



IXL Skill Alignment

Geometry alignment for EngageNY Common Core Curriculum



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Module 1

Congruence, Proof, and Constructions

Textbook section

IXL skills

Topic A: Basic Constructions

1. Construct the midpoint or perpendicular bisector of a segment HDT
2. Construct an angle bisector FHL
3. Construct a perpendicular line BZR
4. Construct an equilateral triangle or regular hexagon USF
5. Construct the circumcenter or incenter of a triangle EC6

Topic B: Unknown Angles

1. Find measures of complementary, supplementary, vertical, and adjacent angles VZU
2. Transversals of parallel lines: find angle measures WB9
3. Proofs involving parallel lines I CUV
4. Proofs involving parallel lines II 5U8
5. Triangle Angle-Sum Theorem UBU
6. Exterior Angle Theorem TGK
7. Proofs involving triangles I G78

Also consider

- Identify complementary, supplementary, vertical, adjacent, and congruent angles 7P7
- Proofs involving angles HV9
- Transversals: name angle pairs V85

Topic C: Transformations/Rigid Motions

1. Proofs involving parallel lines I CUV
2. Proofs involving parallel lines II 5U8
3. Rotate polygons about a point XM7
4. Draw lines of symmetry JU7
5. Count lines of symmetry M7U

Also consider

- Classify congruence transformations CXT
- Translations: graph the image 7AC

Topic D: Congruence

1. SSS and SAS Theorems 48Q
2. Proving triangles congruent by SSS and SAS VZ
3. ASA and AAS Theorems N94
4. Proving triangles congruent by ASA and AAS 23Z
5. Proving triangles congruent by SSS, SAS, ASA, and AAS SZL
6. Proofs involving corresponding parts of congruent triangles AKL
7. Proofs involving isosceles triangles V45

Also consider

- Congruence statements and corresponding parts CYL
- SSS, SAS, ASA, and AAS Theorems LER

Topic E: Proving Properties of Geometric Figures

1. Proofs involving triangles and quadrilaterals V7W
2. Proofs involving quadrilaterals P77

Topic F: Advanced Constructions**Topic G:** Axiomatic Systems

1. Find measures of complementary, supplementary, vertical, and adjacent angles VZU
2. Transversals of parallel lines: find angle measures WB9
3. Triangle Angle-Sum Theorem UBU
4. Exterior Angle Theorem TGK
5. Proving triangles congruent by SSS and SAS VZ
6. Proving triangles congruent by ASA and AAS 23Z
7. Proving triangles congruent by SSS, SAS, ASA, and AAS SZL
8. Proofs involving corresponding parts of congruent triangles AKL
9. Congruency in isosceles and equilateral triangles HPR
10. Proofs involving isosceles triangles V45
11. Properties of parallelograms LLK

Also consider

- Angle bisectors 68E

Checkpoint opportunity

1. Checkpoint: Definitions of geometric objects 2JF
 2. Checkpoint: Transformations of geometric figures D5L
 3. Checkpoint: Rigid motion and congruence H9L
 - *Coming soon:* Checkpoint: Geometric constructions
 - *Coming soon:* Checkpoint: Line and angle theorems
 - *Coming soon:* Checkpoint: Triangle theorems
 - *Coming soon:* Checkpoint: Parallelogram theorems
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Module 2

Similarity, Proof, and Trigonometry

Textbook section	IXL skills
Topic A: Scale Drawings	<ol style="list-style-type: none"> 1. Triangle Proportionality Theorem 6WA
Topic B: Dilations	<ol style="list-style-type: none"> 1. Translations: find the coordinates F8U 2. Translations: write the rule 9PR 3. Reflections: find the coordinates SVY 4. Rotations: find the coordinates ZX5
Topic C: Similarity and Dilations	<ol style="list-style-type: none"> 1. Similar triangles and indirect measurement JWK 2. Similarity rules for triangles XJQ 3. Prove similarity statements ETX <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Similarity ratios BT7 • Similarity statements UG8
Topic D: Applying Similarity to Right Triangles	<ol style="list-style-type: none"> 1. Prove the Pythagorean theorem JGT 2. Pythagorean theorem F55 3. Converse of the Pythagorean theorem NCK 4. Special right triangles LDM
Topic E: Trigonometry	<ol style="list-style-type: none"> 1. Trigonometric ratios: sin, cos, and tan D5Z 2. Trigonometric ratios: find a side length UZC 3. Trigonometric ratios: find an angle measure 49E 4. Solve a right triangle GPR 5. Law of Sines ZEL 6. Law of Cosines 24X <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Find trigonometric functions using a calculator UK6

Checkpoint opportunity

1. Checkpoint: Transformations in the plane MPY
 2. Checkpoint: Dilations 8C6
 3. Checkpoint: Right triangle trigonometry 45J
 - *Coming soon:* Checkpoint: Similarity transformations
 - *Coming soon:* Checkpoint: Triangle similarity theorems
 - *Coming soon:* Checkpoint: Triangle similarity and congruence
 - *Coming soon:* Checkpoint: Laws of Sines and Cosines
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Module 3

Extending to Three Dimensions

Textbook section	IXL skills
Topic A: Area	<ol style="list-style-type: none">1. Areas of similar figures 2BA2. Area of compound figures KHG3. Area between two shapes SB6 <p><i>Also consider</i></p> <ul style="list-style-type: none">• Area and circumference of circles ZDX• Area and perimeter of similar figures 6J7
Topic B: Volume	<ol style="list-style-type: none">1. Identify parallel, intersecting, and skew lines and planes QZD2. Cross sections of three-dimensional figures 7Z43. Solids of revolution LKT4. Volume of pyramids and cones 7J35. Volume of spheres 62N <p><i>Also consider</i></p> <ul style="list-style-type: none">• Volume of prisms and cylinders N5F
Checkpoint opportunity	<ol style="list-style-type: none">1. Checkpoint: Cross sections and solids of revolution PYM2. Checkpoint: Volume WY6<ul style="list-style-type: none">• <i>Coming soon:</i> Checkpoint: Use shapes to model objects• <i>Coming soon:</i> Checkpoint: Density• <i>Coming soon:</i> Checkpoint: Geometric design

Module 4

Connecting Algebra and Geometry Through Coordinates

Textbook section	IXL skills
Topic A: Rectangular and Triangular Regions Defined by Inequalities	
Topic B: Perpendicular and Parallel Lines in the Cartesian Plane	<ol style="list-style-type: none"> 1. Slopes of parallel and perpendicular lines 6K2 2. Equations of parallel and perpendicular lines VEB
Topic C: Perimeters and Areas of Polygonal Regions in the Cartesian Plane	<ol style="list-style-type: none"> 1. Area and perimeter in the coordinate plane I QWZ 2. Area and perimeter in the coordinate plane II MHQ
Topic D: Partitioning and Extending Segments and Parameterization of Lines	<ol style="list-style-type: none"> 1. Midpoint formula: find the midpoint 2YG 2. Distance formula 59F 3. Find the distance between a point and a line GWC
Checkpoint opportunity	<ol style="list-style-type: none"> 1. Checkpoint: Partition a line segment U7H 2. Checkpoint: Parallel and perpendicular lines JR9 3. Checkpoint: Area and perimeter in the coordinate plane 9VT <ul style="list-style-type: none"> • <i>Coming soon:</i> Checkpoint: Coordinate proofs

Module 5

Circles With and Without Coordinates

Textbook section	IXL skills
Topic A: Central and Inscribed Angles	
Topic B: Arcs and Sectors	<ol style="list-style-type: none">1. Arc length 7L92. Area of sectors XZQ3. Inscribed angles 98U
Topic C: Secants and Tangents	<ol style="list-style-type: none">1. Tangent lines CFV2. Construct a tangent line to a circle JSH
Topic D: Equations for Circles and Their Tangents	<ol style="list-style-type: none">1. Find the center of a circle CJA2. Find the radius or diameter of a circle VGW3. Write equations of circles in standard form from graphs 8HJ4. Write equations of circles in standard form using properties EXA5. Graph circles from equations in standard form GVH
Topic E: Cyclic Quadrilaterals and Ptolemy's Theorem	
Checkpoint opportunity	<ol style="list-style-type: none">1. Checkpoint: Prove circles are similar GXP2. Checkpoint: Arc length and area of sectors 57A3. Checkpoint: Equations of circles M2P4. Checkpoint: Angles and lines in circles T955. Checkpoint: Inscribed and circumscribed circles DCT