



IXL Skill Alignment

Geo alignment for Glencoe High School Math

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Chapter 0

Preparing for Geometry

Textbook section	IXL skills	
0.1: Changing Units of Measure Within Systems	W.1	Convert rates and measurements: customary units >>
	W.2	Convert rates and measurements: metric units >>
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0.2: Changing Units of Measure Between Systems		
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0.3: Simple Probability	X.1	Theoretical and experimental probability >>
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0.4: Algebraic Expressions		
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0.5: Linear Equations	A.6	Solve linear equations >>
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0.6: Linear Inequalities	A.7	Solve linear inequalities >>
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0.7: Ordered Pairs	E.1	Coordinate plane review >>
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0.8: Systems of Linear Equations	A.8	Solve systems of linear equations >>
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0.9: Square Roots and Simplifying Radicals	A.4	Simplify radical expressions >>
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Chapter 1

Tools of Geometry

Textbook section	IXL skills
1.1: Points, Lines, and Planes	
1.2: Line Segments and Distance	B.2 Lengths of segments on number lines >> B.3 Additive property of length >> B.5 Congruent line segments >> B.9 Distance formula >>
1.3: Locating Points and Midpoints	B.4 Midpoints >> B.7 Midpoint formula - find the midpoint >>
1.4: Angle Measure	B.1 Lines, line segments, and rays >> C.1 Angle vocabulary >> C.2 Angle measures >> C.6 Construct an angle bisector >> C.7 Construct a congruent angle >>
1.5: Angle Relationships	C.3 Identify complementary, supplementary, vertical, adjacent, and congruent angles >> C.4 Find measures of complementary, supplementary, vertical, and adjacent angles >> D.2 Construct a perpendicular line >>
1.6: Two-Dimensional Figures	G.1 Polygon vocabulary >> S.1 Perimeter >> S.2 Area of rectangles and squares >> S.5 Area and perimeter in the coordinate plane I >> S.6 Area and perimeter in the coordinate plane II >> S.7 Area and circumference of circles >>
1.7: Transformations in the Plane	L.1 Classify congruence transformations >> L.3 Translations: find the coordinates >> L.4 Translations: write the rule >>

	L.6	Reflections: find the coordinates >>
	L.9	Rotations: find the coordinates >>
1.8: Three-Dimensional Figures	H.1	Parts of three-dimensional figures >>
	H.2	Three-dimensional figure vocabulary >>
	T.1	Introduction to surface area and volume >>
	T.2	Surface area of prisms and cylinders >>
	T.3	Surface area of pyramids and cones >>
	T.4	Volume of prisms and cylinders >>
	T.5	Volume of pyramids and cones >>
	T.6	Surface area and volume of spheres >>
1.9: Two-Dimensional Representations of Three-Dimensional Figures	H.3	Nets and drawings of three-dimensional figures >>
1.1: Precision and Accuracy	W.4	Precision >>
	W.5	Greatest possible error >>

Chapter 2

Logical Arguments and Line Relationships

Textbook section	IXL skills
2.1: Conjectures and Counterexamples	I.2 Counterexamples >>
2.2: Statements, Conditionals, and Biconditionals	I.1 Identify hypotheses and conclusions >> I.3 Conditionals >> I.4 Negations >> I.5 Converses, inverses, and contrapositives >> I.6 Biconditionals >> I.8 Truth values >>
2.3: Deductive Reasoning	
2.4: Writing Proofs	
2.5: Proving Segment Relationships	
2.6: Proving Angle Relationships	C.8 Proofs involving angles >>
2.7: Parallel Lines and Transversals	D.1 Identify parallel, perpendicular, and skew lines and planes >> D.3 Transversals: name angle pairs >> D.4 Transversals of parallel lines: find angle measures >>
2.8: Slope and Equations of Lines	E.2 Slopes of lines >> E.3 Graph a linear equation >> E.4 Equations of lines >> E.5 Slopes of parallel and perpendicular lines >> E.6 Equations of parallel and perpendicular lines >>
2.9: Proving Lines Parallel	D.6 Proofs involving parallel lines I >> D.7 Proofs involving parallel lines II >>

2.1: Perpendiculars and Distance**E.7** Find the distance between a point and a line >>**E.8** Find the distance between two parallel lines >>

Chapter 3

Rigid Transformations and Symmetry

Textbook section	IXL skills	
3.1: Reflections	L.5	Reflections: graph the image >>
3.2: Translations	L.2	Translations: graph the image >>
3.3: Rotations	L.7	Rotate polygons about a point >>
	L.8	Rotations: graph the image >>
3.4: Compositions of Transformations	L.10	Compositions of congruence transformations: graph the image >>
	L.12	Congruence transformations: mixed review >>
3.5: Symmetry	O.1	Line symmetry >>
	O.2	Rotational symmetry >>
	O.3	Draw lines of symmetry >>
	O.4	Count lines of symmetry >>

Chapter 4

Triangles and Congruence

Textbook section	IXL skills
4.1: Angles of Triangles	F.2 Triangle Angle-Sum Theorem >> F.3 Exterior Angle Theorem >>
4.2: Congruent Triangles	J.1 Congruence statements and corresponding parts >> J.2 Solve problems involving corresponding parts >>
4.3: Proving Triangles Congruent - SSS, SAS	K.1 SSS and SAS Theorems >> K.2 Proving triangles congruent by SSS and SAS >> K.6 SSS Theorem in the coordinate plane >>
4.4: Proving Triangles Congruent - ASA, AAS	K.3 ASA and AAS Theorems >> K.4 Proving triangles congruent by ASA and AAS >> K.5 SSS, SAS, ASA, and AAS Theorems >> K.7 Proving triangles congruent by SSS, SAS, ASA, and AAS >> K.8 Proofs involving corresponding parts of congruent triangles >>
4.5: Proving Right Triangles Congruent	K.11 Hypotenuse-Leg Theorem >>
4.6: Isosceles and Equilateral Triangles	K.9 Congruency in isosceles and equilateral triangles >> K.10 Proofs involving isosceles triangles >>
4.7: Triangles and Coordinate Proof	

Chapter 5

Relationships in Triangles

Textbook section	IXL skills
5.1: Bisectors of Triangles	B.6 Perpendicular Bisector Theorem >> C.5 Angle bisectors >> M.2 Triangles and bisectors >>
5.2: Medians and Altitudes of Triangles	M.3 Identify medians, altitudes, angle bisectors, and perpendicular bisectors >>
5.3: Inequalities in One Triangle	F.4 Exterior Angle Inequality >> M.4 Angle-side relationships in triangles >>
5.4: Indirect Proof	
5.5: The Triangle Inequality	M.5 Triangle Inequality Theorem >>
5.6: Inequalities in Two Triangles	

Chapter 6

Quadrilaterals

Textbook section	IXL skills
6.1: Angles of Polygons	G.2 Interior angles of polygons >>
	G.3 Exterior angles of polygons >>
	G.4 Review: interior and exterior angles of polygons >>
6.2: Parallelograms	N.4 Properties of parallelograms >>
	N.5 Proving a quadrilateral is a parallelogram >>
6.3: Tests for Parallelograms	
6.4: Special Parallelograms: Rectangles	
6.5: Special Parallelograms: Rhombi, Squares	N.6 Properties of rhombuses >>
	N.7 Properties of squares and rectangles >>
6.6: Trapezoids and Kites	N.8 Properties of trapezoids >>
	N.9 Properties of kites >>
	N.10 Review: properties of quadrilaterals >>

Chapter 7

Similarity

Textbook section	IXL skills
7.1: Dilations	L.13 Dilations: graph the image >> L.14 Dilations: find the coordinates >> L.15 Dilations: scale factor and classification >>
7.2: Similar Polygons	P.1 Similarity ratios >> P.2 Similarity statements >> P.3 Identify similar figures >> P.4 Side lengths and angle measures in similar figures >> P.6 Perimeters of similar figures >>
7.3: Similar Triangles: AA Similarity	
7.4: Similar Triangles: SSS and SAS Similarity	P.5 Similar triangles and indirect measurement >> P.7 Similarity rules for triangles >> P.8 Similar triangles and similarity transformations >>
7.5: Parallel Lines and Proportional Parts	M.1 Midsegments of triangles >> P.10 Triangle Proportionality Theorem >> P.12 Prove similarity statements >> P.13 Prove proportions or angle congruences using similarity >>
7.6: Parts of Similar Triangles	

Chapter 8

Right Triangles and Trigonometry

Textbook section	IXL skills	
8.1: Geometric Mean	P.14	Proofs involving similarity in right triangles >>
8.2: The Pythagorean Theorem and Its Converse	Q.1	Pythagorean Theorem >>
	Q.2	Converse of the Pythagorean theorem >>
	Q.3	Pythagorean Inequality Theorems >>
8.3: Special Right Triangles	Q.4	Special right triangles >>
8.4: Trigonometry	R.1	Trigonometric ratios: sin, cos, and tan >>
	R.8	Trigonometric ratios: find a side length >>
	R.9	Trigonometric ratios: find an angle measure >>
	R.10	Solve a right triangle >>
8.5: Angles of Elevation and Depression		
8.6: The Law of Sines	R.11	Law of Sines >>
8.7: The Law of Cosines	R.12	Law of Cosines >>
	R.13	Solve a triangle >>

Chapter 9

Circles

Textbook section	IXL skills	
9.1: Circles and Circumference		
9.2: Measuring Angles and Arcs	U.2	Central angles >>
	U.3	Arc measure and arc length >>
9.3: Arcs and Chords	U.6	Arcs and chords >>
9.4: Inscribed Angles	U.9	Inscribed angles >>
	U.10	Angles in inscribed right triangles >>
	U.11	Angles in inscribed quadrilaterals I >>
9.5: Tangents	U.7	Tangent lines >>
	U.8	Perimeter of polygons with an inscribed circle >>
	U.13	Construct a tangent line to a circle >>
9.6: Secants, Tangents, and Angle Measures		
9.7: Equations of Circles	V.3	Write equations of circles in standard form from graphs >>
	V.4	Write equations of circles in standard form using properties >>
	V.5	Convert equations of circles from general to standard form >>
	V.7	Graph circles from equations in standard form >>
	V.8	Graph circles from equations in general form >>
9.8: Equations of Parabolas		

Chapter 10

Extending Area

Textbook section	IXL skills	
10.1: Areas of Parallelograms and Triangles	S.3	Area of parallelograms and triangles >>
10.2: Areas of Trapezoids, Rhombi, and Kites	S.4	Area of trapezoids >>
10.3: Areas of Circles and Sectors	U.4	Area of sectors >>
10.4: Areas of Regular Polygons and Composite Figures	S.8	Area of compound figures >>
	S.9	Area between two shapes >>
10.5: Area and Nonrigid Transformations	S.10	Area and perimeter of similar figures >>
10.6: Surface Area	T.2	Surface area of prisms and cylinders >>
	T.3	Surface area of pyramids and cones >>

Chapter 11

Extending Volume

Textbook section	IXL skills
11.1: Cross Sections and Solids of Revolution	H.4 Cross-sections of three-dimensional figures >>
	H.5 Solids of revolution >>
11.2: Volumes of Prisms and Cylinders	T.4 Volume of prisms and cylinders >>
11.3: Volumes of Pyramids and Cones	T.5 Volume of pyramids and cones >>
11.4: Spheres	T.6 Surface area and volume of spheres >>
11.5: Spherical Geometry	
11.6: Volume and Nonrigid Transformations	T.7 Introduction to similar solids >>
	T.8 Surface area and volume of similar solids >>
11.7: Applying Measurements	

Chapter 12

Probability

Textbook section	IXL skills	
12.1: Representing Sample Spaces	X.4	Counting principle >>
12.2: Probability and Counting	X.1	Theoretical and experimental probability >>
12.3: Probability with Permutations and Combinations	X.5	Permutations >>
	X.6	Permutation and combination notation >>
12.4: Geometric Probability	X.7	Geometric probability >>
12.5: Probability and the Multiplication Rule	X.3	Independent and dependent events >>
12.6: Probability and the Addition Rule	X.2	Compound events: find the number of outcomes >>
12.7: Conditional Probability		
12.8: Two-Way Frequency Tables		