



# IXL Skill Alignment

Algebra 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	1. Word problems: mixed review Z7P
<b>0.2:</b> Real Numbers	1. Square roots 7PZ 2. Sort rational and irrational numbers ALH 3. Classify rational and irrational numbers 3S8 4. Classify numbers RB8
<b>0.3:</b> Operations with Integers	1. Absolute value and opposites KGR 2. Add, subtract, multiply, and divide integers UNC
<b>0.4:</b> Adding and Subtracting Rational Numbers	1. Compare and order rational numbers ALW 2. Add and subtract rational numbers J8R
<b>0.5:</b> Multiplying and Dividing Rational Numbers	1. Multiply and divide rational numbers H6L
<b>0.6:</b> The Percent Proportion	1. Solve percent equations 39N 2. Percent word problems BLW
<b>0.7:</b> Perimeter	1. Perimeter 6NC
<b>0.8:</b> Area	
<b>0.9:</b> Volume	
<b>0.1:</b> Surface Area	
<b>0.11:</b> Simple Probability and Odds	1. Theoretical probability 2MS 2. Counting principle GTX
<b>0.12:</b> Measures of Center, Variation, and Position	1. Mean, median, mode, and range MHB 2. Calculate quartiles and interquartile range 8H9 3. Identify an outlier 87L 4. Identify an outlier and describe the effect of removing it XGC



**0.13:** Representing Data

1. Interpret bar graphs, line graphs, and histograms B9A
  2. Create bar graphs, line graphs, and histograms EF6
  3. Interpret stem-and-leaf plots EBJ
  4. Box plots YE9
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# Chapter 1

## Expressions, Equations, and Functions

Textbook section	IXL skills
<b>1.1:</b> Variables and Expressions	1. Write variable expressions D7K
<b>1.2:</b> Order of Operations	1. Evaluate numerical expressions involving integers ZFX 2. Evaluate variable expressions involving integers AZT
<b>1.3:</b> Properties of Numbers	1. Properties of addition and multiplication TQS 2. Properties of equality H8Q
<b>1.4:</b> The Distributive Property	1. Distributive property BHL 2. Simplify variable expressions using properties HHR 3. Simplify variable expressions involving like terms and the distributive property ZXX 4. Identify equivalent linear expressions 62A
<b>1.5:</b> Equations	1. Solve equations using order of operations 8NT 2. Solve advanced linear equations 28N 3. Solve equations with variables on both sides 7S7
<b>1.6:</b> Relations	1. Relations: convert between tables, graphs, mappings, and lists of points RBG 2. Domain and range of relations 2CG
<b>1.7:</b> Functions	1. Identify functions VLL 2. Identify functions: vertical line test HLX 3. Evaluate a function R96
<b>1.8:</b> Interpreting Graphs of Functions	

# Chapter 2

## Linear Equations

Textbook section	IXL skills
<b>2.1:</b> Writing Equations	<ol style="list-style-type: none"> <li>1. Write variable equations YVW</li> <li>2. Write linear functions: word problems 9RQ</li> </ol>
<b>2.2:</b> Solving One-Step Equations	<ol style="list-style-type: none"> <li>1. Solve one-step linear equations TXJ</li> </ol>
<b>2.3:</b> Solving Multi-Step Equations	<ol style="list-style-type: none"> <li>1. Solve two-step linear equations QAK</li> <li>2. Solve advanced linear equations 28N</li> <li>3. Solve linear equations: word problems UFG</li> <li>4. Solve linear equations: mixed review DN6</li> <li>5. Consecutive integer problems HDF</li> </ol>
<b>2.4:</b> Solving Equations with the Variable on Each Side	<ol style="list-style-type: none"> <li>1. Solve equations with variables on both sides 7S7</li> <li>2. Solve equations: complete the solution EVP</li> <li>3. Find the number of solutions KBP</li> <li>4. Create equations with no solutions or infinitely many solutions PUK</li> </ol>
<b>2.5:</b> Solving Equations Involving Absolute Value	<ol style="list-style-type: none"> <li>1. Solve absolute value equations 9LF</li> <li>2. Graph solutions to absolute value equations KXA</li> </ol>
<b>2.6:</b> Ratios and Proportions	<ol style="list-style-type: none"> <li>1. Identify equivalent ratios 8UE</li> <li>2. Write an equivalent ratio RW6</li> <li>3. Solve proportions 2ZL</li> <li>4. Solve proportions: word problems 8ES</li> <li>5. Scale drawings: word problems 8B7</li> </ol>
<b>2.7:</b> Percent of Change	<ol style="list-style-type: none"> <li>1. Percent of change GRG</li> <li>2. Percent of change: word problems 59V</li> </ol>
<b>2.8:</b> Literal Equations and Dimensional Analysis	<ol style="list-style-type: none"> <li>1. Rearrange multi-variable equations WSJ</li> </ol>
<b>2.9:</b> Weighted Averages	<ol style="list-style-type: none"> <li>1. Weighted averages: word problems 2TQ</li> </ol>

# Chapter 3

## Linear Functions

Textbook section	IXL skills
<b>3.1:</b> Graphing Linear Equations	<ol style="list-style-type: none"><li>1. Identify linear functions from graphs and equations VMQ</li><li>2. Complete a table and graph a linear function JFG</li><li>3. Standard form: find x- and y-intercepts 8SN</li><li>4. Standard form: graph an equation U6U</li></ol>
<b>3.2:</b> Solving Linear Equations by Graphing	
<b>3.3:</b> 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><li>3. Find a missing coordinate using slope 5C7</li></ol>
<b>3.4:</b> Direct Variation	<ol style="list-style-type: none"><li>1. Find the constant of variation 9TD</li><li>2. Graph a proportional relationship DAQ</li><li>3. Write direct variation equations Y6M</li><li>4. Write and solve direct variation equations GUW</li></ol>
<b>3.5:</b> Arithmetic Sequences as Linear Functions	<ol style="list-style-type: none"><li>1. Arithmetic sequences ALG</li><li>2. Write variable expressions for arithmetic sequences 5VF</li></ol>
<b>3.6:</b> Proportional and Nonproportional Relationships	<ol style="list-style-type: none"><li>1. Identify proportional relationships PAV</li></ol>

# Chapter 4

## Equations of Linear Functions

Textbook section	IXL skills
<b>4.1:</b> Graphing Equations in Slope-Intercept Form	<ol style="list-style-type: none"> <li>Slope-intercept form: find the slope and y-intercept R5T</li> <li>Slope-intercept form: graph an equation UWB</li> <li>Slope-intercept form: write an equation from a graph 9GW</li> </ol>
<b>4.2:</b> Writing Equations in Slope-Intercept Form	<ol style="list-style-type: none"> <li>Slope-intercept form: write an equation A42</li> <li>Slope-intercept form: write an equation from a table SSE</li> <li>Slope-intercept form: write an equation from a word problem HWM</li> </ol>
<b>4.3:</b> Writing Equations in Point-Slope Form	<ol style="list-style-type: none"> <li>Point-slope form: graph an equation F8H</li> <li>Point-slope form: write an equation PPE</li> <li>Point-slope form: write an equation from a graph LBX</li> </ol>
<b>4.4:</b> Parallel and Perpendicular Lines	<ol style="list-style-type: none"> <li>Slopes of parallel and perpendicular lines ADB</li> <li>Write an equation for a parallel or perpendicular line 5SH</li> </ol>
<b>4.5:</b> Scatter Plots and Lines of Fit	<ol style="list-style-type: none"> <li>Interpret a scatter plot 8BS</li> <li>Scatter plots: line of best fit Y2S</li> </ol>
<b>4.6:</b> Regression and Median-Fit Lines	<ol style="list-style-type: none"> <li>Match correlation coefficients to scatter plots FQ7</li> <li>Calculate correlation coefficients E8T</li> <li>Find the equation of a regression line WJC</li> <li>Interpret regression lines SEQ</li> <li>Analyze a regression line of a data set 8D8</li> </ol>
<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	<ol style="list-style-type: none"><li>1. Graph inequalities H68</li><li>2. Write inequalities from graphs SEK</li><li>3. Solve one-step linear inequalities: addition and subtraction RZV</li></ol>
<b>5.2:</b> Solving Inequalities by Multiplication and Division	<ol style="list-style-type: none"><li>1. Solve one-step linear inequalities: multiplication and division BRJ</li><li>2. Solve one-step linear inequalities EEX</li><li>3. Graph solutions to one-step linear inequalities E2Z</li></ol>
<b>5.3:</b> Solving Multi-Step Inequalities	<ol style="list-style-type: none"><li>1. Solve two-step linear inequalities NPZ</li><li>2. Graph solutions to two-step linear inequalities XVM</li><li>3. Solve advanced linear inequalities 9K8</li><li>4. Graph solutions to advanced linear inequalities 5GC</li></ol>
<b>5.4:</b> 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>
<b>5.5:</b> Inequalities Involving Absolute Value	
<b>5.6:</b> Graphing Inequalities in Two Variables	<ol style="list-style-type: none"><li>1. Does <math>(x, y)</math> satisfy the inequality? N9L</li><li>2. Linear inequalities: solve for <math>y</math> UYU</li><li>3. Graph a two-variable linear inequality HHP</li><li>4. Linear inequalities: word problems ZAY</li></ol>



# Chapter 6

## Systems of Linear Equations and Inequalities

Textbook section	IXL skills
<b>6.1:</b> Graphing Systems of Equations	<ol style="list-style-type: none"><li>1. Is <math>(x, y)</math> a solution to the system of equations? LRL</li><li>2. Solve a system of equations by graphing TSS</li><li>3. Solve a system of equations by graphing: word problems BVB</li><li>4. Find the number of solutions to a system of equations by graphing HJW</li><li>5. Classify a system of equations by graphing T2D</li></ol>
<b>6.2:</b> 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>6.3:</b> Elimination Using Addition and Subtraction	
<b>6.4:</b> Elimination Using Multiplication	<ol style="list-style-type: none"><li>1. Find the number of solutions to a system of equations ACN</li><li>2. Classify a system of equations LTA</li><li>3. Solve a system of equations using elimination A48</li><li>4. Solve a system of equations using elimination: word problems NHR</li></ol>
<b>6.5:</b> Applying Systems of Linear Equations	<ol style="list-style-type: none"><li>1. Solve a system of equations using any method HLV</li><li>2. Solve a system of equations using any method: word problems GDQ</li></ol>
<b>6.6:</b> Systems of 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>

# Chapter 7

## Exponents and Exponential Functions

Textbook section	IXL skills
<b>7.1:</b> Multiplication Properties of Exponents	<ol style="list-style-type: none"> <li>1. Identify monomials QSC</li> <li>2. Multiply monomials 52N</li> <li>3. Powers of monomials 7Q8</li> </ol>
<b>7.2:</b> Division Properties of Exponents	<ol style="list-style-type: none"> <li>1. Negative exponents SCM</li> <li>2. Multiplication with exponents HQD</li> <li>3. Division with exponents 9SS</li> <li>4. Multiplication and division with exponents HPK</li> <li>5. Power rule RWY</li> <li>6. Divide monomials B48</li> <li>7. Multiply and divide monomials 48P</li> </ol>
<b>7.3:</b> Rational Exponents	<ol style="list-style-type: none"> <li>1. Evaluate integers raised to rational exponents PQH</li> </ol>
<b>7.4:</b> Scientific Notation	<ol style="list-style-type: none"> <li>1. Convert between standard and scientific notation 7DX</li> <li>2. Multiply numbers written in scientific notation TPB</li> <li>3. Divide numbers written in scientific notation PY5</li> </ol>
<b>7.5:</b> Exponential Functions	<ol style="list-style-type: none"> <li>1. Match exponential functions and graphs 72J</li> <li>2. Domain and range of exponential functions: graphs ANC</li> <li>3. Domain and range of exponential functions: equations DZE</li> </ol>
<b>7.6:</b> Growth and Decay	<ol style="list-style-type: none"> <li>1. Exponential growth and decay: word problems UKG</li> </ol>
<b>7.7:</b> Geometric Sequences as Exponential Functions	<ol style="list-style-type: none"> <li>1. Identify arithmetic and geometric sequences X76</li> <li>2. Geometric sequences HLJ</li> </ol>



3. Write variable expressions for geometric sequences XPC

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**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	1. Polynomial vocabulary MTT 2. Add and subtract polynomials using algebra tiles J7V 3. Add and subtract polynomials 5EK 4. Add polynomials to find perimeter 8AS
<b>8.2:</b> Multiplying a Polynomial by a Monomial	1. Multiply a polynomial by a monomial G2G
<b>8.3:</b> Multiplying Polynomials	1. Multiply two polynomials using algebra tiles WR5 2. Multiply two binomials M7Q
<b>8.4:</b> Special Products	1. Multiply two binomials: special cases 9JN 2. Multiply polynomials 58A
<b>8.5:</b> Using the Distributive Property	1. GCF of monomials ZZU 2. Factor out a monomial JZL
<b>8.6:</b> Solving $x^2 + bx + c = 0$	1. Factor quadratics with leading coefficient 1 S9P 2. Solve a quadratic equation using the zero product property TNM
<b>8.7:</b> Solving $ax^2 + bx + c = 0$	1. Factor quadratics using algebra tiles Y6U 2. Factor quadratics with other leading coefficients 7ED
<b>8.8:</b> Differences of Squares	
<b>8.9:</b> Perfect Squares	1. Factor quadratics: special cases 56E 2. Factor polynomials TAH 3. Solve a quadratic equation by factoring CSS

# Chapter 9

## Quadratic Functions and Equations

Textbook section	IXL skills
<b>9.1:</b> Graphing Quadratic Functions	<ol style="list-style-type: none"> <li>1. Characteristics of quadratic functions: graphs HW8</li> <li>2. Complete a function table: quadratic functions LFV</li> <li>3. Match quadratic functions and graphs AU8</li> </ol>
<b>9.2:</b> Solve Quadratic Equations by Graphing	
<b>9.3:</b> Transformations of 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>9.4:</b> Solving Quadratic Equations by Completing the Square	<ol style="list-style-type: none"> <li>1. Complete the square RD2</li> <li>2. Solve a quadratic equation by completing the square XCL</li> </ol>
<b>9.5:</b> Solving Quadratic Equations by Using the Quadratic Formula	<ol style="list-style-type: none"> <li>1. Solve a quadratic equation using the quadratic formula XCF</li> <li>2. Using the discriminant SMF</li> </ol>
<b>9.6:</b> Analyzing Functions with Successive Differences	<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> <li>3. Write linear, quadratic, and exponential functions AFA</li> </ol>
<b>9.7:</b> Special Functions	<ol style="list-style-type: none"> <li>1. Complete a function table: absolute value functions 2DH</li> <li>2. Graph an absolute value function TD2</li> <li>3. Domain and range of absolute value functions: graphs NV7</li> <li>4. Transformations of absolute value functions 9TC</li> </ol>

# Chapter 10

## Radical Functions and Geometry

Textbook section	IXL skills
<b>10.1:</b> Square Root Functions	<ol style="list-style-type: none"> <li>1. Domain and range of radical functions: graphs UXG</li> <li>2. Domain and range of radical functions: equations 73C</li> </ol>
<b>10.2:</b> Simplifying Radical Expressions	<ol style="list-style-type: none"> <li>1. Simplify radical expressions ZFF</li> <li>2. Simplify radical expressions with variables 82V</li> <li>3. Divide radical expressions TYC</li> </ol>
<b>10.3:</b> Operations with Radical Expressions	<ol style="list-style-type: none"> <li>1. Multiply radical expressions HMX</li> <li>2. Add and subtract radical expressions DLV</li> <li>3. Simplify radical expressions using the distributive property 28V</li> <li>4. Simplify radical expressions: mixed review YZC</li> </ol>
<b>10.4:</b> Radical Equations	<ol style="list-style-type: none"> <li>1. Solve radical equations I MMG</li> <li>2. Solve radical equations II ZGH</li> </ol>
<b>10.5:</b> The Pythagorean Theorem	<ol style="list-style-type: none"> <li>1. Pythagorean theorem KKT</li> <li>2. Pythagorean theorem: word problems EU8</li> <li>3. Converse of the Pythagorean theorem: is it a right triangle? M68</li> </ol>
<b>10.6:</b> Trigonometric Ratios	<ol style="list-style-type: none"> <li>1. Trigonometric ratios: sin, cos, and tan NH8</li> <li>2. Find trigonometric ratios using a calculator 6Q3</li> <li>3. Inverses of trigonometric functions VE7</li> <li>4. Trigonometric ratios: find a side length 65V</li> <li>5. Trigonometric ratios: find an angle measure RSS</li> <li>6. Solve a right triangle UVM</li> </ol>

# Chapter 11

## Rational Functions and Equations

Textbook section	IXL skills
<b>11.1:</b> Inverse Variation	<ol style="list-style-type: none"><li>1. Identify direct variation and inverse variation 9Y5</li><li>2. Write inverse variation equations ECT</li><li>3. Write and solve inverse variation equations UWS</li></ol>
<b>11.2:</b> Rational Functions	<ol style="list-style-type: none"><li>1. Rational functions: asymptotes and excluded values B6J</li></ol>
<b>11.3:</b> Simplifying Rational Expressions	<ol style="list-style-type: none"><li>1. Simplify rational expressions Q7U</li></ol>
<b>11.4:</b> Multiplying and Dividing Rational Expressions	<ol style="list-style-type: none"><li>1. Multiply and divide rational expressions LX9</li></ol>
<b>11.5:</b> Dividing Polynomials	<ol style="list-style-type: none"><li>1. Divide polynomials using long division LY7</li></ol>
<b>11.6:</b> Adding and Subtracting Rational Expressions	<ol style="list-style-type: none"><li>1. Add and subtract rational expressions ELX</li></ol>
<b>11.7:</b> Mixed Expressions and Complex Fractions	<ol style="list-style-type: none"><li>1. Simplify complex fractions HYL</li></ol>
<b>11.8:</b> Rational Equations	<ol style="list-style-type: none"><li>1. Solve rational equations VLW</li></ol>

# Chapter 12

## Statistics and Probability

Textbook section	IXL skills
<b>12.1:</b> Samples and Studies	1. Identify biased samples F6N
<b>12.2:</b> Statistics and Parameters	1. Mean absolute deviation A5C 2. Variance and standard deviation HX5
<b>12.3:</b> Distributions of Data	1. Box plots YE9
<b>12.4:</b> Comparing Sets of Data	
<b>12.5:</b> Simulation	1. Experimental probability LQV
<b>12.6:</b> Permutations and Combinations	1. Counting principle GTX 2. Permutations SFZ 3. Permutation and combination notation 7TT
<b>12.7:</b> Probability of Compound Events	1. Outcomes of compound events GKA 2. Identify independent and dependent events 5A7 3. Probability of independent and dependent events WRJ
<b>12.8:</b> Probability Distributions	