



IXL Skill Alignment

Geo alignment for HMH California

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Module 1

Tools of Geometry

Textbook section	IXL skills
1.1: Segment Length and Midpoints	B.1 Lines, line segments, and rays >> B.3 Additive property of length >> B.7 Midpoint formula - find the midpoint >> B.9 Distance formula >>
1.2: Angle Measures and Angle Bisectors	C.1 Angle vocabulary >> C.2 Angle measures >> C.5 Angle bisectors >>
1.3: Representing and Describing Transformations	L.1 Classify congruence transformations >>
1.4: Reasoning and Proof	I.1 Identify hypotheses and conclusions >> I.2 Counterexamples >> I.3 Conditionals >>

Module 2

Transformations and Symmetry

Textbook section	IXL skills
2.1: Translations	L.2 Translations: graph the image >>
	L.3 Translations: find the coordinates >>
	L.4 Translations: write the rule >>
2.2: Reflections	L.5 Reflections: graph the image >>
	L.6 Reflections: find the coordinates >>
2.3: Rotations	L.8 Rotations: graph the image >>
	L.9 Rotations: find the coordinates >>
2.4: Investigating Symmetry	O.1 Line symmetry >>
	O.2 Rotational symmetry >>
	O.3 Draw lines of symmetry >>
	O.4 Count lines of symmetry >>

Module 3

Congruent Figures

Textbook section	IXL skills
3.1: Sequences and Transformations	L.10 Compositions of congruence transformations: graph the image >>
	L.12 Congruence transformations: mixed review >>
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3.2: Proving Figures Are Congruent Using Rigid Motions	
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3.3: Corresponding Parts of Congruent Figures Are Congruent	J.1 Congruence statements and corresponding parts >>
	J.2 Solve problems involving corresponding parts >>

Module 4

Lines and Angles

Textbook section	IXL skills
4.1: Angles Formed by Intersecting Lines	C.3 Identify complementary, supplementary, vertical, adjacent, and congruent angles >>
	C.4 Find measures of complementary, supplementary, vertical, and adjacent angles >>
4.2: Transversals and Parallel Lines	D.3 Transversals: name angle pairs >>
	D.4 Transversals of parallel lines: find angle measures >>
4.3: Proving Lines Are Parallel	D.6 Proofs involving parallel lines I >>
4.4: Perpendicular Lines	C.8 Proofs involving angles >>
	D.2 Construct a perpendicular line >>
4.5: Equations of Parallel and perpendicular Lines	E.2 Slopes of lines >>
	E.5 Slopes of parallel and perpendicular lines >>
	E.6 Equations of parallel and perpendicular lines >>

Module 5

Triangle Congruence Criteria

Textbook section	IXL skills
5.1: Exploring What Makes Triangles Congruent	
5.2: ASA Triangle Congruence	
5.3: SAS Triangle Congruence	
5.4: SSS Triangle Congruence	K.1 SSS and SAS Theorems >> K.2 Proving triangles congruent by SSS and SAS >>

Module 6

Applications of Triangle Congruence

Textbook section	IXL skills
6.1: Justifying Constructions	
6.2: AAS Triangle Congruence	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 >>
6.3: HL Triangle Congruence	K.11 Hypotenuse-Leg Theorem >>

Module 7

Properties of Triangles

Textbook section	IXL skills
7.1: Interior and Exterior Angles	F.2 Triangle Angle-Sum Theorem >> F.3 Exterior Angle Theorem >> G.2 Interior angles of polygons >>
7.2: Isosceles and Equilateral Triangles	K.9 Congruency in isosceles and equilateral triangles >> K.10 Proofs involving isosceles triangles >>
7.3: Triangle Inequalities	M.4 Angle-side relationships in triangles >> M.5 Triangle Inequality Theorem >>

Module 8

Special Segments in Triangles

Textbook section	IXL skills
8.1: Perpendicular Bisectors of Triangles	M.2 Triangles and bisectors >>
8.2: Angle Bisectors of Triangles	C.5 Angle bisectors >> M.6 Construct the circumcenter or incenter of a triangle >>
8.3: Medians and Altitudes of Triangles	M.3 Identify medians, altitudes, angle bisectors, and perpendicular bisectors >> M.7 Construct the centroid or orthocenter of a triangle >>
8.4: Midsegments of Triangles	M.1 Midsegments of triangles >>

Module 9

Properties of Quadrilaterals

Textbook section	IXL skills
9.1: Properties of Parallelograms	N.4 Properties of parallelograms >>
9.2: Conditions for Parallelograms	N.5 Proving a quadrilateral is a parallelogram >>
9.3: Properties of Rectangles, Rhombuses, and Squares	N.6 Properties of rhombuses >> N.7 Properties of squares and rectangles >>
9.4: Conditions for Rectangles, Rhombuses and Squares	
9.5: Properties and Conditions for Kites and Trapezoids	N.8 Properties of trapezoids >> N.9 Properties of kites >> N.10 Review: properties of quadrilaterals >> N.11 Proofs involving quadrilaterals I >> N.12 Proofs involving quadrilaterals II >>

Module 10

Coordinate Proof Using Slope and Distance

Textbook section	IXL skills
10.1: Slope and Parallel Lines	
10.2: Slope and Perpendicular Lines	
10.3: Coordinate Proof Using Distance with Segments and Triangles	K.6 SSS Theorem in the coordinate plane >>
10.4: Coordinate Proof Using Distance with Quadrilaterals	
10.5: Perimeter and Area on the Coordinate Plane	S.5 Area and perimeter in the coordinate plane I >>
	S.6 Area and perimeter in the coordinate plane II >>

Module 11

Similarity and Transformations

Textbook section	IXL skills
11.1: Dilations	L.13 Dilations: graph the image >> L.15 Dilations: scale factor and classification >>
11.2: Proving Figures Are Similar Using Transformations	L.14 Dilations: find the coordinates >> P.8 Similar triangles and similarity transformations >> P.9 Similarity of circles >>
11.3: Corresponding Parts of Similar Figures	P.1 Similarity ratios >> P.2 Similarity statements >> P.4 Side lengths and angle measures in similar figures >>
11.4: AA Similarity of Triangles	P.7 Similarity rules for triangles >>

Module 12

Using Similar Triangles

Textbook section	IXL skills
12.1: Triangle Proportionality Theorem	P.10 Triangle Proportionality Theorem >> P.13 Prove proportions or angle congruences using similarity >>
12.2: Subdividing a Segment in a Given Ratio	
12.3: Using Proportional Relationships	P.5 Similar triangles and indirect measurement >>
12.4: Similarity in Right Triangles	P.12 Prove similarity statements >> P.14 Proofs involving similarity in right triangles >> P.15 Prove the Pythagorean theorem >>

Module 13

Trigonometry with Right Triangles

Textbook section	IXL skills
13.1: Tangent Ratio	
13.2: Sine and Cosine Ratios	R.1 Trigonometric ratios: sin, cos, and tan >>
13.3: Special Right Triangles	Q.4 Special right triangles >>
	R.8 Trigonometric ratios: find a side length >>
	R.9 Trigonometric ratios: find an angle measure >>
13.4: Problem Solving with Trigonometry	R.10 Solve a right triangle >>

Module 14

Trigonometry with All Triangles

Textbook section	IXL skills
14.1: Law of Sines	R.11 Law of Sines >>
14.2: Law of Cosines	R.12 Law of Cosines >>
	R.13 Solve a triangle >>

Module 15

Angles and Segments in Circles

Textbook section	IXL skills
15.1: Central Angles and Inscribed Angles	U.1 Parts of a circle >> U.2 Central angles >> U.9 Inscribed angles >>
15.2: Angles in Inscribed Quadrilaterals	U.11 Angles in inscribed quadrilaterals I >> U.12 Angles in inscribed quadrilaterals II >>
15.3: Tangents and Circumscribed Angles	U.7 Tangent lines >> U.13 Construct a tangent line to a circle >>
15.4: Segment Relationships in Circles	U.6 Arcs and chords >>
15.5: Angle Relationships in Circles	

Module 16

Arc Length and Sector Area

Textbook section	IXL skills
16.1: Justifying Circumference and Area of a Circle	S.7 Area and circumference of circles >>
16.2: Arc Length and Radian Measure	U.3 Arc measure and arc length >>
16.3: Sector Area	U.4 Area of sectors >>

Module 17

Equations of Circles and Parabolas

Textbook section

IXL skills

17.1: Equation of a Circle

- V.1** Find the center of a circle >>
- V.2** Find the radius or diameter of a circle >>
- 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.6** Find properties of circles from equations in general form >>
- V.7** Graph circles from equations in standard form >>

17.2: Equation of a Parabola

Module 18

Volume Formulas

Textbook section	IXL skills
18.1: Volume of Prisms and Cylinders	T.4 Volume of prisms and cylinders >>
18.2: Volume of Pyramids	
18.3: Volume of Cones	T.5 Volume of pyramids and cones >>
18.4: Volume of Spheres	

Module 19

Visualizing Solids

Textbook section	IXL skills
19.1: Cross-Sections and Solids of Rotation	H.4 Cross-sections of three-dimensional figures >> H.5 Solids of revolution >>
19.2: Surface Area of Prisms and Cylinders	H.3 Nets and drawings of three-dimensional figures >> T.2 Surface area of prisms and cylinders >>
19.3: Surface Area of Pyramids and Cones	T.3 Surface area of pyramids and cones >>
19.4: Surface Area of Spheres	T.6 Surface area and volume of spheres >>

Module 20

Modeling and Problem Solving

Textbook section	IXL skills
20.1: Scale Factor	S.10 Area and perimeter of similar figures >> T.8 Surface area and volume of similar solids >>
20.2: Modeling and Density	
20.3: Problem Solving with Constraints	

Module 21

Introduction to Probability

Textbook section	IXL skills
21.1: Probability and Set Theory	
21.2: Permutations and Probability	X.4 Counting principle >> X.5 Permutations >>
21.3: Combinations and Probability	X.6 Permutation and combination notation >>
21.4: Mutually Exclusive and Overlapping Events	X.1 Theoretical and experimental probability >>

Module 22

Conditional Probability and Independence of Events

Textbook section	IXL skills
22.1: Conditional Probability	
22.2: Independent Events	
22.3: Dependent Events	X.3 Independent and dependent events >>

Module 23

Probability and Decision Making

Textbook section	IXL skills
23.1: Using Probability to Make Fair Decisions	
23.2: Analyzing Decisions	