IXL Skill Alignment

Alg 2 alignment for Glencoe High School Math

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 >>

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	**O.1**	Add and subtract functions >>
	O.2	Multiply functions >>
	O.3	Divide functions >>
5.2: Composition of Functions	**O.4**	Composition of linear functions: find a value >>
	O.5	Composition of linear functions: find an equation >>
	O.6	Composition of linear and quadratic functions: find a value >>
	O.7	Composition of linear and quadratic functions: find an equation >>
5.3: Inverse Functions and Relations	**O.8**	Identify inverse functions >>
	O.9	Find values of inverse functions from tables >>
	O.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 >>

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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 >>

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 >>