> Inverse Variation	<b>R.6</b> Identify direct variation and inverse variation >> <b>R.7</b> Write inverse variation equations >> <b>R.8</b> Write and solve inverse variation equations >>
<b>11.2:</b> Rational Functions	<b>GG.1</b> Rational functions: asymptotes and excluded values >>
<b>11.3:</b> Simplifying Rational Expressions	<b>GG.3</b> Simplify rational expressions >>
<b>11.4:</b> Multiplying and Dividing Rational Expressions	<b>GG.4</b> Multiply and divide rational expressions >>
<b>11.5:</b> Dividing Polynomials	<b>GG.5</b> Divide polynomials >>
<b>11.6:</b> Adding and Subtracting Rational Expressions	<b>GG.6</b> Add and subtract rational expressions >>
<b>11.7:</b> Mixed Expressions and Complex Fractions	<b>GG.2</b> Simplify complex fractions >>
<b>11.8:</b> Rational Equations	<b>GG.7</b> Solve rational equations >>

# Chapter 12

## Statistics and Probability

Textbook section	IXL skills
<b>12.1:</b> Samples and Studies	<b>KK.1</b> Identify biased samples >>
<b>12.2:</b> Statistics and Parameters	<b>KK.6</b> Mean absolute deviation >> <b>KK.7</b> Variance and standard deviation >>
<b>12.3:</b> Distributions of Data	<b>N.5</b> Interpret box-and-whisker plots >>
<b>12.4:</b> Comparing Sets of Data	
<b>12.5:</b> Simulation	<b>JJ.2</b> Experimental probability >>
<b>12.6:</b> Permutations and Combinations	<b>JJ.6</b> Permutations >> <b>JJ.7</b> Counting principle >> <b>JJ.8</b> Permutation and combination notation >>
<b>12.7:</b> Probability of Compound Events	<b>JJ.3</b> Compound events: find the number of outcomes >> <b>JJ.4</b> Identify independent and dependent events >> <b>JJ.5</b> Probability of independent and dependent events >>
<b>12.8:</b> Probability Distributions	