

Geometry Semester Exam Study Guide – 2017-18

General Information

- The Geometry Semester Exam will cover topics from the first 4½ units in the scope and sequence. *
- There are 30 items on the assessment, broken into two sections.
- Not all the standards in the units have an item on the semester exam.
- Calculators are allowed on each section.
- The items are multiple choice and multi-select.

General Resources:

- The common unit assessments could be used in class to review any specific standards or issues.
- Math Nation – Geometry is an excellent resource to review the content (see below).
- Another helpful resource is: <http://www.ecsd-fl.schoolloop.com/FSAGeometry>. Follow the links on the left of the page for standard-specific resources and practice items.
- [CPALMS.org](http://www.cpalms.org) also has resources sorted by standards (see back page for specific standards).
- Another great resource is the website: <http://www.geometrycommoncore.com/index.html>
 - For Units 1, 2, and 3, use the website's Unit #1
 - For Units 4 and 5, use the website's Unit #2

Unit Information and Resources

Unit 1: Foundations for Geometry

- There are **7 items** on the exam covering 4 of the standards in this unit.
- A useful resource is Math Nation – Geometry, Section 1, Topics 1-12; Section 3, Topics 1-9, 11; Section 4, Topics 1-3

Unit 2: Transformations

- There are **8 items** on the exam covering 7 of the standards in this unit.
- A useful resource is Math Nation – Geometry, Section 2, Topics 1-6; Section 3, Topic 10; Section 4, Topics 4-8; Section 5, Topics 1-5

Unit 3: Properties of Triangles and Triangle Congruence

- There are **7 items** on the exam covering 5 of the standards in this unit.
- A useful resource is Math Nation – Geometry, Section 6, Topics 1-2 & 5-11; Section 8, Topic 3

Unit 4: Similar Triangles

- There are **6 items** on the exam covering 4 of the standards in this unit.
- A useful resource is Math Nation – Geometry, Section 7, Topics 1-8; Section 8, Topics 4-7

Unit 5: Right Triangles and Trigonometric Ratios

- There are **2 items** on the exam covering 2 of the standards in this unit (no Pythagorean Theorem).
- A useful resource is Math Nation – Geometry, Section 8, Topics 8-10

Reporting Category Information

Reporting Category 1: (83% of the Semester Exam) –
Congruence, Similarity, Right Triangles, and Trigonometry

Reporting Category 2: (17% of the Semester Exam) –
Circles, Geometric Measurement, and Geometric Properties with Equations

Reporting Category 3: (0% of the Semester Exam) –
Modeling with Geometry

* Only two standards will be assessed from Unit 5.

Geometry Semester Exam Study Guide – by Unit and Standard

Unit 1: Foundations for Geometry – Students will understand points, lines, and planes, and how they relate to geometry.	
MAFS.912.G-CO.3.9	<ul style="list-style-type: none"> Complete proofs for congruent angles (vertical, alternate interior, or corresponding) [2 items]
MAFS.912.G-CO.4.12	<ul style="list-style-type: none"> Complete the steps in constructions (copying a segment or angle, bisecting a segment or angle, constructing perpendicular or parallel lines) [2 items]
MAFS.912.G-GPE.2.5	<ul style="list-style-type: none"> Use the slope criteria for parallel or perpendicular lines to find an equation of a line
MAFS.912.G-GPE.2.6	<ul style="list-style-type: none"> Find points on directed line segments that are partitioned into segments in given ratios (real-world and mathematical context) [2 items]
Unit 2: Transformations – Students will be able to solve problems that involve transformations.	
MAFS.912.G-CO.1.2	<ul style="list-style-type: none"> Determine transformations that do or do not preserve distance and angle
MAFS.912.G-CO.1.3	<ul style="list-style-type: none"> Determine transformations that do or do not carry a polygon onto itself
MAFS.912.G-CO.1.4	<ul style="list-style-type: none"> Explain how rotations, reflections, and translations affect objects and lines with regards to angles, line segments, perpendicular lines, and parallel lines
MAFS.912.G-CO.1.5	<ul style="list-style-type: none"> Determine transformations that do or do not carry a figure onto a specified location
MAFS.912.G-CO.2.6	<ul style="list-style-type: none"> Determine transformations that do or do not result in congruent figures [2 items]
MAFS.912.G-SRT.1.1 a	<ul style="list-style-type: none"> Choose the properties of a dilated line on a coordinate plane (determined by whether or not the center of dilation lies on the original line)
MAFS.912.G-C.1.1	<ul style="list-style-type: none"> Determine transformations that do or do not prove that 2 circles are similar
Unit 3: Properties of Triangles and Triangle Congruence – Students will be able to reason about properties of triangles and triangle congruence.	
MAFS.912.G-CO.2.7	<ul style="list-style-type: none"> Explain the congruence of two triangles using congruence in terms of rigid motions
MAFS.912.G-CO.2.8	<ul style="list-style-type: none"> Complete proofs of congruent triangles using ASA, SAS, SSS, or HL [2 items]
MAFS.912.G-CO.3.10	<ul style="list-style-type: none"> Complete a proof for a theorem about triangles (e.g., measures of interior angles of a triangle = 180, base angles of isosceles triangles are congruent, segment joining midpoints of two sides of a triangle is parallel to the third side and half the length)
MAFS.912.G-SRT.2.5	<ul style="list-style-type: none"> Determine which theorem or missing information is sufficient to prove congruence Use congruency criteria for triangles to solve a problem
MAFS.912.G-C.1.3	<ul style="list-style-type: none"> Solve a problem that uses the center and circumcenter of a triangle
Unit 4: Similar Triangles and Figures – Students will be able to reason with similar triangles.	
MAFS.912.G-SRT.1.2	<ul style="list-style-type: none"> Show that two similar figures have congruent corresponding angles and proportional corresponding sides (may use similarity transformations)
MAFS.912.G-SRT.1.3	<ul style="list-style-type: none"> Use the properties of similarity transformations and the AA criterion to determine true statements about similar triangles [2 items]
MAFS.912.G-SRT.2.4	<ul style="list-style-type: none"> Determine which theorem or missing information is sufficient to prove theorems of similar triangle (e.g., line parallel to one side of a triangle divides the other sides proportionally, ratio of corresponding altitudes is equal to the ratio of corresponding sides) [2 items]
MAFS.912.G-SRT.2.5	<ul style="list-style-type: none"> Use similarity criteria for triangles to solve a problem
Unit 4: Right Triangles and Trigonometric Ratios – Students will be able to define the trigonometric ratios and solve problems involving right triangles.	
MAFS.912.G-SRT.3.6	<ul style="list-style-type: none"> Use trigonometric ratios to explain that the ratio of two sides in one triangle is equal to the ratio of corresponding sides of a similar triangle
MAFS.912.G-SRT.3.7	<ul style="list-style-type: none"> Explain and use the relationship between the sine and cosine of complementary angles