Geometry Honors - Expectations for Exit Exam

Text Book Information:
Big Ideas Math – Geometry Authors: Ron Larson & Laurie Boswell ISBN-13: 978-1-60840-839-9
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This Exit Exam will be limited to 90 minutes. Students will be allowed to use a scientific calculator on all parts of the test. The calculator cannot have Wi-Fi capabilities (no phones or tablet apps). The exam contains both multiple choice and constructed response items. Partial credit may be earned on some items. You must score 77% or more to pass the exam and be placed into Algebra 2 Honors for the following school year. Test scores are reported as pass/fail. The test is secure and will not be returned to the student or parent for review.

Content Covered in the Course:

The Troy School District curriculum is based on the Michigan Mathematics Standards. The table below gives a brief description of the topics covered in the Geometry textbook and their correlation to the tested standards. For a detailed explanation of the content expectations, see the complete list of Michigan Mathematics Standards for High School:

https://www.michigan.gov/documents/mde/K-12_MI_Math_Standards_REV_470033_7_550413_7.pdf

The Exit Exam is a comprehensive assessment of the full Troy School District Curriculum and Michigan Mathematics Standards. Students should be prepared to demonstrate their proficiency on all content.

Content Overview		Michigan Standard(s) Correlation
Chapter 1: Basics of Geometry		
1.1	Points, Lines, and Planes	HSG-CO.A.1
1.2	Measuring and Constructing Segments	HSG-CO.A.1, HSG-CO.D.12
1.3	Using Midpoint and Distance Formulas	HSG-CO.D.12, HSG-GPE.B.7
1.4	Perimeter and Area in the Coordinate Plane	HSG-GPE.B.7, HSG-MG.A.1
1.5	Measuring and Constructing Angles	HSG-CO.A.1, HSG-CO.D.12
1.6	Describing Pairs of Angles	HSG-CO.A.1
Chapter 2: Reasoning and Proofs		
2.1	Conditional Statements	HSG-CO.C.9, HSG-CO.C.10, HSG-CO.C.11, HSG-SRT.B.4
2.2	Inductive and Deductive Reasoning	HSG-CO.C.9, HSG-CO.C.10, HSG-CO.C.11, HSG-SRT.B.4
2.3	Postulates and Diagrams	HSG-CO.C.9, HSG-CO.C.10, HSG-CO.C.11, HSG-SRT.B.4
2.4	Algebraic Reasoning	HSG-CO.C.9, HSG-CO.C.10, HSG-CO.C.11, HSG-SRT.B.4
2.5	Proving Statements about Segments and Angles	HSG-CO.C.9
2.6	Proving Geometric Relationships	HSG-CO.C.9

Content Overview		Michigan Standard(s) Correlation
Chapter 3: Parallel and Perpendicular Lines		
3.1	Pairs of Lines and Angles	HSG-CO.A.1
3.2	Parallel Lines and Transversals	HSG-CO.C.9
3.3	Proofs with Parallel Lines	HSG-CO.C.9, HSG-CO.D.12
3.4	Proofs with Perpendicular Lines	HSG-CO.C.9, HSG-CO.D.12
3.5	Equations of Parallel and Perpendicular Lines	HSG-GPE.B.5, HSG-GPE.B.6
Chapter 4: Transformations		
4.1	Translations	HSG-CO.A.2, HSG-CO.A.4, HSG-CO.A.5, HSG-CO.B.6
4.2	Reflections	HSG-CO.A.2, HSG-CO.A.3, HSG-CO.A.4, HSG-CO.A.5, HSG-CO.B.6, HSG-MG.A.3
4.3	Rotations	HSG-CO.A.2, HSG-CO.A.3, HSG-CO.A.4, HSG-CO.A.5, HSG-CO.B.6
4.4	Congruence and Transformations	HSG-CO.A.5, HSG-CO.B.6
4.5	Dilations	HSG-CO.A.2, HSG-SRT.A.1a, HSG-SRT.A.1b
4.6	Similarity and Transformations	HSG-CO.A.5, HSG-SRT.A.2
Chapter 5: Congruent Triangles		
5.1	Angles of Triangles	HSG-CO.C.10, HSG-MG.A.1
5.2	Congruent Polygons	HSG-CO.B.7
5.3	Proving Triangle Congruence by SAS	HSG-CO.B.8, HSG-MG.A.1
5.4	Equilateral and Isosceles Triangles	HSG-CO.C.10, HSG-CO.D.13, HSG-MG.A.1
5.5	Proving Triangle Congruence by SSS	HSG-CO.B.8, HSG-MG.A.1, HSG-MG.A.3
5.6	Proving Triangle Congruence by ASA and AAS	HSG-CO.B.8
5.7	Using Congruent Triangles	HSG-SRT.B.5
5.8	Coordinate Proofs	HSG-GPE.B.4
Chapter 6: Relationships Within Triangles		
6.1	Perpendicular and Angle Bisectors	HSG-CO.C.9, HSG-MG.A.1
6.2	Bisectors of Triangles	HSG-CO.D.12, HSG-C.A.3, HSG-MG.A.1, HSG-MG.A.3
6.3	Medians and Altitudes of Triangles	HSG-CO.C.10
6.4	The Triangle Midsegment Theorem	HSG-CO.C.10, HSG-MG.A.1
6.5	Indirect Proof and Inequalities in One Triangle	HSG-CO.C.10
6.6	Inequalities in Two Triangles	HSG-CO.C.10

Content Overview		Michigan Standard(s) Correlation
Chapter 7: Quadrilaterals and Other Polygons		
7.1	Angles of Polygons	HSG-CO.C.11
7.2	Properties of Parallelograms	HSG-CO.C.11, HSG-SRT.B.5
7.3	Proving That a Quadrilateral is a Parallelogram	HSG-CO.C.11, HSG-SRT.B.5, HSG-MG.A.1
7.4	Properties of Special Parallelograms	HSG-CO.C.11, HSG-SRT.B.5, HSG-MG.A.1, HSG-MG.A.3
7.5	Properties of Trapezoids and Kites	HSG-SRT.B.5, HSG-MG.A.1
Chapter 8: Similarity		
8.1	Similar Polygons	HSG-SRT.A.2, HSG-MG.A.3
8.2	Proving Triangle Similarity by AA	HSG-SRT.A.3, HSG-SRT.B.5
8.3	Proving Triangle Similarity by SSS and SAS	HSG-SRT.B.4, HSG-SRT.B.5, HSG-GPE.B.5, HSG-MG.A.1
8.4	Proportionality Theorems	HSG-SRT.B.4, HSG-SRT.B.5, HSG-GPE.B.6
Chapter 9: Right Triangles and Trigonometry		
9.1	The Pythagorean Theorem	HSG-SRT.B.4, HSG-SRT.C.8
9.2	Special Right Triangles	HSG-SRT.C.8, HSG-MG.A.1
9.3	Similar Right Triangles	HSG-SRT.B.5
9.4	The Tangent Ratio	HSG-SRT.C.6, HSG-SRT.C.8
9.5	The Sine and Cosine Ratios	HSG-SRT.C.6, HSG-SRT.C.7, HSG-SRT.C.8
9.6	Solving Right Triangles	HSG-SRT.C.8, HSG-MG.A.1, HSG-MG.A.3
9.7	Law of Sines and Law of Cosines	HSG-SRT.D.9, HSG-SRT.D.10, HSG-SRT.D.11, HSG-MG.A.3
Chapter 10: Circles		
10.1	Lines and Segments That Intersect Circles	HSG-CO.A.1, HSG-C.A.2, HSG-C.A.4
10.2	Finding Arc Measures	HSG-C.A.1, HSG-C.A.2
10.3	Using Chords	HSG-C.A.2, HSG-MG.A.3
10.4	Inscribed Angles and Polygons	HSG-CO.D.13, HSG-C.A.2, HSG-C.A.3
10.5	Angle Relationships in Circles	HSG-C.A.2
10.6	Segment Relationships in Circles	HSG-C.A.2, HSG-MG.A.1
10.7	Circles in the Coordinate Plane	HSG-GPE.A.1, HSG-GPE.B.4
Chapter 11: Circumference, Area, and Volume		
11.1	Circumference and Arc Length	HSG-GMD.A.1, HSG-C.B.5, HSG-CO.A.1
11.2	Areas of Circles and Sectors	HSG-GMD.A.1, HSG-MG.A.2, HSG-C.B.5
11.3	Areas of Polygons	HSG-GMD.A.3
11.4	Three-Dimensional Figures	HSG-GMD.B.4
11.5	Volumes of Prisms and Cylinders	HSG-GMD.A.1, HSG-GMD.A.2, HSG-GMD.A.3, HSG-MG.A.1, HSG-MG.A.2, HSG-MG.A.3
11.6	Volumes of Pyramids	HSG-GMD.A.1, HSG-GMD.A.3, HSG-MG.A.1
11.7	Surface Areas and Volumes of Cones	HSG-GMD.A.1, HSG-GMD.A.3
11.8	Surface Areas and Volumes of Spheres	HSG-GMD.A.2, HSG-GMD.A.3, HSG-MG.A.1

Content Overview		Michigan Standard(s) Correlation
Chapter 12: Probability		
12.1	Sample Spaces and Probability	HSS-CP.A.1
12.2	Independent and Dependent Events	HSS-CP.A.2, HSS-CP.B.8
12.3	Two-Way Tables and Probability	HSS-CP.A.3, HSS-CP.A.4, HSS-CP.A.5, HSS-CP.B.6
12.4	Probability of Disjoint and Overlapping Events	HSS-CP.B.7
12.5	Permutations and Combinations	HSS-CP.B.9

Students will also be expected to show proficiency in the Standards for Mathematical Practice:

Standard 1: Make sense of problems and persevere in solving them
Standard 2: Reason abstractly and quantitatively
Standard 3: Construct viable arguments and critique the reasoning of others
Standard 4: Model with mathematics
Standard 5: Use appropriate tools strategically
Standard 6: Attend to precision
Standard 7: Look for and make use of structure
Standard 8: Look for and express regularity in repeated reasoning