



# IXL Skill Alignment

Algebra 2 alignment for Glencoe High School Math



Use IXL's interactive skill plan to get up-to-date skill alignments, assign skills to your students, and track progress.

[www.ixl.com/math/skill-plans/glencoe-high-school-math-algebra-2](http://www.ixl.com/math/skill-plans/glencoe-high-school-math-algebra-2)

This document includes the IXL® skill alignments to McGraw-Hill's [Glencoe High School Math](#) curriculum. IXL provides skill alignments as a service to teachers, students, and parents. The skill alignments are provided by IXL and are not affiliated with, sponsored by, reviewed, approved or endorsed by McGraw-Hill or any other third party. IXL® and IXL Learning® are registered trademarks of IXL Learning, Inc. All other intellectual property rights (e.g., unregistered and registered trademarks and copyrights) are the property of their respective owners.

# Chapter 0

## Preparing for Advanced Algebra

Textbook section	IXL skills
<b>0.1:</b> Representing Functions	1. Domain and range 78A
<b>0.2:</b> FOIL	
<b>0.3:</b> Factoring Polynomials	1. Factor out a monomial NMZ 2. Factor quadratics UB5
<b>0.4:</b> Counting Techniques	1. Counting principle ZUV 2. Combinations and permutations UAB
<b>0.5:</b> Adding Probabilities	1. Calculate probabilities of events QRS 2. Find probabilities using the addition rule B9L
<b>0.6:</b> Multiplying Probabilities	1. Identify independent events RTZ 2. Probability of independent and dependent events X5U 3. Find conditional probabilities 2M4 4. Find conditional probabilities using two-way frequency tables HGC
<b>0.7:</b> Congruent and Similar Figures	
<b>0.8:</b> The Pythagorean Theorem	1. Pythagorean Theorem and its converse JZF
<b>0.9:</b> Measures of Center, Spread, and Position	1. Variance and standard deviation V5H

# Chapter 1

## Linear Equations

Textbook section	IXL skills
<b>1.1:</b> Solving Linear Equations	<ol style="list-style-type: none"> <li>1. Solve linear equations: word problems 2BG</li> <li>2. Solve multi-variable equations LZD</li> </ol>
<b>1.2:</b> Solving Linear Inequalities	<ol style="list-style-type: none"> <li>1. Write a linear inequality: word problems LLV</li> <li>2. Solve linear inequalities 98Z</li> <li>3. Graph solutions to linear inequalities 2H4</li> </ol>
<b>1.3:</b> Rate of Change and Slope	<ol style="list-style-type: none"> <li>1. Find the slope of a linear function W67</li> </ol>
<b>1.4:</b> Writing Linear Equations	<ol style="list-style-type: none"> <li>1. Write the equation of a linear function PBE</li> </ol>
<b>1.5:</b> Graphing Linear Inequalities	<ol style="list-style-type: none"> <li>1. Graph a two-variable linear inequality RWU</li> </ol>
<b>1.6:</b> Solving Systems of Equations	<ol style="list-style-type: none"> <li>1. Is <math>(x, y)</math> a solution to the system of equations? NJP</li> <li>2. Solve a system of equations by graphing M69</li> <li>3. Solve a system of equations by graphing: word problems T86</li> <li>4. Find the number of solutions to a system of equations P5A</li> <li>5. Classify a system of equations A66</li> <li>6. Solve a system of equations using substitution BW5</li> <li>7. Solve a system of equations using substitution: word problems DKW</li> <li>8. Solve a system of equations using elimination 2CN</li> <li>9. Solve a system of equations using elimination: word problems ARY</li> <li>10. Solve a system of equations using any method FT6</li> <li>11. Solve a system of equations using any method: word problems ELG</li> </ol>

**1.7: Solving Systems of Inequalities by Graphing**

1. Is  $(x, y)$  a solution to the system of inequalities? RFY
  2. Solve systems of linear inequalities by graphing U5D
- 

**1.8: Optimization with Linear Programming**

1. Find the vertices of a solution set FRG
  2. Linear programming AY7
- 

**1.9: Solving Systems of Equations in Three Variables**

1. Solve a system of equations in three variables using substitution X8H
  2. Solve a system of equations in three variables using elimination 9S5
-

# Chapter 2

## Relations and Functions

Textbook section	IXL skills
<b>2.1:</b> Functions and Continuity	1. Domain and range 78A
<b>2.2:</b> Linearity and Symmetry	
<b>2.3:</b> Extrema and End Behavior	
<b>2.4:</b> Sketching Graphs of Functions	
<b>2.5:</b> Graphing Special Functions	
<b>2.6:</b> Transformations of Functions	1. Function transformation rules R7X 2. Translations of functions F6J 3. Reflections of functions PHV 4. Dilations of functions NNY 5. Transformations of functions RSN 6. Describe function transformations KT8
<b>2.7:</b> Solving Equations by Graphing	

# Chapter 3

## Quadratic Functions

Textbook section	IXL skills
<b>3.1:</b> Graphing Quadratic Functions	<ol style="list-style-type: none"> <li>1. Characteristics of quadratic functions: graphs WMS</li> <li>2. Complete a function table: quadratic functions Q9X</li> <li>3. Graph a quadratic function S9G</li> <li>4. Match quadratic functions and graphs QCE</li> </ol>
<b>3.2:</b> Solving Quadratic Equations by Graphing	
<b>3.3:</b> Complex Numbers	<ol style="list-style-type: none"> <li>1. Introduction to complex numbers 5VV</li> <li>2. Add and subtract complex numbers JVF</li> <li>3. Complex conjugates 7U5</li> <li>4. Multiply complex numbers VZ8</li> <li>5. Divide complex numbers MBM</li> <li>6. Add, subtract, multiply, and divide complex numbers CEN</li> <li>7. Powers of <math>i</math> EUT</li> </ol>
<b>3.4:</b> Solving Quadratic Equations by Factoring	<ol style="list-style-type: none"> <li>1. Solve a quadratic equation using the zero product property TRU</li> <li>2. Solve a quadratic equation by factoring CJC</li> <li>3. Write a quadratic function from its zeroes G2Q</li> </ol>
<b>3.5:</b> Solving Quadratic Equations by Completing the Square	<ol style="list-style-type: none"> <li>1. Complete the square 9MW</li> <li>2. Solve a quadratic equation by completing the square NPH</li> </ol>
<b>3.6:</b> The Quadratic Formula and the Discriminant	<ol style="list-style-type: none"> <li>1. Solve a quadratic equation using the quadratic formula YQH</li> <li>2. Using the discriminant QHK</li> </ol>
<b>3.7:</b> Quadratic Inequalities	<ol style="list-style-type: none"> <li>1. Graph solutions to quadratic inequalities DP9</li> <li>2. Solve quadratic inequalities 56V</li> </ol>

# Chapter 4

## Polynomials and Polynomial Functions

Textbook section	IXL skills
<b>4.1:</b> Operations with Polynomials	<ol style="list-style-type: none"> <li>1. Polynomial vocabulary <a href="#">DYB</a></li> <li>2. Add and subtract polynomials <a href="#">9A3</a></li> <li>3. Multiply polynomials <a href="#">8GN</a></li> </ol>
<b>4.2:</b> Powers of Binomials	<ol style="list-style-type: none"> <li>1. Pascal's triangle <a href="#">G7Y</a></li> <li>2. Pascal's triangle and the Binomial Theorem <a href="#">A7M</a></li> <li>3. Binomial Theorem I <a href="#">CWS</a></li> </ol>
<b>4.3:</b> Dividing Polynomials	<ol style="list-style-type: none"> <li>1. Divide polynomials using long division <a href="#">YN5</a></li> <li>2. Divide polynomials using synthetic division <a href="#">D6D</a></li> </ol>
<b>4.4:</b> Graphing Polynomial Functions	<ol style="list-style-type: none"> <li>1. Match polynomials and graphs <a href="#">XJU</a></li> </ol>
<b>4.5:</b> Analyzing Graphs of Polynomial Functions	
<b>4.6:</b> Solving Polynomial Equations	<ol style="list-style-type: none"> <li>1. Factor using a quadratic pattern <a href="#">QKF</a></li> <li>2. Factor by grouping <a href="#">HVT</a></li> <li>3. Factor sums and differences of cubes <a href="#">NJV</a></li> <li>4. Factor polynomials <a href="#">A2W</a></li> <li>5. Solve polynomial equations <a href="#">ZCH</a></li> <li>6. Find the roots of factored polynomials <a href="#">PVM</a></li> </ol>
<b>4.7:</b> Proving Polynomial Identities	
<b>4.8:</b> The Remainder and Factor Theorem	<ol style="list-style-type: none"> <li>1. Evaluate polynomials using synthetic division <a href="#">CHC</a></li> </ol>
<b>4.9:</b> Roots and Zeros	<ol style="list-style-type: none"> <li>1. Complex conjugate theorem <a href="#">5WU</a></li> <li>2. Descartes' Rule of Signs <a href="#">ZFB</a></li> <li>3. Fundamental Theorem of Algebra <a href="#">YS8</a></li> </ol>

# Chapter 5

## Inverses and Radical Functions

Textbook section	IXL skills
<b>5.1:</b> Operations with Functions	<ol style="list-style-type: none"><li>1. Add and subtract functions QQD</li><li>2. Multiply functions 49K</li><li>3. Divide functions 9PH</li></ol>
<b>5.2:</b> Composition of Functions	<ol style="list-style-type: none"><li>1. Composition of linear functions: find a value MFV</li><li>2. Composition of linear functions: find an equation RSP</li><li>3. Composition of linear and quadratic functions: find a value P9T</li><li>4. Composition of linear and quadratic functions: find an equation EKJ</li></ol>
<b>5.3:</b> Inverse Functions and Relations	<ol style="list-style-type: none"><li>1. Identify inverse functions 9KT</li><li>2. Find values of inverse functions from tables YLX</li><li>3. Find values of inverse functions from graphs Z5C</li></ol>
<b>5.4:</b> Graphing Square Root Functions	<ol style="list-style-type: none"><li>1. Domain and range of radical functions HR9</li></ol>
<b>5.5:</b> Graphing Cube Root Functions	
<b>5.6:</b> Solving Radical Equations	<ol style="list-style-type: none"><li>1. Solve radical equations EHE</li></ol>



# Chapter 6

## Exponential and Logarithmic Functions

Textbook section	IXL skills
<b>6.1:</b> Graphing Exponential Functions	1. Match exponential functions and graphs PCX
<b>6.2:</b> Solving Exponential Equations and Inequalities	1. Solve exponential equations using factoring YQY
<b>6.3:</b> Geometric Sequences and Series	1. Find terms of a geometric sequence BHV 2. Write a formula for a geometric sequence Q5V 3. Introduction to sigma notation DHQ 4. Partial sums of geometric series 9JU
<b>6.4:</b> Logarithms and Logarithmic Functions	1. Convert between exponential and logarithmic form: rational bases TPA 2. Evaluate logarithms GBR
<b>6.5:</b> Modeling Data	1. Find the equation of a regression line D9Y 2. Interpret regression lines UWX 3. Analyze a regression line of a data set 6CM
<b>6.6:</b> Properties of Logarithms	1. Product property of logarithms CW9 2. Quotient property of logarithms ZNT 3. Power property of logarithms 7T3
<b>6.7:</b> Common Logarithms	1. Change of base formula J2R 2. Solve exponential equations using common logarithms 9F2
<b>6.8:</b> Natural Logarithms	1. Convert between natural exponential and logarithmic form 5KM 2. Convert between exponential and logarithmic form: all bases 8RK 3. Evaluate natural logarithms XG9 4. Solve exponential equations using common logarithms 9F2 5. Continuously compounded interest: word problems 5GU



**6.9:** Solving Logarithmic Equations and Inequalities

1. Solve logarithmic equations I BXU
2. Solve logarithmic equations II RLX

**6.1:** Using Logarithms to Solve Exponential Problems

1. Compound interest: word problems YJW

# Chapter 7

## Rational Functions

Textbook section	IXL skills
<b>7.1:</b> Multiplying and Dividing Rational Expressions	<ol style="list-style-type: none"><li>1. Simplify rational expressions 37N</li><li>2. Multiply and divide rational expressions MG2</li></ol>
<b>7.2:</b> Adding and Subtracting Rational Expressions	<ol style="list-style-type: none"><li>1. Add and subtract rational expressions FEX</li></ol>
<b>7.3:</b> Graphing Reciprocal Functions	<ol style="list-style-type: none"><li>1. Rational functions: asymptotes and excluded values 7JJ</li></ol>
<b>7.4:</b> Graphing Rational Functions	
<b>7.5:</b> Variation Functions	<ol style="list-style-type: none"><li>1. Classify variation C9D</li><li>2. Find the constant of variation PXE</li><li>3. Solve variation equations JZ9</li></ol>
<b>7.6:</b> Solving Rational Equations and Inequalities	<ol style="list-style-type: none"><li>1. Solve rational equations CHP</li></ol>

# Chapter 8

## Statistics and Probability

Textbook section	IXL skills
<b>8.1:</b> Random Sampling	1. Identify biased samples CH7
<b>8.2:</b> Using Statistical Experiments	1. Analyze the results of an experiment using simulations RLB
<b>8.3:</b> Population Parameters	
<b>8.4:</b> Distributions of Data	
<b>8.5:</b> Evaluating Published Data	
<b>8.6:</b> Normal Distributions	1. Find probabilities using the normal distribution I QA9 2. Find probabilities using the normal distribution II 6M9 3. Find z-values PAJ
<b>8.7:</b> Using Probability to Make Decisions	

# Chapter 9

## Trigonometric Functions

Textbook section	IXL skills
<b>9.1:</b> Trigonometric Functions in Right Triangles	<ol style="list-style-type: none"> <li>1. Trigonometric ratios: sin, cos, and tan PQJ</li> <li>2. Trigonometric ratios: csc, sec, and cot P82</li> <li>3. Trigonometric ratios: find a side length MHJ</li> <li>4. Trigonometric ratios: find an angle measure 84G</li> </ol>
<b>9.2:</b> Angles and Angle Measure	<ol style="list-style-type: none"> <li>1. Convert between radians and degrees EDC</li> <li>2. Radians and arc length UA5</li> <li>3. Graphs of angles PSG</li> <li>4. Coterminal angles 7CV</li> </ol>
<b>9.3:</b> Trigonometric Functions of General Angles	<ol style="list-style-type: none"> <li>1. Reference angles BRP</li> <li>2. Find trigonometric ratios using the unit circle ZF7</li> </ol>
<b>9.4:</b> Circular and Periodic Functions	<ol style="list-style-type: none"> <li>1. Sin, cos, and tan of special angles 6H8</li> <li>2. Csc, sec, and cot of special angles PAE</li> </ol>
<b>9.5:</b> Graphing Trigonometric Functions	
<b>9.6:</b> Translations of Trigonometric Graphs	<ol style="list-style-type: none"> <li>1. Find properties of sine functions 2EK</li> <li>2. Write equations of sine functions from graphs FGW</li> <li>3. Write equations of sine functions using properties JDH</li> <li>4. Graph sine functions 9NS</li> <li>5. Find properties of cosine functions F8Y</li> <li>6. Write equations of cosine functions from graphs 4G8</li> <li>7. Write equations of cosine functions using properties N6X</li> <li>8. Graph cosine functions KXG</li> <li>9. Graph sine and cosine functions A7V</li> </ol>

# Chapter 10

## Trigonometric Equations and Identities

Textbook section	IXL skills
<b>10.1:</b> Trigonometric Identities	<ol style="list-style-type: none"><li>1. Trigonometric identities I XJJ</li><li>2. Trigonometric identities II F8F</li></ol>
<b>10.2:</b> Verifying Trigonometric Identities	
<b>10.3:</b> Sum and Difference Identities	
<b>10.4:</b> Double-Angle and Half-Angle Identities	
<b>10.5:</b> Solving Trigonometric Equations	<ol style="list-style-type: none"><li>1. Solve trigonometric equations I CQB</li><li>2. Solve trigonometric equations II SNX</li></ol>