



IXL Skill Alignment

Alg 2 alignment for Glencoe High School Math

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Chapter 0

Preparing for Advanced Algebra

Textbook section	IXL skills
0.1: Representing Functions	D.1 Domain and range >>
0.2: FOIL	
0.3: Factoring Polynomials	I.1 Factor out a monomial >> I.3 Factor quadratics >>
0.4: Counting Techniques	CC.3 Counting principle >> CC.4 Combinations and permutations >>
0.5: Adding Probabilities	CC.2 Calculate probabilities of events >> CC.12 Find probabilities using the addition rule >>
0.6: Multiplying Probabilities	CC.7 Identify independent events >> CC.8 Probability of independent and dependent events >> CC.9 Find conditional probabilities >> CC.11 Find conditional probabilities using two-way frequency tables >>
0.7: Congruent and Similar Figures	
0.8: The Pythagorean Theorem	Y.1 Pythagorean Theorem and its converse >>
0.9: Measures of Center, Spread, and Position	EE.2 Variance and standard deviation >>

Chapter 1

Linear Equations

Textbook section	IXL skills
1.1: Solving Linear Equations	B.2 Solve linear equations: word problems >> B.6 Solve multi-variable equations >>
1.2: Solving Linear Inequalities	C.3 Write a linear inequality: word problems >> C.4 Solve linear inequalities >> C.5 Graph solutions to linear inequalities >>
1.3: Rate of Change and Slope	D.6 Find the slope of a linear function >>
1.4: Writing Linear Equations	D.8 Write the equation of a linear function >>
1.5: Graphing Linear Inequalities	C.8 Graph a two-variable linear inequality >>
1.6: Solving Systems of Equations	E.1 Is (x, y) a solution to the system of equations? >> E.2 Solve a system of equations by graphing >> E.3 Solve a system of equations by graphing: word problems >> E.4 Find the number of solutions to a system of equations >> E.5 Classify a system of equations >> E.6 Solve a system of equations using substitution >> E.7 Solve a system of equations using substitution: word problems >> E.8 Solve a system of equations using elimination >> E.9 Solve a system of equations using elimination: word problems >> E.10 Solve a system of equations using any method >> E.11 Solve a system of equations using any method: word problems >>

1.7: Solving Systems of Inequalities by Graphing**F.1** Is (x, y) a solution to the system of inequalities? >>**F.2** Solve systems of linear inequalities by graphing >>**1.8: Optimization with Linear Programming****F.4** Find the vertices of a solution set >>**F.5** Linear programming >>**1.9: Solving Systems of Equations in Three Variables****E.12** Solve a system of equations in three variables using substitution >>**E.13** Solve a system of equations in three variables using elimination >>

Chapter 2

Relations and Functions

Textbook section	IXL skills
2.1: Functions and Continuity	D.1 Domain and range >>
2.2: Linearity and Symmetry	
2.3: Extrema and End Behavior	
2.4: Sketching Graphs of Functions	
2.5: Graphing Special Functions	
2.6: Transformations of Functions	P.1 Function transformation rules >> P.2 Translations of functions >> P.3 Reflections of functions >> P.4 Dilations of functions >> P.5 Transformations of functions >> P.6 Describe function transformations >>
2.7: Solving Equations by Graphing	

Chapter 3

Quadratic Functions

Textbook section	IXL skills
3.1: Graphing Quadratic Functions	J.1 Characteristics of quadratic functions >>
	J.2 Complete a function table: quadratic functions >>
	J.3 Graph a quadratic function >>
	J.11 Match quadratic functions and graphs >>
3.2: Solving Quadratic Equations by Graphing	
3.3: Complex Numbers	H.1 Introduction to complex numbers >>
	H.2 Add and subtract complex numbers >>
	H.3 Complex conjugates >>
	H.4 Multiply complex numbers >>
	H.5 Divide complex numbers >>
	H.6 Add, subtract, multiply, and divide complex numbers >>
	H.8 Powers of i >>
3.4: Solving Quadratic Equations by Factoring	J.5 Solve a quadratic equation using the zero product property >>
	J.6 Solve a quadratic equation by factoring >>
	J.12 Write a quadratic function from its zeros >>
3.5: Solving Quadratic Equations by Completing the Square	J.7 Complete the square >>
	J.8 Solve a quadratic equation by completing the square >>
3.6: The Quadratic Formula and the Discriminant	J.9 Solve a quadratic equation using the quadratic formula >>
	J.10 Using the discriminant >>
3.7: Quadratic Inequalities	C.10 Graph solutions to quadratic inequalities >>
	C.11 Solve quadratic inequalities >>

Chapter 4

Polynomials and Polynomial Functions

Textbook section	IXL skills
4.1: Operations with Polynomials	K.1 Polynomial vocabulary >> K.2 Add and subtract polynomials >> K.3 Multiply polynomials >>
4.2: Powers of Binomials	K.16 Pascal's triangle >> K.17 Pascal's triangle and the Binomial Theorem >> K.18 Binomial Theorem I >>
4.3: Dividing Polynomials	K.4 Divide polynomials using long division >> K.5 Divide polynomials using synthetic division >>
4.4: Graphing Polynomial Functions	K.14 Match polynomials and graphs >>
4.5: Analyzing Graphs of Polynomial Functions	
4.6: Solving Polynomial Equations	I.4 Factor using a quadratic pattern >> I.5 Factor by grouping >> I.6 Factor sums and differences of cubes >> I.7 Factor polynomials >> K.7 Solve polynomial equations >> K.8 Find the roots of factored polynomials >>
4.7: Proving Polynomial Identities	
4.8: The Remainder and Factor Theorem	K.6 Evaluate polynomials using synthetic division >>
4.9: Roots and Zeros	K.11 Complex conjugate theorem >> K.13 Descartes' Rule of Signs >> K.15 Fundamental Theorem of Algebra >>

Chapter 5

Inverses and Radical Functions

Textbook section	IXL skills
5.1: Operations with Functions	0.1 Add and subtract functions >>
	0.2 Multiply functions >>
	0.3 Divide functions >>
5.2: Composition of Functions	0.4 Composition of linear functions: find a value >>
	0.5 Composition of linear functions: find an equation >>
	0.6 Composition of linear and quadratic functions: find a value >>
	0.7 Composition of linear and quadratic functions: find an equation >>
5.3: Inverse Functions and Relations	0.8 Identify inverse functions >>
	0.9 Find values of inverse functions from tables >>
	0.10 Find values of inverse functions from graphs >>
5.4: Graphing Square Root Functions	L.12 Domain and range of radical functions >>
5.5: Graphing Cube Root Functions	
5.6: Solving Radical Equations	L.13 Solve radical equations >>

Chapter 6

Exponential and Logarithmic Functions

Textbook section	IXL skills
6.1: Graphing Exponential Functions	S.3 Match exponential functions and graphs >>
6.2: Solving Exponential Equations and Inequalities	S.4 Solve exponential equations using factoring >>
6.3: Geometric Sequences and Series	BB.2 Find terms of a geometric sequence >> BB.7 Write a formula for a geometric sequence >> BB.11 Introduction to sigma notation >> BB.15 Partial sums of geometric series >>
6.4: Logarithms and Logarithmic Functions	R.1 Convert between exponential and logarithmic form: rational bases >> R.4 Evaluate logarithms >>
6.5: Modeling Data	EE.6 Find the equation of a regression line >> EE.7 Interpret regression lines >> EE.8 Analyze a regression line of a data set >>
6.6: Properties of Logarithms	R.8 Product property of logarithms >> R.9 Quotient property of logarithms >> R.10 Power property of logarithms >>
6.7: Common Logarithms	R.6 Change of base formula >> S.5 Solve exponential equations using common logarithms >>
6.8: Natural Logarithms	R.2 Convert between natural exponential and logarithmic form >> R.3 Convert between exponential and logarithmic form: all bases >> R.5 Evaluate natural logarithms >> S.5 Solve exponential equations using common logarithms >> S.14 Continuously compounded interest: word problems >>

6.9: Solving Logarithmic Equations and Inequalities

S.7

Solve logarithmic equations I >>

S.8

Solve logarithmic equations II >>

6.1: Using Logarithms to Solve Exponential Problems

S.13

Compound interest: word problems >>

Chapter 7

Rational Functions

Textbook section	IXL skills
7.1: Multiplying and Dividing Rational Expressions	N.4 Simplify rational expressions >> N.5 Multiply and divide rational expressions >>
7.2: Adding and Subtracting Rational Expressions	N.6 Add and subtract rational expressions >>
7.3: Graphing Reciprocal Functions	N.1 Rational functions: asymptotes and excluded values >>
7.4: Graphing Rational Functions	
7.5: Variation Functions	Q.3 Classify variation >> Q.5 Find the constant of variation >> Q.7 Solve variation equations >>
7.6: Solving Rational Equations and Inequalities	N.7 Solve rational equations >>

Chapter 8

Statistics and Probability

Textbook section	IXL skills
8.1: Random Sampling	EE.1 Identify biased samples >>
8.2: Using Statistical Experiments	EE.13 Analyze the results of an experiment using simulations >>
8.3: Population Parameters	
8.4: Distributions of Data	
8.5: Evaluating Published Data	
8.6: Normal Distributions	DD.11 Find probabilities using the normal distribution I >> DD.12 Find probabilities using the normal distribution II >> DD.13 Find z-values >>
8.7: Using Probability to Make Decisions	

Chapter 9

Trigonometric Functions

Textbook section	IXL skills
9.1: Trigonometric Functions in Right Triangles	Y.3 Trigonometric ratios: sin, cos, and tan >>
	Y.4 Trigonometric ratios: csc, sec, and cot >>
	Y.14 Trigonometric ratios: find a side length >>
	Y.15 Trigonometric ratios: find an angle measure >>
9.2: Angles and Angle Measure	X.1 Convert between radians and degrees >>
	X.2 Radians and arc length >>
	X.3 Graphs of angles >>
	X.5 Coterminal angles >>
9.3: Trigonometric Functions of General Angles	X.6 Reference angles >>
	Y.6 Find trigonometric ratios using the unit circle >>
9.4: Circular and Periodic Functions	Y.7 Sin, cos, and tan of special angles >>
	Y.8 Csc, sec, and cot of special angles >>
9.5: Graphing Trigonometric Functions	
9.6: Translations of Trigonometric Graphs	Z.1 Find properties of sine functions >>
	Z.2 Write equations of sine functions from graphs >>
	Z.3 Write equations of sine functions using properties >>
	Z.4 Graph sine functions >>
	Z.5 Find properties of cosine functions >>
	Z.6 Write equations of cosine functions from graphs >>
	Z.7 Write equations of cosine functions using properties >>
	Z.8 Graph cosine functions >>
	Z.9 Graph sine and cosine functions >>

Chapter 10

Trigonometric Equations and Identities

Textbook section	IXL skills
10.1: Trigonometric Identities	AA.3 Trigonometric identities I >> AA.4 Trigonometric identities II >>
10.2: Verifying Trigonometric Identities	
10.3: Sum and Difference Identities	
10.4: Double-Angle and Half-Angle Identities	
10.5: Solving Trigonometric Equations	Y.12 Solve trigonometric equations I >> Y.13 Solve trigonometric equations II >>