



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 >>
0.2: Changing Units of Measure Between Systems	
0.3: Simple Probability	X.1 Theoretical and experimental probability >>
0.4: Algebraic Expressions	
0.5: Linear Equations	A.6 Solve linear equations >>
0.6: Linear Inequalities	A.7 Solve linear inequalities >>
0.7: Ordered Pairs	E.1 Coordinate plane review >>
0.8: Systems of Linear Equations	A.8 Solve systems of linear equations >>
0.9: Square Roots and Simplifying Radicals	A.4 Simplify radical expressions >>

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	