GEOMETRY HONORS

1206320 or 1209820 (Pre-AICE) or 1206810 (IB MYP)

Instructional Resource: Pearson: *enVision Geometry*, ©2020

Course Pacing

Unit of Instruction	# of Days	Dates of Instruction
Topic 1: Foundations of Geometry	18	8/16 – 9/9
Topic 2: Parallel and Perpendicular Lines	10	9/10 – 9/23
Topic 3: Transformations	12	9/24 – 10/13
Cycle 1 Assessment (Topics 1 -3)	**1**	**10/7** (9/27 – 10/7)
Topic 4: Triangle Congruence	14	10/14 – 11/2
Topic 5: Relationships in Triangles	12	11/3 – 11/18
Topic 6: Quadrilaterals and Other Polygons Continues into Semester 2	7	11/29 – 12/7
Semester Review	**3**	**112/8 – 12/10**
Midterm Exam (Topics 1-5)	**1**	**12/13 – 12/17**
Topic 6: Quadrilaterals and Other Polygons Continues from Semester 1	8	1/5 – 1/14
Topic 7: Similarity	12	1/18 – 2/2
Topic 8: Right Triangles and Trigonometry	12	2/3 – 2/18
Topic 9: Coordinate Geometry	14	2/22 – 3/11
Topic 10: Circles	12	3/22 – 4/6
Topic 11: Two- and Three-Dimensional Models	10	4/7 – 4/21
Topic 12: Density	3	4/22 – 4/26
EOC Preparation	**3**	**4/27 – 4/29**
Geometry EOC	**2**	**5/3 – 5/26**

Pinellas County Schools

GEOMETRY HONORS (Middle School)

2021-2022

August 2021

2	3	4	5	6
9	10	11	12	13
16	17	18	19	20
23	24	25	26	27
30	31			

September 2021

		1	2	3
6	7	8	9	10
13	14	15	16	17
20	21	22	23	24
27	28	29	30	

October 2021

				1
4	5	6	7	8
11	12	13	14	15
18	19	20	21	22
25	26	27	28	29

November 2021

1	2	3	4	5
8	9	10	11	12
15	16	17	18	19
22	23	24	25	26
29	30			

December 2021

		1	2	3
6	7	8	9	10
13	14	15	16	17
20	21	22	23	24
27	28	29	30	31

Building Community in the Math Classroom

Topic 1: Foundations of Geometry

MAFS.912.G-CO.1.1 MAFS.912.G-CO.3.11
MAFS.912.G-CO.3.9 MAFS.912.G-CO.4.12
MAFS.912.G-CO.3.10 MAFS.912.G-GPE.2.6

Topic 2: Parallel and Perpendicular Lines

MAFS.912.G-CO.1.1 MAFS.912.G-MG.1.1
MAFS.912.G-CO.3.9 MAFS.912.G-MG.1.3
MAFS.912.G-CO.3.10 MAFS.912.G-GPE.2.5

Topic 3: Transformations

MAFS.912.G-CO.1.2 MAFS.912.G-CO.1.5
MAFS.912.G-CO.1.3 MAFS.912.G-CO.2.6
MAFS.912.G-CO.1.4

Progress Monitoring (Topics 1-3)

Topic 4: Triangle Congruence

MAFS.912.G-CO.1.5 MAFS.912.G-CO.3.10
MAFS.912.G-CO.2.6 MAFS.912.G-CO.4.13
MAFS.912.G-CO.2.7 MAFS.912.G-SRT.2.5
MAFS.912.G-CO.2.8

Topic 5: Relationships in Triangles

before and after the Midterm Exam

MAFS.912.G-CO.3.9 MAFS.912.G-SRT.2.5
MAFS.912.G-CO.3.10

Topic 6: Quadrilaterals and Other Polygons

continues into Semester 2

MAFS.912.G-C.1.3 MAFS.912.G-SRT.2.5
MAFS.912.G-CO.3.11

Semester Review

Midterm Exam (Topics 1-5)

Window: Dec. 13 - Dec. 17

Re-Building Community in the Math Classroom

Topic 6: Quadrilaterals and Other Polygons

Continued from Semester 1

MAFS.912.G-C.1.3 MAFS.912.G-SRT.2.5
MAFS.912.G-CO.3.11

Topic 7: Similarity

MAFS.912.G-C.1.1 MAFS.912.G-SRT.1.2
MAFS.912.G-CO.1.2 MAFS.912.G-SRT.1.3
MAFS.912.G-CO.1.5 MAFS.912.G-SRT.2.4
MAFS.912.G-CO.3.10 MAFS.912.G-SRT.2.5
MAFS.912.G-SRT.1.1

Topic 8: Right Triangles and Trigonometry

MAFS.912.G-SRT.2.4 MAFS.912.G-SRT.4.9
MAFS.912.G-SRT.3.6 MAFS.912.G-SRT.4.10
MAFS.912.G-SRT.3.7 MAFS.912.G-SRT.4.11
MAFS.912.G-SRT.3.8

Topic 9: Coordinate Geometry

MAFS.912.G-CO.3.10 MAFS.912.G-GPE.2.4
MAFS.912.G-GPE.1.1 MAFS.912.G-GPE.2.6
MAFS.912.G-GPE.1.2 MAFS.912.G-GPE.2.7
MAFS.912.G-GPE.1.3

Topic 10: Circles

MAFS.912.G-C.1.2 MAFS.912.G-CO.1.1
MAFS.912.G-C.1.4 MAFS.912.G-CO.4.13
MAFS.912.G-C.2.5

Topic 11: Two- and Three-Dimensional Models

MAFS.912.G-MG.1.1 MAFS.912.G-MGD.1.2
MAFS.912.G-MG.1.2 MAFS.912.G-MGD.1.3
MAFS.912.G-GMD.1.1 MAFS.912.G-GMD.2.4

Topic 12: Density

MAFS.912.G-MG.1.2

EOC Preparation

Geometry EOC Testing

Geometry EOC Window: May 2 - May 16

January 2022

3	4	5	6	7
10	11	12	13	14
17	18	19	20	21
24	25	26	27	28
31				

February 2022

	1	2	3	4
7	8	9	10	11
14	15	16	17	18
21	22	23	24	25
28				

March 2022

	1	2	3	4
7	8	9	10	11
14	15	16	17	18
21	22	23	24	25
28	29	30	31	

April 2022

				1
4	5	6	7	8
11	12	13	14	15
18	19	20	21	22
25	26	27	28	29

May 2022

2	3	4	5	6
9	10	11	12	13
16	17	18	19	20
23	24	25	26	27
30	31			

Non-Student Day

Non-Teacher Day

2021 – 2022 **GEOMETRY HONORS** **Quarter 1**

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
		Aug. 11 Building Community	Aug. 12 Building Community	Aug. 13 Building Community
Aug. 16 1-1 Measuring Segments and Angles	Aug. 17 1-1 Measuring Segments and Angles	Aug. 18 1-2 Basic Constructions	Aug. 19 1-2 Basic Constructions	Aug. 20 1-3 Midpoint and Distance
Aug. 23 1-3 Midpoint and Distance	Aug. 24 1-4 Inductive Reasoning	Aug. 25 1-4 Inductive Reasoning	Aug. 26 Mathematical Modeling in 3 Acts: *Mystery Spokes*	Aug. 27 1-5 Conditional Statements
Aug. 30 1-5 Conditional Statements	Aug. 31 1-6 Deductive Reasoning	Sept. 1 1-6 Deductive Reasoning	Sept. 2 1-7 Writing Proofs	Sept. 3 1-7 Writing Proofs
Sept. 6 No School	Sept. 7 1-8 Indirect Proof	Sept. 8 1-8 Indirect Proof	Sept. 19 Topic 1 Assessment	Sept. 10 2-1 Properties of Parallel Lines
Sept. 13 2-1 Properties of Parallel Lines	Sept 14 2-2 Proving Lines Parallel	Sept. 15 2-2 Proving Lines Parallel	Sept. 16 2-3 Parallel Lines and Triangles	Sept. 17 2-3 Parallel Lines and Triangles
Sept. 20 2-4 Slopes of Parallel and Perpendicular Lines	Sept. 21 2-4 Slopes of Parallel and Perpendicular Lines	Sept. 22 Mathematical Modeling in 3 Acts: *Parallel Paving Company*	Sept. 23 Topic 2 Assessment	Sept. 24 3-1 Translations
Sept. 27 3-1 Translations	Sept. 28 3-2 Reflections	Sept. 29 3-2 Reflections	Sept. 30 3-3 Rotations	Oct. 1 3-3 Rotations
Oct. 4 3-4 Classification of Isometries	Oct. 5 3-4 Classification of Isometries	Oct. 6 3-5 Symmetry	Oct. 7 **CYCLE 1 ASSESSMENT** ***End of Grading Period***	Oct. 8 Non-Student Day

2021 – 2022 **GEOMETRY HONORS** **Quarter 2**

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Oct. 11 3-5 Symmetry	Oct. 12 Mathematical Modeling in 3 Acts: *The Perplexing Polygon*	Oct. 13 Topic 3 Assessment	Oct. 14 4-1 Congruence	Oct. 15 4-1 Congruence
Oct. 18 4-2 Isosceles and Equilateral Triangles	Oct. 19 4-2 Isosceles and Equilateral Triangles	Oct. 20 Mathematical Modeling in 3 Acts: *Check It Out*	Oct. 21 4-3 Proving and Applying the SAS and SSS Congruence Criteria	Oct. 22 4-3 Proving and Applying the SAS and SSS Congruence Criteria
Oct. 25 4-4 Proving and Applying the ASA and AAS Congruence Criteria	Oct. 26 4-4 Proving and Applying the ASA and AAS Congruence Criteria	Oct. 27 4-5 Congruence in Right Triangles	Oct. 28 4-5 Congruence in Right Triangles	Oct. 29 4-6 Congruence in Overlapping Triangles
Nov. 1 4-6 Congruence in Overlapping Triangles	Nov. 2 Topic 4 Assessment	Nov. 3 5-1 Perpendicular and Angle Bisectors	Nov. 4 5-1 Perpendicular and Angle Bisectors	Nov. 5 5-2 Bisectors in Triangles
Nov. 8 5-2 Bisectors in Triangles	Nov. 9 Mathematical Modeling in 3 Acts: *Making It Fair*	Nov. 10 5-3 Medians and Altitudes	Nov. 11 5-3 Medians and Altitudes	Nov. 12 5-4 Inequalities in One Triangle
Nov. 15 5-4 Inequalities in One Triangle	Nov. 16 5-5 Inequalities in Two Triangles	Nov. 17 5-5 Inequalities in Two Triangles	Nov. 18 Topic 5 Assessment	Nov. 19 INTERVENTION/ REMEDIATION
Nov. 22 Thanksgiving Break	Nov. 23 Thanksgiving Break	Nov. 24 Thanksgiving Break	Nov. 25 Thanksgiving Break	Nov. 26 Thanksgiving Break
Nov. 29 6-1 The Polygon Angle-Sum Theorems	Nov. 30 6-1 The Polygon Angle-Sum Theorems	Dec. 1 Mathematical Modeling in 3 Acts: *The Mystery Sides*	Dec. 2 6-2 Kites and Trapezoids	Dec. 3 6-2 Kites and Trapezoids
Dec. 6 6-3 Properties of Parallelograms	Dec. 7 6-3 Properties of Parallelograms	Dec. 8 **Semester Review**	Dec. 9 **Semester Review**	Dec. 10 **Semester Review**
Dec. 13 **MIDTERM EXAMS**	Dec. 14 **MIDTERM EXAMS**	Dec. 15 **MIDTERM EXAMS**	Dec. 16 **MIDTERM EXAMS**	Dec. 17 **MIDTERM EXAM MAKE-UPS** ***End of Grading Period***

2021 – 2022 **GEOMETRY HONORS** **Quarter 3**

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Jan. 3 Non-Student Day	Jan. 4 Building Community	Jan. 5 Review 6-1, 6-2, and 6-3	Jan. 6 6-4 Proving that a Quadrilateral is a Parallelogram	Jan. 7 6-4 Proving that a Quadrilateral is a Parallelogram
Jan. 10 6-5 Properties of Rhombuses, Rectangles, and Squares	Jan. 11 6-5 Properties of Rhombuses, Rectangles, and Squares	Jan. 12 6-6 Conditions of Rhombuses, Rectangles, and Squares	Jan. 13 6-6 Conditions of Rhombuses, Rectangles, and Squares	Jan. 14 Topic 6 Assessment
Jan. 17 No School	Jan. 18 7-1 Dilations	Jan. 19 7-1 Dilations	Jan. 20 7-2 Similarity Transformations	Jan. 21 7-2 Similarity Transformations
Jan. 24 7-3 Proving Triangles Similar	Jan. 25 7-3 Proving Triangles Similar	Jan. 26 7-4 Similarity in Right Triangles	Jan. 27 7-4 Similarity in Right Triangles	Jan. 28 Mathematical Modeling in 3 Acts: *Make It Right*
Jan. 31 7-5 Properties in Triangles	Feb. 1 7-5 Properties in Triangles	Feb. 2 Topic 7 Assessment	Feb. 3 8-1 Right Triangles and the Pythagorean Theorem	Feb. 4 8-1 Right Triangles and the Pythagorean Theorem
Feb. 7 8-2 Trigonometric Ratios	Feb. 8 8-2 Trigonometric Ratios	Feb. 9 8-3 Law of Sines	Feb. 10 8-3 Law of Sines	Feb. 11 8-4 Law of Cosines
Feb. 14 8-4 Law of Cosines	Feb. 15 Mathematical Modeling in 3 Acts: *The Impossible Measurement*	Feb. 16 8-5 Problem Solving with Trigonometry	Feb. 17 8-5 Problem Solving with Trigonometry	Feb. 18 Topic 8 Assessment
Feb. 21 Non-Student Day	Feb. 22 9-1 Polygons in the Coordinate Plane	Feb. 23 9-1 Polygons in the Coordinate Plane	Feb. 24 Mathematical Modeling in 3 Acts: *You Be The Judge*	Feb. 25 9-2 Proofs Using Coordinate Geometry
Feb. 28 9-2 Proofs Using Coordinate Geometry	Mar. 1 9-3 Circles in the Coordinate Plane	Mar. 2 9-3 Circles in the Coordinate Plane	Mar. 3 9-4 Parabolas in the Coordinate Plane	Mar. 4 9-4 Parabolas in the Coordinate Plane
Mar. 7 9-5 Ellipses	Mar. 8 9-5 Ellipses	Mar. 9 9-6 Hyperbolas	Mar. 10 9-6 Hyperbolas	Mar. 11 Topic 9 Assessment ***End of Grading Period***

2021 – 2022 **GEOMETRY HONORS** **Quarter 4**

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Mar. 14 SPRING BREAK	Mar. 15 SPRING BREAK	Mar. 16 SPRING BREAK	Mar. 17 SPRING BREAK	Mar. 18 SPRING BREAK
Mar. 21 Non-Student Day	Mar. 22 10-1 Arcs and Sectors	Mar. 23 10-1 Arcs and Sectors	Mar. 24 10-2 Lines Tangent to a Circle	Mar. 25 10-2 Lines Tangent to a Circle
Mar. 28 Mathematical Modeling in 3 Acts: *Earth Watch*	Mar. 29 10-3 Chords	Mar. 30 10-3 Chords	Mar. 31 10-4 Inscribed Angles	Apr. 1 10-4 Inscribed Angles
Apr. 4 10-5 Secant Lines and Segments	Apr. 5 10-5 Secant Lines and Segments	Apr. 6 Topic 10 Assessment	Apr. 7 11-1 Space Figures and Cross Sections	Apr. 8 11-1 Space Figures and Cross Sections
Apr. 11 11-2 Prisms and Cylinders	Apr. 12 11-2 Prisms and Cylinders	Apr. 13 Mathematical Modeling in 3 Acts: *Box 'Em Up*	Apr. 14 11-3 Pyramids and Cones	Apr. 15 No School
Apr. 18 11-3 Pyramids and Cones	Apr. 19 11-4 Spheres	Apr. 20 11-4 Spheres	Apr. 21 Topic 11 Assessment	Apr. 22 Density (*District-created*)
Apr. 25 Density (*District-created*)	Apr. 26 Density (*District-created*)	Apr. 27 EOC PREPARATION	Apr. 28 EOC PREPARATION	Apr. 29 EOC PREPARATION
May 2 **EOC Window**	May 3 **EOC Window**	May 4 **EOC Window**	May 5 **EOC Window**	May 6 **EOC Window**
May 9 **EOC Window**	May 10 **EOC Window**	May 11 **EOC Window**	May 12 **EOC Window**	May 13 **EOC Window**
May 16 **EOC Window**	May 17 **EOC Window**	May 18 **EOC Window**	May 19 **EOC Window**	May 22 **EOC Window**
May 23 **EOC Window**	May 24 **EOC Window**	May 25 **EOC Window**	May 26 **EOC Window** **Student's Last Day** ***End of Grading Period***	May 27

PINELLAS COUNTY SCHOOLS
6-8 Mathematics Instructional Focus Guide

Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course 1206320, 1200681, 1209820

Topic 1: Foundations of Geometry

Pacing		Date(s)
Traditional	18	8/16 – 9/9

MATHEMATICS FLORIDA STANDARDS (MAFS) & MATHEMATICAL PRACTICES (MP)	ESSENTIAL CONTENT	OBJECTIVES (from Item Specifications)

MAFS.912.G-CO.1.1: Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
 	
MAFS.912.G-CO.3.9: Prove theorems about lines and angles; use theorems about lines and angles to solve problems. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.*
 	
MAFS.912.G-CO.4.12: Make formal geometric constructions with a variety of tools and methods. *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.*
 	
MAFS.912.G-GPE.2.6: Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
	• Introduce and use postulates:
	  ○ Segment Addition; and
	  ○ Angle Addition
	• Identify congruent segments and angles;
	• Construct copies of segments and angles, perpendicular bisectors, and angle bisectors;
	• Midpoint and distance formulas;
	• Partitioning a line segment;
	• Inductive reasoning:
	  ○ Identify patterns;
	  ○ Make predictions; and
	  ○ Prove conjectures are true.
	• Write conditional and biconditional statements;
	• Find contrapositive, converse, inverse and truth values of a conditional statement;
	• Deductive reasoning:
	  ○ Draw conclusions; and
	  ○ Prove geometric theorems
	• Indirect reasoning and proofs
		I can:
		• Use the precise definitions of angles, circles, perpendicular lines, parallel lines, and line segments, basing the definitions on the undefined notions of point, line, distance along a line, and distance around a circular arc.
		• Identify the result of a formal geometric construction.
		• Determine the steps of a formal geometric construction.
		• Find a point on a directed line segment between two given points when given the partition as a ratio.
		• Prove theorems about lines.
		• Prove theorems about angles.
		• Use theorems about lines to solve problems.
		• Use theorems about angles to solve problems.

PINELLAS COUNTY SCHOOLS
6-8 Mathematics Instructional Focus Guide

Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course 1206320, 1200681, 1209820

INSTRUCTIONAL TOOLS

Pacing		Date(s)
Traditional	18	8/16 – 9/9

Resources:

District-Adopted Textbook: enVision Florida Geometry – Pearson

Geometry Course Description & Standards

Geometry Honors Course Description & Standards

Pre-AICE 2 Course Description & Standards

Geometry EOC Item Specifications

Geometry Cycle 1 District Assessment (administered online)

Assessment Window: 10/7/2020 – 10/23/2020

Standard	# of Questions on Cycle 1
MAFS.912.G-CO.1.1	2
MAFS.912.G-CO.3.9	4
MAFS.912.G-CO.3.10	3
MAFS.912.G-CO.4.12	3
MAFS.912.G-GPE.2.5	4
MAFS.912.G-GPE.2.6	4

Geometry EOC Review – Escambia County School District

MAFS.912.G-CO.1.1

MAFS.912.G-CO.4.12

MAFS.912.G-GPE.2.6

MAFS.912.G-CO.3.9

Math Nation Geometry EOC Resources –

Pearson enVision Geometry Lessons	Algebra Nation Geometry Lessons
Lesson 1-1	Section 1 – Topic 1 Section 2 – Topic 2
Lesson 1-2	Section 1 – Topics 11, 12, 13
Lesson 1-3	Section 1 – Topics 4, 5
Lesson 1-7	Section 1 – Topic 12 Section 3 – Topic 6, 7

PINELLAS COUNTY SCHOOLS
6-8 Mathematics Instructional Focus Guide

Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course 1206320, 1200681, 1209820

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr>
<td>1-1
G-CO.1.1</td>
<td>Homework and Practice #’s:
12, 13, 15, 16, 22, 24, 31, 33, 35–37, 39, 40</td>
<td>
FSA Practice Test Alignment: For standard MAFS.912.G-CO.1.1, see CBT item #7

MAFS.912.G-CO.1.1
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr>
<td>uses precise definitions that are based on the undefined notions of point, line, distance along a line, and distance around a circular arc</td>
<td>Which of the following would you consider to be an example of a geometric line segment? Select all that apply.
☐ The 10-yard line on a football field
☐ A scientist's line of vision as he looks into space with a telescope
☐ A line of 15 dancers on stage
☐ A light shone into the darkness
☐ Hands of a clock</td>
</tr>
</table>
Prior Knowledge: irrational number, rational number, real number

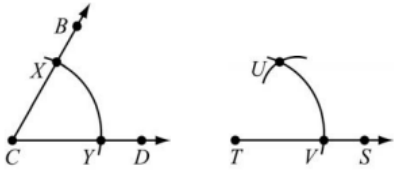
New Vocabulary: collinear points, line, plane, point, postulate

Virtual Nerd Videos: Length of Line Segment
Segment Addition Postulate
</td>
</tr>
</table>

PINELLAS COUNTY SCHOOLS
6-8 Mathematics Instructional Focus Guide

Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course 1206320, 1200681, 1209820

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr>
<td>1-2
G-CO.4.12</td>
<td>Homework and Practice #’s:
10, 12, 15, 18, 19, 21, 25–28</td>
<td>
FSA Practice Test Alignment: For standard MAFS.912.G-CO.4.12, see CBT item #28

MAFS.912.G-CO.4.12
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr>
<td>identifies, sequences, or reorders steps in a construction: copying a segment, copying an angle, bisecting a segment, bisecting an angle, constructing perpendicular lines, including the perpendicular bisector of a line segment, and constructing a line parallel to a given line through a point not on the line</td>
<td>Ricardo is copying angle BCD below.
 

Which is the next step in Ricardo’s construction?
A. Draw an arc and label the intersection point V.
B. Place the point of the compass on point Y and adjust the width to point X.
C. Draw $\overline{TU}$ and point R on $\overline{TU}$
D. Draw $\overline{VU}$ and point R on $\overline{VU}$</td>
</tr>
</table>
Prior Knowledge: parallel, perpendicular

New Vocabulary: angle bisector, construction, perpendicular bisector

Virtual Nerd Videos: Construct Perpendicular Lines
Construct Parallel Lines
</td>
</tr>
</table>

PINELLAS COUNTY SCHOOLS
6-8 Mathematics Instructional Focus Guide

Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course 1206320, 1200681, 1209820

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>1-3
G-GPE.2.6</td><td>Homework and Practice #’s:
9–13, 13, 22, 23, 26–28</td><td>
FSA Practice Test Alignment: For standard MAFS.912.G-GPE.2.6, see CBT item #21

MAFS.912.G-GPE.2.6
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>finds the point on a line segment that partitions, with no more than five partitions, the segment in a given ratio, given the coordinates for the endpoints of the line segment</td><td>Given Point $A(3,-4)$ and Point $B(8,6)$ on directed line segment AB, what is the y –coordinate of Point F that partitions AB in the ratio of $3:2$?

A. -1
B. 0
C. 2
D. 6</td></tr>
</table>
Prior Knowledge: Pythagorean Theorem

New Vocabulary: midpoint

Virtual Nerd Videos: Midpoint Between Two Coordinates
Derive the Distance Formula
</td></tr>
</table>

PINELLAS COUNTY SCHOOLS
6-8 Mathematics Instructional Focus Guide

Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course 1206320, 1200681, 1209820

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
1-4 G-CO.3.9 G-CO.3.10 G-CO.3.11	**Homework and Practice #'s:** 7, 9, 10, 14, 17, 18, 20–23	**Remarks:** Standards G-CO.3.9, G-CO.3.10 and G-CO.3.11 are not formally addressed in this topic, only the ideas of the standards are introduced. • Standard G-CO.3.9 will be more thoroughly addressed 1-7, Topic 2 and Topic 5 • Standard G-CO.3.10 will be more thoroughly addressed in Topic 2, Topic 4, Topic 5, Topic 7 and Topic 9. • Standard G-CO.3.11 will be more thoroughly addressed in Topic 6 **Prior Knowledge:** sequence **New Vocabulary**: conjecture, counterexample, inductive reasoning **Virtual Nerd Videos**: Inductive Reasoning Counterexample
1-5 G-CO.3.9 G-CO.3.10 G-CO.3.11	**Homework and Practice #'s:** 13, 26–29, 36, 37	**Remarks:** Standards G-CO.3.9, G-CO.3.10 and G-CO.3.11 are not formally addressed in this topic, only the ideas of the standards are introduced. • Standard G-CO.3.9 will be more thoroughly addressed 1-7, Topic 2 and Topic 5 • Standard G-CO.3.10 will be more thoroughly addressed in Topic 2, Topic 4, Topic 5, Topic 7 and Topic 9. • Standard G-CO.3.11 will be more thoroughly addressed in Topic 6 **New Vocabulary**: biconditional, conditional, contrapositive, converse, hypothesis, inverse, truth table, truth value **Virtual Nerd Videos**: Converse, Inverse and Contrapositive Hypothesis and Conclusion of If-Then Statement

PINELLAS COUNTY SCHOOLS
6-8 Mathematics Instructional Focus Guide

Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course 1206320, 1200681, 1209820

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
1-6 G-CO.3.9 G-CO.3.10 G-CO.3.11	**Homework and Practice #'s:** 9, 14, 16–19, 22, 25–27	**Remarks:** Standards G-CO.3.9, G-CO.3.10 and G-CO.3.11 are not formally addressed in this topic, only the ideas of the standards are introduced. • Standard G-CO.3.9 will be more thoroughly addressed 1-7, Topic 2 and Topic 5 • Standard G-CO.3.10 will be more thoroughly addressed in Topic 2, Topic 4, Topic 5, Topic 7 and Topic 9. • Standard G-CO.3.11 will be more thoroughly addressed in Topic 6 **Prior Knowledge:** conclusion, conditional, hypothesis, truth table, truth value **New Vocabulary**: deductive reasoning, Law of Detachment, Law of Syllogism **Virtual Nerd Videos**: Law of Syllogism Use the Law of Detachment to Draw a Valid Conclusion

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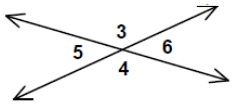
6-8 Mathematics Instructional Focus Guide

Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course 1206320, 1200681, 1209820

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>1-7
G-CO.3.9</td><td>Homework and Practice #'s:
9, 10, 18, 19, 22, 25</td><td>
FSA Practice Test Alignment: For standard MAFS.912.G-CO.3.9, see CBT items #1 and #11

Remarks: Review properties of equality with students before completing proofs.

MAFS.912.G-CO.3.9
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>completes no more than two steps of a proof using theorems about lines and angles; solves problems using parallel lines with two to three transversals; solves problems about angles using algebra</td><td>
Complete the two-column proof to show that $\angle 3 \cong \angle 4$.


<table>
<tr><td>1. $m\angle 3 + m\angle 5 = 180$</td><td>1. Def. of Supplementary Angles</td></tr>
<tr><td>2. $m\angle 4 + m\angle 5 = 180$</td><td>2. Def. of Supplementary Angles</td></tr>
<tr><td>3. $m\angle 3 + m\angle 5 = m\angle 4 + m\angle 5$</td><td>3.</td></tr>
<tr><td>4.</td><td>4. Subtraction Property of Equality</td></tr>
<tr><td>5. $\angle 3 \cong \angle 4$</td><td>5. Definition of Congruent Angles</td></tr>
</table>
Reflexive Property, Transitive Property, Substitution,
$m\angle 5 = m\angle 5, m\angle 3 = m\angle 4$
</td></tr>
</table>

Prior Knowledge: Division Property of Equality, Multiplication Property of Equality

New Vocabulary: linear pair, paragraph proof, proof, theorem, two-column proof

Virtual Nerd Videos: What is a Theorem?
Vertical Angles Theorem
</td></tr>
</table>

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LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
1-8 G-CO.3.9 G-CO.3.10 G-CO.3.11	**Homework and Practice #'s:** 14–16, 20–23, 25–27	**Remarks:** Standards G-CO.3.9, G-CO.3.10 and G-CO.3.11 are not formally addressed in this topic, only the ideas of the standards are introduced. • Standard G-CO.3.9 will be more thoroughly addressed 1-7, Topic 2 and Topic 5 • Standard G-CO.3.10 will be more thoroughly addressed in Topic 2, Topic 4, Topic 5, Topic 7 and Topic 9. • Standard G-CO.3.11 will be more thoroughly addressed in Topic 6 **Prior Knowledge:** conclusion, conditional, contrapositive, hypothesis, negation **New Vocabulary**: indirect proof **Virtual Nerd Videos**: Indirect Proof Writing an Indirect Proof

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TOPIC 1 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
Segment and Angle Addition	MAFS.912.G-CO.1.1
Segment Addition Postulate and Angle Basics	MAFS.912.G-CO.1.1
Partitioning Line Segments – Worksheet	MAFS.912.G-CO.1.1
CPALMS – Bisecting a Segment and an Angle	MAFS.912.G-CO.4.12
CPALMS – Bisecting an Angle	MAFS.912.G-CO.4.12
CPALMS – Construction of Perpendicular Bisector	MAFS.912.G-CO.4.12
CPALMS – Constructions for Parallel Lines	MAFS.912.G-CO.4.12
Constructing a Perpendicular Bisector	MAFS.912.G-CO.4.12
Constructing an Angle Bisector	MAFS.912.G-CO.4.12
CPALMS – Partitioning a Segment	MAFS.912.G-GPE.2.6
Partitioning Line Segments (2) – Worksheet	MAFS.912.G-GPE.2.6
Partition Me – Worksheet	MAFS.912.G-GPE.2.6
CPALMS – Finding Angle Measures	MAFS.912.G-CO.3.9
Complementary and Supplementary Angle Proofs	MAFS.912.G-CO.3.9
Proofs About Angles and Lines	MAFS.912.G-CO.3.9
Solving and Proofs About Lines and Angles – Worksheet	MAFS.912.G-CO.3.9
Solving and Proofs About Angles – Worksheet	MAFS.912.G-CO.3.9

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Topic 2: Parallel and Perpendicular Lines

Pacing		Date(s)
Traditional	10	9/10 – 9/23

MATHEMATICS FLORIDA STANDARDS (MAFS) & MATHEMATICAL PRACTICES (MP)	ESSENTIAL CONTENT	OBJECTIVES (from Item Specifications)
MAFS.912.G-CO.3.9: Prove theorems about lines and angles; use theorems about lines and angles to solve problems. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.* MAFS.912.G-CO.3.10: Prove theorems about triangles; use theorems about triangles to solve problems. *Theorems include: measures of interior angles of a triangle sum to 180°; triangle inequality theorem; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.* MAFS.912.G-GPE.2.5: Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).	• Define, prove and use theorems about lines and angles; • Use properties of parallel lines and transversals to solve problems; • Use the sum of angles in a triangle to solve problems; and • Slopes of parallel and perpendicular lines.	I can: • Prove theorems about lines. • Prove theorems about angles. • Use theorems about lines to solve problems. • Use theorems about angles to solve problems. • Prove theorems about triangles. • Use theorems about triangles to solve problems. • Prove the slope criteria for parallel lines. • Prove the slope criteria for perpendicular lines. • Find equations of lines using slope criteria for parallel and perpendicular lines.

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INSTRUCTIONAL TOOLS

Pacing		Date(s)
Traditional	10	9/10 – 9/23

Resources:

District-Adopted Textbook: enVision Florida Geometry – Pearson

Geometry Course Description & Standards

Geometry Honors Course Description & Standards

Pre-AICE 2 Course Description & Standards

Geometry EOC Item Specifications

Geometry Cycle 1 District Assessment (administered online)

Assessment Window: 10/7/2020 – 10/23/2020

Standard	# of Questions on Cycle 1
MAFS.912.G-CO.1.1	2
MAFS.912.G-CO.3.9	4
MAFS.912.G-CO.3.10	3
MAFS.912.G-CO.4.12	3
MAFS.912.G-GPE.2.5	4
MAFS.912.G-GPE.2.6	4

Geometry EOC Review – Escambia County School District

MAFS.912.G-CO.3.9

MAFS.912.G-CO.3.10

MAFS.912.G-GPE.2.5

Math Nation Geometry EOC Resources –

Pearson enVision Geometry Lessons	Algebra Nation Geometry Lessons
Lesson 2-1	Section 2 – Topics 6, 7, 9
Lesson 2-2	Section 2 – Topics 6, 7, 8
Lesson 2-3	Section 5 – Topic 2
Lesson 2-4	Section 1 – Topics 8, 9

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>2-1
G-CO.1.1
G-CO.3.9</td><td>Homework and Practice #’s:
13–18, 25, 27, 28</td><td>
FSA Practice Test Alignment: For standard MAFS.912.G-CO.1.1, see CBT items #7
For standard MAFS.912.G-CO.3.9, see CBT items #1 and #11

MAFS.912.G-CO.1.1
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>uses precise definitions that are based on the undefined notions of point, line, distance along a line, and distance around a circular arc</td><td>Which of the following would you consider to be an example of a geometric line segment? Select all that apply.
☐ The 10-yard line on a football field
☐ A scientist's line of vision as he looks into space with a telescope
☐ A line of 15 dancers on stage
☐ A light shone into the darkness
☐ Hands of a clock</td></tr>
</table>

Remarks: See lesson 2-2 for level 3 description and example for standard G-CO.3.9

Prior Knowledge: adjacent angles, linear pair, supplementary angles, vertical angles

Virtual Nerd Videos: Corresponding Angles Postulate
Finding Missing Angles
</td></tr>
</table>

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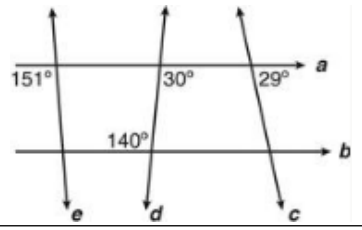
<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>2-2
G-CO.3.9</td><td>Homework and Practice #’s:
9, 12–14, 19, 23, 24</td><td>
FSA Practice Test Alignment: For standard MAFS.912.G-CO.3.9, see CBT items #1 and #11

MAFS.912.G-CO.3.9
<table>
<tr><td>Level 3:
completes no more than two steps of a proof using theorems about lines and angles; solves problems using parallel lines with two to three transversals; solves problems about angles using algebra</td><td>Example:
In this figure, lines a, b, c, d, and e intersect as shown.
 

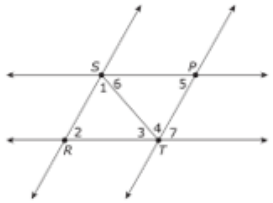
Based on the angle measures, which pair of lines is parallel?
A. Lines a and b
B. Lines c and e
C. Lines c and d
D. Lines d and e</td></tr>
</table>

Prior Knowledge: alternate exterior angles, alternate interior angles, corresponding angles, same-side exterior angles, same-side interior angles, transversal

New Vocabulary: flow proof

Virtual Nerd Videos: Using Parallel and Perpendicular Theorems
</td></tr>
</table>

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr>
<td>2-3
G-CO.3.10</td>
<td>Homework and Practice #'s:
12, 15, 18, 19, 24–27, 32–34</td>
<td>
FSA Practice Test Alignment: For standard MAFS.912.G-CO.3.10, see CBT item #22

MAFS.912.G-CO.3.10
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr>
<td>completes no more than two steps in a proof using theorems (measures of interior angles of a triangle sum to 180; base angles of isosceles triangles are congruent, the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length) about triangles; solves problems about triangles using algebra; solves problems using the triangle inequality and the Hinge theorem</td>
<td>
Given: △RST ≅ △PTS, $\overleftrightarrow{SP} \parallel \overleftrightarrow{RT}$, and $\overleftrightarrow{SR} \parallel \overleftrightarrow{PT}$
Prove: The sum of the measures of the interior angles of △RST is 180°.


<table>
<tr><th>Statement</th><th>Reason</th></tr>
<tr><td>△RST ≅ △PTS</td><td>1. Given</td></tr>
<tr><td>∠1 ≅ ∠4</td><td>2.</td></tr>
<tr><td>∠7 ≅ ∠2</td><td>3.</td></tr>
<tr><td>$m\angle 4 + m\angle 7 + m\angle 3 = 180°$</td><td>4. Angles 3, 4, and 7 form a line.</td></tr>
<tr><td>$m\angle 1 + m\angle 2 + m\angle 3 = 180°$</td><td>5. Substitution</td></tr>
</table>
Review each statement of the proof. Then select a reason that correctly supports each statement in lines 2 and 3 to complete the proof.
• The reason for statement 2 is _____
• The reason for statement 3 is _____
Vertical angles are congruent, Alternate interior angles are congruent, Corresponding angles are congruent.
</td>
</tr>
</table>

Prior Knowledge: alternate exterior angles, alternate interior angles

Virtual Nerd Videos: Find Missing Angles in a Triangle
Triangle Sum Theorem
</td>
</tr>
</table>

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<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>2-4
G-GPE.2.5</td><td>Homework and Practice #’s:
17–19, 28–32</td><td>
FSA Practice Test Alignment: For standard MAFS.912.G-GPE.2.5, see CBT item #15

MAFS.912.G-GPE.2.5
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>creates the equation of a line that is parallel given a point on the line and an equation, in slope-intercept form, of the parallel line or given two points (coordinates are integral) on the line that is parallel; creates the equation of a line that is perpendicular given a point on the line and an equation of a line, in slope-intercept form</td><td>Find the equation of the line perpendicular to $y = \frac{1}{4}x + 8$ and passes through $(-5, 10)$.
A. $x - 4y = -45$
B. $x - 4y = 30$
C. $4x + y = -10$
D. $4x + y = 35$</td></tr>
</table>
Prior Knowledge: slope of a line

Virtual Nerd Videos: Equation of Line in Slope-Intercept Form Given a Point and a Parallel Line
Equation of Line in Slope-Intercept Form Given a Point and a Perpendicular Line
</td></tr>
</table>

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

TOPIC 2 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
Parallel Lines and Transversals	MAFS.912.G-CO.3.9
Parallel Lines Cut by a Transversal	MAFS.912.G-CO.3.9
Parallel Lines and Proofs	MAFS.912.G-CO.3.9
Solve for Unknown Angles	MAFS.912.G-CO.3.9
Parallel Lines and Transversals - Worksheet	MAFS.912.G-CO.3.9
Parallel Lines and Transversals (2) - Worksheet	MAFS.912.G-CO.3.9
Triangle Sum and Exterior Angle Theorem	MAFS.912.G-CO.3.10
Exterior Angle Theorem and Triangle Sum Theorem	MAFS.912.G-CO.3.10
CPALMS – The Measure of an Angle of a Triangle	MAFS.912.G-CO.3.10
Solve for Unknown Angles – Angles in a Triangle	MAFS.912.G-CO.3.10
Angle Measures Word Problems - Worksheet	MAFS.912.G-CO.3.10
Classifying Equations of Parallel and Perpendicular Lines	MAFS.912.G-GPE.2.5
Investigating Parallel and Perpendicular Slopes - Worksheet	MAFS.912.G-GPE.2.5
Writing Equations for Parallel Lines - Worksheet	MAFS.912.G-GPE.2.5
Parallel Lines - Worksheet	MAFS.912.G-GPE.2.5
Writing Equations for Perpendicular Lines - Worksheet	MAFS.912.G-GPE.2.5
Parallel and Perpendicular Slopes - Worksheet	MAFS.912.G-GPE.2.5
Investigating Lines - Worksheet	MAFS.912.G-GPE.2.5

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Topic 3: Transformations

Pacing		Date(s)
Traditional	12	9/24 – 10/13

MATHEMATICS FLORIDA STANDARDS (MAFS) & MATHEMATICAL PRACTICES (MP)	ESSENTIAL CONTENT	OBJECTIVES (from Item Specifications)

MAFS.912.G-CO.1.2: Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).
 	
MAFS.912.G-CO.1.3: Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
 	
MAFS.912.G-CO.1.4: Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
 	
MAFS.912.G-CO.1.5: Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.
 	
MAFS.912.G-CO.2.6: Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.
	• Transformations of Images
	  ○ Reflection;
	  ○ Horizontal and vertical translations;
	  ○ Rotations; and
	  ○ Sequences of multiple transformations
	• Symmetry
		I can:
		• Represent transformations in the plane.
		• Describe transformations as functions that take points in the plane as inputs and give other points as outputs.
		• Compare transformations that preserve distance and angle to those that do not.
		• Use definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
		• Apply two or more transformations to a given figure to draw a transformed figure.
		• Specify a sequence of transformations that will carry a figure onto another.
		• Use rigid motions to transform figures.
		• Predict the effect of a given rigid motion on a given figure.
		• Use the definition of congruence in terms of rigid motions to determine if two figures are congruent.
		• Apply congruence to solve problems.

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INSTRUCTIONAL TOOLS

Pacing		Date(s)
Traditional	12	9/24 – 10/13

Resources:

District-Adopted Textbook: enVision Florida Geometry – Pearson

Geometry Course Description & Standards

Geometry Honors Course Description & Standards

Pre-AICE 2 Course Description & Standards

Geometry EOC Item Specifications

Geometry Cycle 1 District Assessment (administered online)

Assessment Window: 10/7/2020 – 10/23/2020

Standard	# of Questions on Cycle 1
MAFS.912.G-CO.1.1	2
MAFS.912.G-CO.3.9	4
MAFS.912.G-CO.3.10	3
MAFS.912.G-CO.4.12	3
MAFS.912.G-GPE.2.5	4
MAFS.912.G-GPE.2.6	4

Geometry EOC Review – Escambia County School District

MAFS.912.G-CO.1.2

MAFS.912.G-CO.1.5

MAFS.912.G-CO.2.6

Math Nation Geometry EOC Resources –

Pearson enVision Geometry Lessons	Algebra Nation Geometry Lessons
Lesson 3-1	Section 3 – Topics 1, 4
Lesson 3-2	Section 3 – Topics 1, 2
Lesson 3-3	Section 3 – Topics 1, 6
Lesson 3-4	Section 3 – Topics 1, 2, 4, 6
Lesson 3-5	Section 2 – Topic 10

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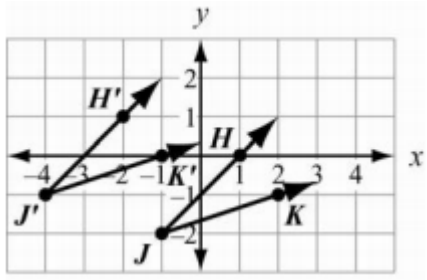
LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
3-1 G-CO.1.2 G-CO.1.4 G-CO.1.5	**Homework and Practice #'s:** 11, 13–15, 19–24, 30, 33–35	**FSA Practice Test Alignment:** For standard MAFS.912.G-CO.1.2, see CBT item #19 For standard MAFS.912.G-CO.1.4, see CBT item #4 **Remarks**: • See lesson 3-2 for level 3 description and example of standards G-CO.1.2, G-CO.1.4, and G-CO.1.5 **Prior Knowledge:** image, line of reflection, preimage, reflection, transformation **New Vocabulary**: rigid motion **Virtual Nerd Videos**: What Properties of a Figure Stay the Same After a Reflection?

Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 120681, 1209820

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
3-2 G-CO.1.2 G-CO.1.4 G-CO.1.5 G-CO.2.6	**Homework and Practice #'s:** 11, 13 – 14, 16 – 18, 21 – 22, 30 – 31, 33 – 34	**FSA Practice Test Alignment:** For standard MAFS.912.G-CO.1.2, see CBT item #19 For standard MAFS.912.G-CO.1.4, see CBT item #4 For standard MAFS.912.G-CO.2.6, see CBT item #10 **MAFS.912.G-CO.1.2** **Level 3:** uses transformations to develop definitions of angles, perpendicular lines, parallel lines; describes translations as functions **Example:** In the diagram below, under which transformation is angle $H'J'K'$ the image of angle HJK?  A. $(x, y) \rightarrow (x + 3, y - 1)$ B. $(x, y) \rightarrow (x - 3, y + 1)$ C. $(x, y) \rightarrow (x + 1, y - 3)$ D. $(x, y) \rightarrow (x - 1, y + 3)$

MAFS.912.G-CO.1.4

Level 3:	Example:
uses transformations to develop definitions of angles, perpendicular lines, parallel lines; describes translations as functions	On a coordinate plane, $\overline{PQ}$ is translated 3 units up and 3 units to the right to create $\overline{P'Q'}$. Line p is drawn through P and P', and Line q is drawn through Q and Q'. Which statement about Lines p and q is true? A. Lines p and q are parallel B. Lines p and q are perpendicular C. Lines p and q have the same x-intercept D. Lines p and q have the same y-intercept

MAFS.912.G-CO.1.5

Level 3:	Example:
uses transformations that will carry a given figure onto itself or onto another figure	Triangle *ABC* has vertices at *A*(−5,2), *B*(−4, 6), and *C*(4, 3). It is translated 1 unit left and 2 units up and then reflected over the x-axis to form Triangle *A'B'C'*. What are the vertices of Triangle A'B'C'? A. $A'(-7,3), B'(-6,-5), C(2,4)$ B. $A'(-6,4), B'(-5,-4), C(3,5)$ C. $A'(-6,-4), B'(-5,4), C(3,-5)$ D. $A'(-4,4), B'(-3,-4), C(5,5)$

MAFS.912.G-CO.2.6

Level 3:	**Example:**
determines if a sequence of transformations will result in congruent figures	Triangle ABC is located in the third quadrant of a coordinate plane. If triangle ABC is reflected across the y-axis to obtain triangle, A'B'C', which statement is true? A. Triangle A'B'C' lies in quadrant II and is congruent to Triangle ABC. B. Triangle A'B'C' lies in quadrant IV and is congruent to Triangle ABC. C. Triangle A'B'C' lies in quadrant II and is not congruent to Triangle ABC. D. Triangle A'B'C' lies in quadrant IV and is not congruent to Triangle ABC.

Remarks:

- The textbook introduces students to composition of rigid motions, however, the Test Item Specifications do not refer to it as a composition but instead as a sequence of rigid motions.
- Students do not need to complete composition of translations.
- Students do need to be able to perform multiple transformations in one problem but as a sequence as transformations, not as a composition.
- The idea of example 4 need to be addressed with students but they do not need to know composition. (i.e. They need to understand that two reflections result in a translation.)
- The idea of Theorem 3-1 also needs to be addressed with students, but Example 5 does not need to be covered.

Prior Knowledge: image, preimage, translation

New Vocabulary: composition of rigid motion (sequence of rigid motions)

Virtual Nerd Videos: What Properties of a Figure Stay the Same After a Translation?
Using Coordinates to Translate a Figure Diagonally

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 120681, 1209820

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
3-3 G-CO.1.2 G-CO.1.4 G-CO.1.5 G-CO.2.6	**Homework and Practice #'s:** 11–14, 18–22, 26, 28–30	**FSA Practice Test Alignment**: For standard MAFS.912.G-CO.1.2, see CBT item #19 For standard MAFS.912.G-CO.1.4, see CBT item #4 For standard MAFS.912.G-CO.2.6, see CBT item #10 **Remarks**: • See lesson 3-2 for level 3 description and example of standards G-CO.1.2, G-CO.1.4, G-CO.1.5, and G-CO.2.6 • Do not need to know Theorem 3-2 and Example 5. Omit this page and this concept. **Prior Knowledge:** angle of rotation, center of rotation, rotation **Virtual Nerd Videos**: What Properties of a Figure Stay the Same After a Rotation?

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
3-4 G-CO.1.5 G-CO.2.6	**Homework and Practice #'s:** 9, 10, 12–14, 18, 22, 23, 25, 26	**FSA Practice Test Alignment**: For standard MAFS.912.G-CO.2.6, see CBT item #10 **Remarks**: • See lesson 3-2 for level 3 description and example of standards G-CO.1.5 and G-CO.2.6 • Glide reflection is same as sequence as transformations. Test Item Specs do not mention glide reflection but instead refer to it as sequence. **Prior Knowledge:** reflection, rotation, translation **New Vocabulary**: glide reflection **Virtual Nerd Videos**: Graphing a Glide Reflection

PINELLAS COUNTY SCHOOLS

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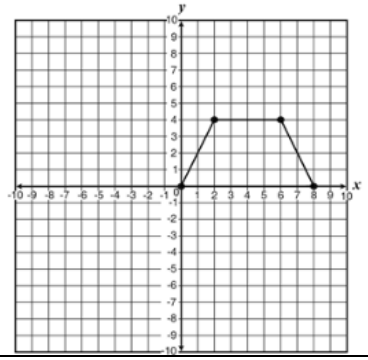
Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 120681, 1209820

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>3-5
G-CO.1.3
G-CO.1.5
G-CO.2.6</td><td>Homework and Practice #’s:
15, 16, 18, 20, 21, 24, 25, 27–29</td><td>
FSA Practice Test Alignment: For standard MAFS.912.G-CO.1.3, see CBT item #8
For standard MAFS.912.G-CO.2.6, see CBT item #10

MAFS.912.G-CO.1.3
<table>
<tr><td>Level 3:
uses transformations that will carry a given figure onto itself or onto another figure</td><td>Example:
A trapezoid is shown in the coordinate plane.
 
Which of the following gives the line or lines of symmetry about which the trapezoid can be reflected in order to map the trapezoid onto itself?
A. $y = x$
B. $x = 4$
C. $x = 4$ and $y = 2$
D. $x = 0$ and $y = 0$</td></tr>
</table>
Remarks:
• See lesson 3-2 for level 3 description and example of standards G-CO.1.5 and G-CO.2.6

Prior Knowledge: line of symmetry, symmetry

New Vocabulary: point symmetry, reflectional symmetry, rotational symmetry

Virtual Nerd Videos: Rotational Symmetry
How Can You Tell if a Figure Has Line Symmetry?
</td></tr>
</table>

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TOPIC 3 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
Transformations in the Plane	MAFS.912.G-CO.1.2
Transformation Practice Problems - PowerPoint	MAFS.912.G-CO.1.2
Sequence of Reflections with a Trapezoid - PowerPoint	MAFS.912.G-CO.1.3
Symmetries of Rectangles	MAFS.912.G-CO.1.3
CPALMS – Transformations of Rectangles and Squares	MAFS.912.G-CO.1.3
CPALMS – Transformations of Regular Polygons	MAFS.912.G-CO.1.3
CPALMS – Transformations of Parallelograms and Rhombi	MAFS.912.G-CO.1.3
CPALMS – Transformations of Trapezoids	MAFS.912.G-CO.1.3
CPALMS – Rigid Transformations of the Plane	MAFS.912.G-CO.1.3
Reflection and Rotation Symmetry - Worksheet	MAFS.912.G-CO.1.3 MAFS.912.G-CO.2.6
CPALMS – Fundamental Property of Reflections	MAFS.912.G-CO.1.4
Practice with Transformations - Worksheet	MAFS.912.G-CO.1.5
Translations - Worksheet	MAFS.912.G-CO.1.5 MAFS.912.G-CO.2.6
Sequence of Transformations - Worksheet	MAFS.912.G-CO.2.6
Sequence of Transformations (2) - Worksheet	MAFS.912.G-CO.2.6

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

Topic 4: Triangle Congruence

Pacing		Date(s)
Traditional	14	10/14 – 11/2

MATHEMATICS FLORIDA STANDARDS (MAFS) & MATHEMATICAL PRACTICES (MP)	ESSENTIAL CONTENT	OBJECTIVES (from Item Specifications)

MAFS.912.G-CO.1.5: Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.
 	
MAFS.912.G-CO.2.6: Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.
 	
MAFS.912.G-CO.3.10: Prove theorems about triangles; use theorems about triangles to solve problems. *Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.*
 	
MAFS.912.G-CO.2.7: Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
 	
MAFS.912.G-CO.2.8: Explain how the criteria for triangle congruence (ASA, SAS, SSS, and Hypotenuse-Leg) follow from the definition of congruence in terms of rigid motions.
 	
MAFS.912.G-SRT.2.5: Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.
	• Prove figures congruent;
	• Properties and theorems about isosceles and equilateral triangles;
	• Prove triangle congruence by:
	  ○ SAS;
	  ○ SSS;
	  ○ ASA;
	  ○ AAS; and
	  ○ HL
	• Understand and use CPCTC
		I can:
		• Apply two or more transformations to a given figure to draw a transformed figure.
		• Specify a sequence of transformations that will carry a figure onto another.
		• Use rigid motions to transform figures.
		• Predict the effect of a given rigid motion on a given figure.
		• Use the definition of congruence in terms of rigid motions to determine if two figures are congruent.
		• Prove theorems about triangles.
		• Use theorems about triangles to solve problems.
		• Use congruence criteria for triangles to solve problems.
		• Use congruence criteria for triangles to prove relationships in geometric figures.
		• Apply congruence to solve problems.
		• Use congruence to justify steps within the context of a proof.
		• Explain triangle congruence using the definition of congruence in terms of rigid motions.

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

INSTRUCTIONAL TOOLS

Pacing		Date(s)
Traditional	14	10/14 – 11/2

Resources:

District-Adopted Textbook: enVision Florida Geometry – Pearson

Geometry Course Description & Standards

Geometry Honors Course Description & Standards

Pre-AICE 2 Course Description & Standards

Geometry EOC Item Specifications

Geometry EOC Review – Escambia County School District

MAFS.912.G-CO.1.5

MAFS.912.G-CO.2.6

MAFS.912.G-CO.3.10

MAFS.912.G-SRT.2.5

Math Nation Geometry EOC Resources –

Pearson enVision Geometry Lessons	Algebra Nation Geometry Lessons
Lesson 4-1	Section 2 – Topics 4, 9 Section 3 – Topic 9
Lesson 4-2	Section 5 – Topics 1, 2, 8
Lesson 4-3	Section 5 – Topics 4, 5
Lesson 4-4	Section 5 – Topics 6, 7
Lesson 4-5	Section 7 – Topics 3, 4, 5
Lesson 4-6	Section 6 – Topic 6 Section 8 – Topic 10

Geometry Cycle 2 District Assessment (administered paper/pencil)

Assessment Window: 12/14/2020 – 12/18/2020

Standard	# of Questions on Cycle 2
MAFS.912.G-C.1.3	3
MAFS.912.G-CO.1.1	3
MAFS.912.G-CO.1.2	2
MAFS.912.G-CO.1.5	3
MAFS.912.G-CO.2.6	3
MAFS.912.G-CO.2.8	4
MAFS.912.G-CO.3.9	3
MAFS.912.G-CO.3.10	4
MAFS.912.G-CO.4.12	3
MAFS.912.G-GPE.2.5	4
MAFS.912.G-GPE.2.6	4
MAFS.912.G-SRT.2.5	4

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>4-1
G-CO.1.5
G-CO.2.6</td><td>Homework and Practice #’s:
14–16, 18–22</td><td>
FSA Practice Test Alignment: For standard MAFS.912.G-CO.2.6, see CBT item #10

MAFS.912.G-CO.1.5
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>uses transformations that will carry a given figure onto itself or onto another figure</td><td>Triangle ABC has vertices at A(−5,2), B(−4, 6), and C(4, 3). It is translated 1 unit left and 2 units up and then reflected over the x-axis to form Triangle A’B’C’. What are the vertices of Triangle A’B’C’?
A. $A'(-7,3), B'(-6,-5), C(2,4)$
B. $A'(-6,4), B'(-5,-4), C(3,5)$
C. $A'(-6,-4), B'(-5,4), C(3,-5)$
D. $A'(-4,4), B'(-3,-4), C(5,5)$</td></tr>
</table>
MAFS.912.G-CO.2.6
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>determines if a sequence of transformations will result in congruent figures</td><td>Triangle ABC is located in the third quadrant of a coordinate plane. If triangle ABC is reflected across the y-axis to obtain triangle, A’B’C’, which statement is true?
A. Triangle A’B’C’ lies in quadrant II and is congruent to Triangle ABC
B. Triangle A’B’C’ lies in quadrant IV and is congruent to Triangle ABC
C. Triangle A’B’C’ lies in quadrant II and is not congruent to Triangle ABC
D. Triangle A’B’C’ lies in quadrant IV and is not congruent to Triangle ABC</td></tr>
</table>
Prior Knowledge: congruent angles, congruent segments

New Vocabulary: congruence transformation, congruent

Virtual Nerd Videos: Congruence Transformation
What Makes Two Figures Congruent?
</td></tr>
</table>

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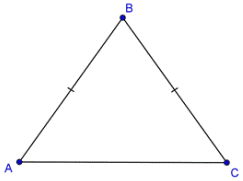
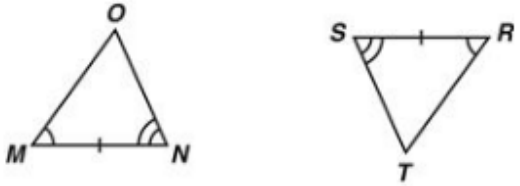
Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr>
<td>4-2
G-CO.3.10
G-SRT.2.5</td>
<td>Homework and Practice #’s:
12, 15, 17–20, 22–23, 25, 27, 29, 30</td>
<td>
MAFS.912.G-CO.3.10
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr>
<td>completes no more than two steps in a proof using theorems (measures of interior angles of a triangle sum to 180; base angles of isosceles triangles are congruent, the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length) about triangles; solves problems about triangles using algebra; solves problems using the triangle inequality and the Hinge theorem</td>
<td>In ΔABC shown below, $\overline{AB}$ is congruent to $\overline{BC}$.
 

Given: $\overline{AB} \cong \overline{BC}$
Prove: The base angles of an isosceles triangle are congruent.
<table>
<tr><th>Statement</th><th>Reason</th></tr>
<tr><td>1. $\overline{BD}$ is an angle bisector of $\measuredangle ABC$</td><td>1. by Construction</td></tr>
<tr><td>2. $\measuredangle ABD \cong \measuredangle DBC$</td><td>2. Definition of an Angle Bisector</td></tr>
<tr><td>3.</td><td>3. Reflexive Property</td></tr>
<tr><td>4. $\Delta ABD \cong \Delta CBD$</td><td>4.</td></tr>
<tr><td>5. $\measuredangle BAC \cong \measuredangle BCA$</td><td>5. CPCTC</td></tr>
</table>
</td>
</tr>
</table>
MAFS.912.G-SRT.2.5
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr>
<td>solves problems involving triangles, using congruence and similarity criteria; provides justifications about relationships using congruence and similarity criteria</td>
<td>A section of roofing on a house is in the shape of an isosceles triangle. The sides of this section measure 8ft, 8ft and 12 ft. To the nearest tenth of a foot, what is the height of this section of the roof?</td>
</tr>
</table>
Prior Knowledge: equilateral triangle, isosceles triangle

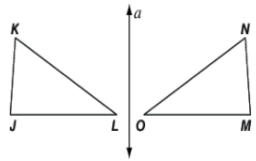
Virtual Nerd Videos: Find the Missing Angles in an Isosceles Triangle
Angles in an Equilateral Triangle
</td>
</tr>
</table>

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>4-3
G-CO.2.8
G-CO.2.7
G-SRT.2.5
G-CO.1.5</td><td>Homework and Practice #’s:
12, 14, 18–20, 22, 23, 26–28</td><td>FSA Practice Test Alignment: For standard MAFS.912.G-CO.2.8, see CBT item #33

MAFS.912.G-CO.2.8
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>shows that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent using the definition of congruence in terms of rigid motions; applies congruence to solve problems; uses rigid motions to show ASA, SAS, SSS, or HL is true for two triangles</td><td>Triangles MNO and RST are shown.
 

Which theorem could be used to prove that $\Delta MNO \cong \Delta RST$?
A. Angle-Side-Angle (ASA)
B. Side-Angle-Side (SAS)
C. Side-Side-Angle (SSA)
D. Side-Side-Side (SSS)</td></tr>
</table></td></tr>
</table>

MAFS.912.G-CO.2.7

Level 3:	**Example:**
shows that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent using the definition of congruence in terms of rigid motions; applies congruence to solve problems; uses rigid motions to show ASA, SAS, SSS, or HL is true for two triangles	Use the given triangles to answer the question.  Triangle *JKL* is reflected across line a to form triangle *MNO*. Which one of these is true? A. $\overline{JK} \cong \overline{MO}, \overline{KL} \cong \overline{NO}$, and $\angle L \cong \angle M$ B. $\overline{JK} \cong \overline{MN}, \overline{JL} \cong \overline{OM}$, and $\angle J \cong \angle N$ C. $\overline{JK} \cong \overline{NO}, \overline{KL} \cong \overline{MN}$, and $\angle L \cong \angle O$ D. $\overline{JK} \cong \overline{MN}, \overline{KL} \cong \overline{NO}$, and $\angle K \cong \angle N$

Remarks:

- See lesson 4-2 for level 3 description and example of standard G-SRT.2.5
- Standard G-CO.1.5 is not thoroughly addressed in this lesson. Refer back to lesson 4-1 and Topic 3 for this standard.

Prior Knowledge: congruent

Virtual Nerd Videos: CPCTC
Side-Side-Side Triangle Congruence Postulate

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
4-4 G-CO.2.8 G-CO.2.7 G-SRT.2.5 G-CO.1.5	**Homework and Practice #'s:** 10, 12, 13, 18–21, 23–25	**FSA Practice Test Alignment:** For standard MAFS.912.G-SRT.2.5, see CBT item #30 **Remarks**: • See lesson 4-2 for level 3 description and example of standard G-SRT.2.5 • See lesson 4-3 for level 3 description and example of standards G-CO.2.8 and G-CO.2.7 • Standard G-CO.1.5 is not thoroughly addressed in this lesson. Refer back to lesson 4-1 and Topic 3 for this standard. **Prior Knowledge:** congruent angles, corresponding angles, rigid motion, vertex **Virtual Nerd Videos**: Showing Congruent Parts of Triangles are Congruent Using a Congruence Postulate to Prove Triangles are Congruent

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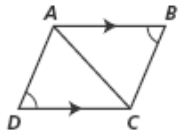
Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>4-5
G-CO.3.10
G-SRT.2.5</td><td>Homework and Practice #’s:
10 – 11, 13 – 15, 17, 21 – 22, 24 – 25</td><td>
MAFS.912.G-SRT.2.5
<table>
<tr><td>Level 3:
solves problems involving triangles, using congruence and similarity criteria; provides justifications about relationships using congruence and similarity criteria</td><td>Example:
Given:
$\overline{AB} \parallel \overline{DC}, \angle B \cong \angle D$
Prove:
$\overline{BC} \cong \overline{DA}$


<table>
<tr><th>Statements</th><th>Reasons</th></tr>
<tr><td>1. $\overline{AB} \parallel \overline{DC}$</td><td>1. Given</td></tr>
<tr><td>2.</td><td>2.</td></tr>
<tr><td>3. $\angle B \cong \angle D$</td><td>3. Given</td></tr>
<tr><td>4. $\overline{AC} \cong \overline{AC}$</td><td>4. Reflexive Property</td></tr>
<tr><td>5. $\Delta ABC \cong \Delta CDA$</td><td>5.</td></tr>
<tr><td>6. $\overline{BC} \cong \overline{DA}$</td><td>6. C.P.C.T.C</td></tr>
</table>
Corresponding Angles Theorem, SAS, Alternate Interior Angles Theorem, AAS,
$m\angle A = m\angle C$, $\angle BAC \cong \angle DCA$</td></tr>
</table>
Remarks: See lesson 4-2 for level 3 description and example of standards G-CO.3.10

Prior Knowledge: acute angle, hypotenuse, Pythagorean Theorem, right triangle

Virtual Nerd Videos: Hypotenuse-Leg Congruence Theorem
Determine if Triangles on the Coordinate Plane are Congruent
</td></tr>
</table>

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
4-6 G-SRT.2.5	**Homework and Practice #'s:** 13, 16, 19–21, 23, 26–28	**Remarks:** See lesson 4-2 for level 3 description and example of standard MAFS.912.G-SRT.2.5 **Prior Knowledge:** congruent angles, corresponding angles, hypotenuse **Virtual Nerd Videos**: Prove that Two Overlapping Triangles are Congruent Identify Common Parts in Overlapping Triangles

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

TOPIC 4 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
Transformations of Geometric Figures - Worksheet	MAFS.912.G-CO.1.5
Transformation of a Polygon - Worksheet	MAFS.912.G-CO.1.5
CPALMS – Congruent Trapezoids	MAFS.912.G-CO.2.6
CPALMS – Transform This	MAFS.912.G-CO.2.6
CPALMS – The Measure of an Angle of a Triangle	MAFS.912.G-CO.3.10
CPALMS – What's the Problem	MAFS.912.G-SRT.2.5
Triangle Congruence - Worksheet	MAFS.912.G-SRT.2.5
Triangle Congruence (2) - Worksheet	MAFS.912.G-SRT.2.5
CPALMS – Justifying SAS Congruence	MAFS.912.G-CO.2.8
CPALMS – Justifying SSS Congruence	MAFS.912.G-CO.2.8
CPALMS – Justifying ASA Congruence	MAFS.912.G-CO.2.8
CPALMS – Justifying HL Congruence	MAFS.912.G-CO.2.8
CPALMS – Turning to Congruence	MAFS.912.G-CO.2.8
CPALMS – Corresponding Angles and Corresponding Sides	MAFS.912.G-CO.2.7
Triangle Congruence Theorems - Worksheet	MAFS.912.G-CO.2.7

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Topic 5: Relationships in Triangles

Pacing		Date(s)
Traditional	12	11/3 – 11/18

MATHEMATICS FLORIDA STANDARDS (MAFS) & MATHEMATICAL PRACTICES (MP)	ESSENTIAL CONTENT	OBJECTIVES (from Item Specifications)
MAFS.912.G-C.1.3: Construct the inscribed and circumscribed circles of a triangle and prove properties of angles for a quadrilateral inscribed in a circle. MAFS.912.G-CO.3.9: Prove theorems about lines and angles; use theorems about lines and angles to solve problems. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.* MAFS.912.G-CO.3.10: Prove theorems about triangles; use theorems about triangles to solve problems. *Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.* MAFS.912.G-MG.1.3: Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).	• Prove and use the Perpendicular and Angle Bisector Theorems; • Point of concurrency of perpendicular bisectors and angle bisectors; • Theorems about segments in triangles; • Point of concurrency of medians and altitudes; • Relationship between sides and angle measures in a triangle; • Triangle Inequality Theorem; and • Hinge Theorem	I can: • Prove theorems about lines. • Prove theorems about angles. • Use theorems about lines to solve problems. • Students will use theorems about angles to solve problems. • Construct a circle inscribed inside a triangle. • Construct a circle circumscribed about a triangle. • Solve problems using the properties of inscribed and circumscribed circles of a triangle. • Use or justify properties of angles of a quadrilateral that is inscribed in a circle. • Prove theorems about triangles. • Use theorems about triangles to solve problems. • Apply geometric methods to solve design problems.

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INSTRUCTIONAL TOOLS

Pacing		Date(s)
Traditional	12	11/3 – 11/18

Resources:

District-Adopted Textbook: enVision Florida Geometry – Pearson

Geometry Course Description & Standards

Geometry Honors Course Description & Standards

Pre-AICE 2 Course Description & Standards

Geometry EOC Item Specifications

Geometry Cycle 2 District Assessment
(administered paper/pencil)

Assessment Window: 12/14/2020 – 12/18/2020

Standard	# of Questions on Cycle 2
MAFS.912.G-C.1.3	3
MAFS.912.G-CO.1.1	3
MAFS.912.G-CO.1.2	2
MAFS.912.G-CO.1.5	3
MAFS.912.G-CO.2.6	3
MAFS.912.G-CO.2.8	4
MAFS.912.G-CO.3.9	3
MAFS.912.G-CO.3.10	4
MAFS.912.G-CO.4.12	3
MAFS.912.G-GPE.2.5	4
MAFS.912.G-GPE.2.6	4
MAFS.912.G-SRT.2.5	4

Geometry EOC Review – Escambia County School District

MAFS.912.G-CO.3.9

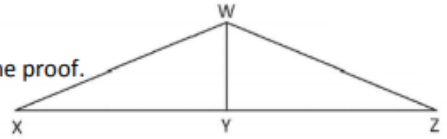
MAFS.912.G-CO.3.10

MAFS.912.G-MG.1.3

MAFS.912.G-C.1.3

Math Nation Geometry EOC Resources –

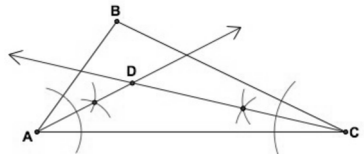
Pearson enVision Geometry Lessons	Algebra Nation Geometry Lessons
Lesson 5-1	Section 1 – Topics 13, 14 Section 2 – Topic 10
Lesson 5-2	Section 5 – Topic 8 Section 6 – Topics 3, 4, 8
Lesson 5-3	Section 6 – Topic 8 Section 7 – Topics 6, 7
Lesson 5-4	Section 6 – Topic 5
Lesson 5-5	Section 6 – Topic 5

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>5-1
G-CO.3.9</td><td>Homework and Practice #’s:
11, 14, 15, 17, 18, 20, 22, 24–26</td><td>MAFS.912.G-CO.3.9
<table>
<tr><td>Level 3:
completes no more than two steps of a proof using theorems about lines and angles; solves problems using parallel lines with two to three transversals; solves problems about angles using algebra</td><td>Example:
A proof is shown.
Fill in the blanks for steps 4 and 5 to complete the proof.
Given: $\overline{WY}$ is the perpendicular bisector of $\overline{XZ}$
Prove: $\Delta WXY \cong \Delta WZY$
 

<table>
<tr><th>Statements</th><th>Reasons</th></tr>
<tr><td>1. $\overline{WY}$ is the perpendicular bisector of $\overline{XZ}$.</td><td>1. Given</td></tr>
<tr><td>2. $\angle WYX \cong \angle WYZ$</td><td>2. Perpendicular lines form 90 degree angles</td></tr>
<tr><td>3. $\overline{WY} \cong \overline{WY}$</td><td>3. Reflexive property of congruence</td></tr>
<tr><td>4.</td><td>4. A bisector divides a segment into two equal halves</td></tr>
<tr><td>5. $\Delta WXY \cong \Delta WZY$</td><td>5.</td></tr>
</table></td></tr>
</table>
Prior Knowledge: bisector, perpendicular

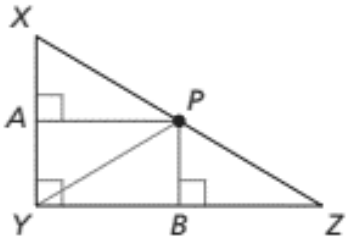
New Vocabulary: equidistant

Virtual Nerd Videos: Construct a Perpendicular Bisector
Is the Point on the Perpendicular Bisector of a Line Segment?</td></tr>
</table>

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr>
<td>5-2
G-C.1.3
G-CO.3.9
G-CO.3.10</td>
<td>Homework and Practice #’s:
15, 18–20, 24–27</td>
<td>MAFS.912.G-C.1.3
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr>
<td>creates or provides steps for the construction of the inscribed and circumscribed circles of a triangle; uses properties of angles for a quadrilateral inscribed in a circle; chooses a property of angles for a quadrilateral inscribed in a circle within an informal argument</td>
<td>Paige has completed the first few steps for constructing the inscribed circle for triangle ABC. She started by constructing the angle bisectors for angles A and C. This gives her the incenter (point D). What is the next step?
 

A. Construct the angle bisector for angle B.
B. Construct a circle with center D that passes through point B.
C. Construct the perpendicular bisector of one side of the triangle.
D. Construct the altitude from the incenter to a side of the triangle and label the intersection point.</td>
</tr>
</table>
</td>
</tr>
</table>

MAFS.912.G-CO.3.10

Level 3:	**Example:**
completes no more than two steps in a proof using theorems (measures of interior angles of a triangle sum to 180; base angles of isosceles triangles are congruent, the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length) about triangles; solves problems about triangles using algebra; solves problems using the triangle inequality and the Hinge theorem	P is the circumcenter of $\triangle XYZ$. Use the given information to find PZ. $PX = 3x + 2$ $PY = 4x - 8$ 

Remarks: See lesson 5-1 for level 3 description and example of standard G-CO.3.9

Prior Knowledge: Transitive Property of Equality

New Vocabulary: circumcenter of a triangle, circumscribed, concurrent lines, incenter of a triangle, inscribed, point of concurrency

Virtual Nerd Videos: Incenter of a Triangle
Circumcenter of a Triangle

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr>
<td>5-3
G-CO.3.10
G-MG.1.3</td>
<td>Homework and Practice #’s:
11, 14–16, 18–20, 23, 24</td>
<td>
MAFS.912.G-MG.1.3
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>applies geometric methods to solve design problems where numerical physical constraints are given; writes an equation that models a design problem that involves perimeter, area, or volume of simple composite figures; uses ratios and a grid system to determine perimeter, area, or volume</td><td>Paul and Paula own a triangular tract of land with sides that measure 600 feet, 800 feet and 1000 feet. They wish to subdivide the entirety of this land into two regions of equal areas by constructing a fence parallel to the shortest side.
What is an appropriate set of equations that when solved, determine the values of the variables?</td></tr>
</table>
Remarks:

See lesson 5-2 for level 3 description and example for standard G-CO.3.10
Standard G-SRT.2.5 should not be in this section. There is no congruence criteria for triangles in this topic at all.
Standard G-MG.1.3 should be included in this lesson because design problems are presented to students

Assessment Clarification: G-MG.1.3 assessment items must be set in a real-world context

Prior Knowledge: angle bisector, perpendicular bisector

New Vocabulary: altitude of a triangle, centroid of a triangle, median of a triangle, orthocenter of a triangle

Virtual Nerd Videos: Median of a Triangle
Use the Centroid to Find Segment Lengths in a Triangle
</td>
</tr>
</table>

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
5-4 G-CO.3.10	**Homework and Practice #'s:** 13, 15, 16, 18–21, 33–36	**Remarks**: See lesson 5-2 for level 3 description and example of standard G-CO.3.10 **Prior Knowledge:** inequality, solution of an inequality **New Vocabulary**: triangle inequality theorem **Virtual Nerd Videos**: Determine if a Triangle can be Formed Given Three Side Lengths Putting Sides of a Triangle in Order when Given Two Angles of the Triangle

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
5-5 G-CO.3.10	**Homework and Practice #'s:** 10, 12–19	**Remarks**: See lesson 5-2 for level 3 description and example of standard G-CO.3.10 **Prior Knowledge:** included angle **Virtual Nerd Videos**: Hinge Theorem Use the Hinge Theorem to Compare Side Lengths in Two Triangles

PINELLAS COUNTY SCHOOLS

6 - 8 Mathematics Instructional Focus Guide

Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

TOPIC 5 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
CPALMS – Locating and Identifying Points of Concurrency	MAFS.912.G-CO.3.9
Special Lines in Triangles	MAFS.912.G-CO.3.9
Proof About Angles - PowerPoint	MAFS.912.G-CO.3.9
CPALMS – Inscribing a Circle in a Triangle	MAFS.912.G-C.1.3
Perimeter of a Triangle - PowerPoint	MAFS.912.G-C.1.3
CPALMS – Partition a Triangle into Two Congruent Regions	MAFS.912.G-MG.1.3
CPALMS – Find the Center of a Triangle Inscribed in a Circle	MAFS.912.G-MG.1.3
Hinge Theorem Practice	MAFS.912.G-CO.3.10
Triangle Inequality Theorem Practice	MAFS.912.G-CO.3.10
Triangle Inequalities - Worksheet	MAFS.912.G-CO.3.10
Triangle Inequalities (2) - Worksheet	MAFS.912.G-CO.3.10
Hinge Theorem - Worksheet	MAFS.912.G-CO.3.10

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

Topic 6: Quadrilaterals and Other Polygons

Pacing		Date(s)
Traditional	15	11/29 – 12/7 & 1/5 – 1/14

MATHEMATICS FLORIDA STANDARDS (MAFS) & MATHEMATICAL PRACTICES (MP)	ESSENTIAL CONTENT	OBJECTIVES (from Item Specifications)
MAFS.912.G-SRT.2.5: Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. MAFS.912.G-CO.3.11: Prove theorems about parallelograms; use theorems about parallelograms to solve problems. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*	• Sum of exterior and interior angles of a polygon; • Properties of kites and trapezoids (angles, diagonals and midsegment); • Properties of parallelograms (consecutive angles, opposite angles, opposite sides, and diagonals); • Proving a quadrilateral is a parallelogram based on its sides, diagonals and angles; • Properties of rhombuses, rectangles and squares (angles and diagonals); and • Identifying rhombuses, rectangles and squares based off their characteristics	I can: • Use congruence criteria for triangles to solve problems. • Use congruence criteria for triangles to prove relationships in geometric figures. • Prove theorems about parallelograms. • Use properties of parallelograms to solve problems.

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

INSTRUCTIONAL TOOLS

Resources:

District-Adopted Textbook: enVision Florida Geometry – Pearson

Geometry Course Description & Standards

Geometry Honors Course Description & Standards

Pre-AICE 2 Course Description & Standards

Geometry EOC Item Specifications

Pacing		Date(s)
Traditional	15	11/29 – 12/7 & 1/5 – 1/14

Geometry Cycle 3 District Assessment - *Optional*

Assessment Window: 03/22/2020 – 3/31/2020

Standard	# of Questions on Cycle 3
MAFS.912.G-C.1.1	2
MAFS.912.G-CO.3.9	2
MAFS.912.G-CO.4.12	2
MAFS.912.G-GPE.2.5	2
MAFS.912.G-GPE.2.6	2
MAFS.912.G-SRT.1.1	2
MAFS.912.G-SRT.1.3	2
MAFS.912.G-SRT.2.4	2
MAFS.912.G-SRT.2.5	2
MAFS.912.G-SRT.3.7	2
MAFS.912.G-SRT.3.8	2

Geometry EOC Review – Escambia County School District

MAFS.912.G-SRT.2.5

MAFS.912.G-CO.3.11

Math Nation Geometry EOC Resources –

Pearson enVision Geometry Lessons	Algebra Nation Geometry Lessons
Lesson 6-1	Section 2 – Topics 11, 12, 13
Lesson 6-2	Section 8 – Topics 9, 10, Topic 1 Honors
Lesson 6-3	Section 8 – Topics 4, 5
Lesson 6-4	Section 8 – Topic 5
Lesson 6-5	Section 8 – Topics 6, 7, 8
Lesson 6-6	Section 8 – Topic 6, 7, 8

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
6-1 G-SRT.2.5	**Homework and Practice #'s:** 12–14, 18, 19, 21, 22, 24–26, 28, 29	**Remarks**: • See lesson 6-2 for level 3 description and example of standard G-SRT.2.5 • Define regular polygon and convex. These terms come up several times in the lesson but are never defined. **Prior Knowledge:** interior angle, exterior angle **Virtual Nerd Videos**: Find the Sum of the Interior Angles of a Polygon Sum of the Exterior Angles of a Polygon

PINELLAS COUNTY SCHOOLS

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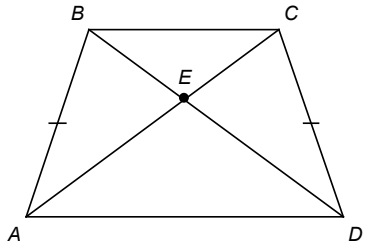
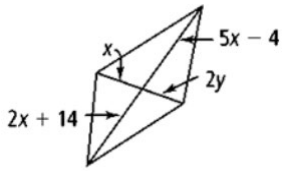
Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr>
<td>6-2
G-SRT.2.5</td>
<td>Homework and Practice #’s:
14, 17, 19, 21–25</td>
<td>
MAFS.912.G-SRT.2.5
<table>
<tr>
<td>Level 3:
solves problems involving triangles, using congruence and similarity criteria; provides justifications about relationships using congruence and similarity criteria</td>
<td>Example:
ABCD is a trapezoid with $\overline{BC} \parallel \overline{AD}$ and $\angle BAD \cong \angle CDA$. Which of the following statements can be concluded?
 

☐ $\triangle AED \cong \triangle CEB$
☐ $\triangle AED \sim \triangle CEB$
☐ $\overline{BC} \cong \overline{AD}$
☐ $\overline{BE} \cong \overline{DE}$
☐ $\overline{BD} \cong \overline{AC}$
☐ $\overline{AE} \cong \overline{CE}$</td>
</tr>
</table>
Prior Knowledge: isosceles trapezoid, kite, trapezoid

New Vocabulary: midsegment of a trapezoid

Virtual Nerd Videos: Find the Value for a Variable in a Trapezoid
</td>
</tr>
</table>

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>6-3
G-CO.3.11
G-SRT.2.5</td><td>Homework and Practice #'s:
14, 16–22, 24, 25, 27, 28</td><td>MAFS.912.G-CO.3.11
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>completes no more than two steps in a proof for opposite sides of a parallelogram are congruent and opposite angles of a parallelogram are congruent; uses theorems about parallelograms to solve problems using algebra</td><td>For what values of x and y must the figure below be a parallelogram?
 
</td></tr>
</table>
Remarks: See lesson 6-2 for level 3 description and example of standard G-SRT.2.5

Prior Knowledge: parallel lines

Virtual Nerd Videos: Find Values for Variables to Make the Quadrilateral a Parallelogram</td></tr>
</table>

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
6-4 G-CO.3.11 G-SRT.2.5	**Homework and Practice #'s:** 11, 13, 16–19, 21, 24–26	**Remarks**: • See lesson 6-2 for level 3 description and example of standard G-SRT.2.5 • See lesson 6-2 for level 3 description and example of standard G-CO.3.11 **Prior Knowledge:** congruent angles, congruent segments **Virtual Nerd Videos**: Find the Values of Variables in a Parallelogram Diagram

PINELLAS COUNTY SCHOOLS

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
6-5 G-CO.3.11 G-SRT.2.5	**Homework and Practice #'s:** 14, 18, 23, 24, 26, 28, 29, 33–36	**FSA Practice Test Alignment:** For standard MAFS.912.G-CO.3.11, see CBT item #5 **Remarks**: • See lesson 6-2 for level 3 description and example of standard G-SRT.2.5 • See lesson 6-2 for level 3 description and example of standard G-CO.3.11 • For question #34 in the homework, the 34° angle is the measure of the vertex in that isosceles triangle, not the measure of the base angle. **Prior Knowledge:** parallelogram, rectangle, rhombus, square **Virtual Nerd Videos**: Use Variables to Name Coordinates for a Figure on the Coordinate Plane Find the Value for a Variable to Make the Quadrilateral a Rhombus

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
6-6 G-CO.3.11 G-SRT.2.5	**Homework and Practice #'s:** 12, 17–23, 26, 28, 29	**Remarks**: • See lesson 6-2 for level 3 description and example of standard G-SRT.2.5 • See lesson 6-2 for level 3 description and example of standard G-CO.3.11 **Prior Knowledge:** diagonal, rectangle, rhombus, square **Virtual Nerd Videos:** Use the Diagonals of a Rectangle to Find the Value of a Variable

PINELLAS COUNTY SCHOOLS

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

TOPIC 6 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
Angles of Polygons - Worksheet	MAFS.912.G-SRT.2.5
Polygon Angle Sum Theorem	MAFS.912.G-SRT.2.5
Trapezoid Midsegment	MAFS.912.G-SRT.2.5
Trapezoids and Kites	MAFS.912.G-SRT.2.5
CPALMS – Angles of a Parallelogram	MAFS.912.G-CO.3.11
CPALMS – Finding Angles in a Parallelogram	MAFS.912.G-CO.3.11
Parallelograms	MAFS.912.G-CO.3.11
Properties of Parallelograms	MAFS.912.G-CO.3.11
Solving Problems Using Parallelogram Properties and Theorems - Worksheet	MAFS.912.G-CO.3.11
Proving a Quadrilateral is a Parallelogram - Worksheet	MAFS.912.G-CO.3.11
Classifying Parallelograms in the Coordinate Plane - Worksheet	MAFS.912.G-CO.3.11
Properties of Special Parallelograms - Worksheet	MAFS.912.G-CO.3.11
Properties of Quadrilaterals - PowerPoint	MAFS.912.G-CO.3.11
Properties of Quadrilaterals - Worksheet	MAFS.912.G-CO.3.11

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

Topic 7: Similarity

Pacing		Date(s)
Traditional	12	1/18 – 2/2

MATHEMATICS FLORIDA STANDARDS (MAFS) & MATHEMATICAL PRACTICES (MP)	ESSENTIAL CONTENT	OBJECTIVES (from Item Specifications)
MAFS.912.G-SRT.1.1: Verify experimentally the properties of dilations given by a center and a scale factor: a. A dilation takes a line not passing through the center of the dilation to a parallel line and leaves a line passing through the center unchanged. b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor. MAFS.912.G-CO.1.2: Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch). MAFS.912.G-SRT.1.2: Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides. MAFS.912.G-C.1.1: Prove that all circles are similar.	• Dilate figures and understand the scale factor and center of dilation; • Identify similarity transformations; • Use dilations, AA~, SSS~, and SAS~ to prove triangles are similar; • Right triangle similarity and the geometric mean; • Side-Splitter Theorem; • Triangle Midsegment Theorem; and • Triangle-Angle Bisector Theorem	I can: • Verify that when dilating a line that does not pass through the center of dilation, that the dilated line is parallel. • Verify that when dilating a line that passes through the center of dilation, that the line is unchanged. • Verify that when dilating a line segment, the dilated line segment is longer or shorter with respect to the scale factor. • Represent transformations in the plane. • Describe transformations as functions that take points in the plane as inputs and give other points as outputs. • Compare transformations that preserve distance and angle to those that do not. • Use the definition of similarity in terms of similarity transformations to decide if two figures are similar. • Explain using the definition of similarity in terms of similarity transformations that corresponding angles of two figures are congruent and that corresponding sides of two figures are proportional.

MAFS.912.G-SRT.1.3: Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar. MAFS.912.G-SRT.2.5: Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. MAFS.912.G-SRT.2.4: Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.* MAFS.912.G-CO.3.10: Prove theorems about triangles; use theorems about triangles to solve problems. *Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point*.		• Use a sequence of transformations to prove that circles are similar. • Use the measures of different parts of a circle to determine similarity. • Explain using properties of similarity transformations why the AA criterion is sufficient to show that two triangles are similar. • Use similarity criteria for triangles to solve problems. • Use similarity criteria for triangles to prove relationships in geometric figures. • Use triangle similarity to prove theorems about triangles. • Prove the Pythagorean theorem using similarity. • Prove theorems about triangles. • Use theorems about triangles to solve problems.

PINELLAS COUNTY SCHOOLS

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

INSTRUCTIONAL TOOLS

Resources:

District-Adopted Textbook: enVision Florida Geometry – Pearson

Geometry Course Description & Standards

Geometry Honors Course Description & Standards

Pre-AICE 2 Course Description & Standards

Geometry EOC Item Specifications

Pacing		Date(s)
Traditional	12	1/18 – 2/2

Geometry Cycle 3 District Assessment – Optional

Assessment Window: 03/22/2021 – 03/31/2021

Standard	# of Questions on Cycle 3
MAFS.912.G-C.1.1	2
MAFS.912.G-CO.3.9	2
MAFS.912.G-CO.4.12	2
MAFS.912.G-GPE.2.5	2
MAFS.912.G-GPE.2.6	2
MAFS.912.G-SRT.1.1	2
MAFS.912.G-SRT.1.3	2
MAFS.912.G-SRT.2.4	2
MAFS.912.G-SRT.2.5	2
MAFS.912.G-SRT.3.7	2
MAFS.912.G-SRT.3.8	2

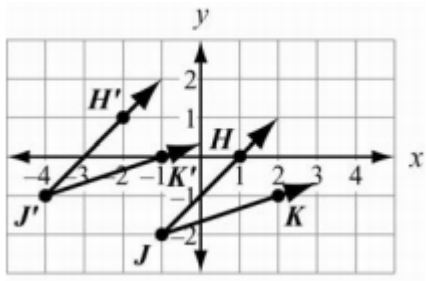
Geometry EOC Review – Escambia County School District

MAFS.912.G-SRT.1.1
MAFS.912.G-CO.1.2
MAFS.912.G-SRT.1.2
MAFS.912.G-C.1.1
MAFS.912.G-SRT.1.3
MAFS.912.G-SRT.2.5
MAFS.912.G-SRT.2.4
MAFS.912.G-CO.3.10

Math Nation Geometry EOC Resources –

Pearson enVision Geometry Lessons	Algebra Nation Geometry Lessons
Lesson 7-1	Section 4 – Topics 1, 2
Lesson 7-2	Section 4 – Topics 6, 7
Lesson 7-3	Section 6 – Topics 1, 2
Lesson 7-4	Section 7 – Topics 6, 7
Lesson 7-5	Section 6 – Topics 1, 2, 3, 4

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>7-1
G-CO.1.2
G-SRT.1.1</td><td>Homework and Practice #'s:
16, 17, 19, 22, 24, 28</td><td>FSA Practice Test Alignment: For standard MAFS.912.G-SRT.1.1, see CBT item #23
For standard MAFS.912.G-CO.1.2, see CBT item #19

MAFS.912.G-CO.1.2
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>uses transformations to develop definitions of angles, perpendicular lines, parallel lines; describes translations as functions</td><td>In the diagram below, under which transformation is angle $H'J'K'$ the image of angle HJK?
 

A. $(x, y) \rightarrow (x + 3, y - 1)$
B. $(x, y) \rightarrow (x - 3, y + 1)$
C. $(x, y) \rightarrow (x + 1, y - 3)$
D. $(x, y) \rightarrow (x - 1, y + 3)$</td></tr>
</table></td></tr>
</table>

MAFS.912.G-SRT.1.1

Level 3:	**Example:**
chooses the properties of dilations when a dilation is presented on a coordinate plane, as a set of ordered pairs, as a diagram, or as a narrative; properties are: a dilation takes a line not passing through the center of the dilation to a parallel line and leaves a line passing through the center unchanged; the dilation of a line segment is longer or shorter in the ratio given by the scale factor	$\overline{FG}$ has points *F*(2, 4) and *G*(6, 1). If $\overline{FG}$ is dilated with respect to the origin by a factor of k, to produce $\overline{F'G'}$, which statement **must** be true? A. The lines that passes through *F'* and *G'* intersects the y –axis at (0, 5.5 + k). B. The lines that passes through *F'* and *G'* intersects the y –axis at (0, 5.5). C. The lines that passes through *F'* and *G'* has a slope of $\left(\frac{-3}{4}\right)k$. D. The lines that passes through *F'* and *G'* has a slope of $\frac{-3}{4}$.

Remarks:

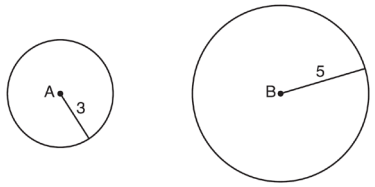
- In the TIS, it specifically states that the center and scale factor must be given. This section asks numerous times for students to find the center or scale factor which is not in the Florida assessment limits.
- Students need to understand the properties/concepts of dilations; overlapping line segments, parallel lines, and area of the figure.

Prior Knowledge: dilation, scale factor

New Vocabulary: center of dilation

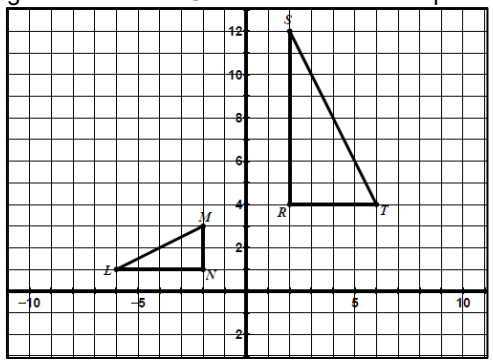
Virtual Nerd Videos: Solve a Scale Model Problem Using a Scale Factor
Find a Scale Factor in Similar Figures

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr>
<td>7-2
G-C.1.1
G-SRT.1.1
G-SRT.1.2</td>
<td>Homework and Practice #’s:
11, 12, 15, 16, 20–24, 26, 28, 29</td>
<td>FSA Practice Test Alignment: For standard MAFS.912.G-SRT.1.2, see CBT item #18
For standard MAFS.912.G-C.1.1, see CBT item #14

MAFS.912.G-C.1.1
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr>
<td>uses a sequence of no more than two transformations to prove that two circles are similar</td>
<td>As shown in the diagram below, circle A has a radius of 3 and circle B has a radius of 5.
 

Use transformations to explain why circles A and B are similar.</td>
</tr>
</table>
</td>
</tr>
</table>

MAFS.912.G-SRT.1.2

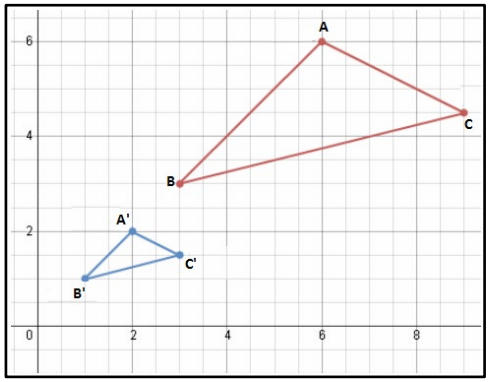
Level 3:	**Example:**
uses the definition of similarity in terms of similarity transformations to decide if two figures are similar; determines if given information is sufficient to determine similarity	Kamya has drawn two triangles ΔLMN and ΔSTR on the coordinate plane as shown below.  Which statement is the best explanation of the relationship between these triangles? A. The given triangles are similar because they can be mapped onto each other by a series of reflections, translations, and dilations. B. The given triangles are similar because they can be mapped onto each other by a series of reflections, translations, and rotations. C. The given triangles are not similar because they cannot be mapped onto each other by a series of reflections, translations, and dilations. D. The given triangles are not similar because they cannot be mapped onto each other by a series of reflections, translations, and rotations.

Remarks: See lesson 7-1 for level 3 description and example of standard G-SRT.1.1

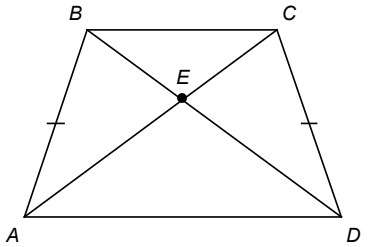
Prior Knowledge: dilation, reflection, rotation, translation

New Vocabulary: similarity transformations

Virtual Nerd Videos: Graph a Translation Then a Dilation
Identify a Similarity Transformation

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
7-3 G-SRT.1.3 G-SRT.2.5	**Homework and Practice #'s:** 11, 13, 16–18, 20, 22, 23, 25–27	**FSA Practice Test Alignment:** For standard MAFS.912.G-SRT.1.3, see CBT item #17 **MAFS.912.G-SRT.1.3** **Level 3:** establishes the AA criterion for two triangles to be similar by using the properties of similarity transformations **Example:** In the figure below ΔABC is the pre-image of $\Delta A'B'C'$ before a sequence of similarity transformations. Determine if these two figures are similar. Which statements are true? Select all that apply.  ☐ There was translation 5 units right and 4 units up. ☐ There was translation 5 units left and 4 units down. ☐ There was a dilation of scale factor $\frac{A'C'}{AC}$ centered at the origin. ☐ There was a dilation of scale factor $\frac{AC}{A'C'}$ centered at the origin. ☐ $\angle A \cong \angle A'$ and $\angle C \cong \angle C'$ because dilations preserve angle measure. ☐ Triangle ABC is not similar to △A′B′C′. ☐ Triangle ABC is similar to △A′B′C′.

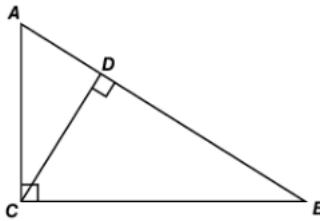
MAFS.912.G-SRT.2.5

Level 3:	**Example:**
solves problems involving triangles, using congruence and similarity criteria; provides justifications about relationships using congruence and similarity criteria	ABCD is a trapezoid with $\overline{BC} \parallel \overline{AD}$ and $\angle BAD \cong \angle CDA$. Which of the following statements can be concluded?  ☐ $\triangle AED \cong \triangle CEB$ ☐ $\triangle AED \sim \triangle CEB$ ☐ $\overline{BC} \cong \overline{AD}$ ☐ $\overline{BE} \cong \overline{DE}$ ☐ $\overline{BD} \cong \overline{AC}$ ☐ $\overline{AE} \cong \overline{CE}$

Prior Knowledge: similar

Virtual Nerd Videos: Determine if Two Triangles are Similar Using the SAS Similarity Postulate
Determine if Two Triangles are Similar Using the AA Similarity Postulate

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr>
<td>7-4
G-SRT.2.4
G-SRT.2.5</td>
<td>Homework and Practice #’s:
12, 16–20, 23, 25–27</td>
<td>
FSA Practice Test Alignment: For standard MAFS.912.G-SRT.2.4, see CBT item #13 and #20

MAFS.912.G-SRT.2.4
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr>
<td>establishes the AA criterion for two triangles to be similar by using the properties of similarity transformations</td>
<td>Consider the given figure.
 

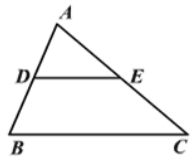
What information about this figure would be used as a step in a proof of the Pythagorean theorem?
A. showing that $\triangle CDB \sim \triangle ABC$
B. showing that $AD^2 + DC^2 = AC^2$
C. showing that $\triangle ABC \sim \triangle ACD \sim \triangle CBD$
D. showing that $\overline{CD}$ is the perpendicular bisector of $\overline{AB}$</td>
</tr>
</table>
Remarks: See lesson 7-3 for level 3 description and example of standard G-SRT.2.5

Prior Knowledge: hypotenuse, leg, right triangle

New Vocabulary: geometric mean

Virtual Nerd Videos: What is a Geometric Mean?
Finding a Geometric Mean
</td>
</tr>
</table>

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>7-5
G-CO.3.10
G-SRT.2.4</td><td>Homework and Practice #'s:
12, 15, 17–19, 21, 26, 28–30</td><td>
FSA Practice Test Alignment: For standard MAFS.912.G-SRT.2.4, see CBT item #13 and #20

MAFS.912.G-CO.3.10
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>completes no more than two steps in a proof using theorems (measures of interior angles of a triangle sum to 180; base angles of isosceles triangles are congruent, the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length) about triangles; solves problems about triangles using algebra; solves problems using the triangle inequality and the Hinge theorem.</td><td>
Given:
D is the midpoint of $\overline{AB}$
E is the midpoint of $\overline{AC}$
Prove $\overline{DE} \parallel \overline{BC}$


<table>
<tr><th>Statements</th><th>Reasons</th></tr>
<tr><td>1. $AD = DB$ and $AE = EC$</td><td>1.</td></tr>
<tr><td>2.</td><td>2. Reflexive Property</td></tr>
<tr><td>3. $\Delta ADE \sim \Delta ABC$</td><td>3. SAS</td></tr>
<tr><td>4.</td><td>4. Corresponding Angles of Similar Triangles are Congruent,</td></tr>
<tr><td>5. $DE \parallel CB$</td><td>5.</td></tr>
</table>
Definition of Segment Bisector, Definition of Midpoint, Converse of Same-side Interior Angles Theorem, $m\angle ADE = m\angle ABC$, $m\angle A = m\angle A$, $m\angle D = m\angle E$, Converse of Corresponding Angles Theorem,
</td></tr>
</table>
Remarks: See lesson 7-4 for level 3 description and example of standard G-SRT.2.4

Prior Knowledge: corresponding angles, transversal

Virtual Nerd Videos: Triangle Midsegment Theorem
Use the Angle Bisector Theorem to Find Missing Side Lengths
</td></tr>
</table>

TOPIC 7 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
Dilations- Worksheet	MAFS.912.G-SRT.1.1 MAFS.912.G-CO.1.2
Dilations - Worksheet	MAFS.912.G-SRT.1.1 MAFS.912.G-CO.1.2
Dilations - PowerPoint	MAFS.912.G-SRT.1.1 MAFS.912.G-CO.1.2
Dilation Practice - Worksheet	MAFS.912.G-SRT.1.1 MAFS.912.G-CO.1.2
Dilations (2) - PowerPoint	MAFS.912.G-SRT.1.1 MAFS.912.G-CO.1.2
CPALMS - Dilation Task Cards	MAFS.912.G-SRT.1.2
Similar Triangles - PowerPoint	MAFS.912.G-SRT.1.2
Understanding Dilations - Worksheet	MAFS.912.G-SRT.1.2
Similar Figures - Worksheet	MAFS.912.G-SRT.1.2
Similar Triangles (2) - PowerPoint	MAFS.912.G-SRT.1.2
CPALMS – All Circles are Similar	MAFS.912.G-C.1.1
CPALMS – Are All Circles Similar?	MAFS.912.G-C.1.1
Similar Circles	MAFS.912.G-C.1.1
AA Similarity - PowerPoint	MAFS.912.G-SRT.1.3
AA Similarity - Worksheet	MAFS.912.G-SRT.1.3
Proving Triangle Similarity - Worksheet	MAFS.912.G-SRT.1.3 MAFS.912.G-SRT.2.5
Proving Triangles Similar - Worksheet	MAFS.912.G-SRT.1.3 MAFS.912.G-SRT.2.5

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TOPIC 7 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
CPALMS – Similar Triangles - 2	MAFS.912.G-SRT.2.5
CPALMS – Similar Triangles - 1	MAFS.912.G-SRT.2.5
Similar Triangles: Applications - Worksheet	MAFS.912.G-SRT.2.5
Similar Quadrilaterals - PowerPoint	MAFS.912.G-SRT.2.5
Geometric Mean and Right Triangle Similarity - Worksheet	MAFS.912.G-SRT.2.5
Right Triangle Similarity - Worksheet	MAFS.912.G-SRT.2.5
Prove Pythagorean Theorem Using Similar Triangles - PowerPoint	MAFS.912.G-SRT.2.4
CPALMS – Geometric Mean Proof	MAFS.912.G-SRT.2.4
CPALMS – Let's Prove the Pythagorean Theorem	MAFS.912.G-SRT.2.4
Triangle Angle Bisector Theorem	MAFS.912.G-SRT.2.4
Side Splitter - Worksheet	MAFS.912.G-SRT.2.4
Parallel Lines with Side Splitter - Worksheet	MAFS.912.G-SRT.2.4
Triangle Angle Bisector - Worksheet	MAFS.912.G-SRT.2.4
Midsegment - Worksheet	MAFS.912.G-CO.3.10
Midsegment Intro - Worksheet	MAFS.912.G-CO.3.10

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Topic 8: Right Triangles and Trigonometry

Pacing		Date(s)
Traditional	12	2/3 – 2/18

MATHEMATICS FLORIDA STANDARDS (MAFS) & MATHEMATICAL PRACTICES (MP)	ESSENTIAL CONTENT	OBJECTIVES (from Item Specifications)
MAFS.912.G-SRT.2.4: Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.* MAFS.912.G-SRT.3.8: Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. MAFS.912.G-SRT.3.6: Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles. MAFS.912.G-SRT.3.7: Explain and use the relationship between the sine and cosine of complementary angles.	• Prove the Pythagorean Theorem using similar right triangles; • Understand and apply the relationship between side lengths in 45°, 45°, 90° and 30°, 60°, 90° triangles; • Define and calculate sine, cosine and tangent ratios; • Use trig ratios to solve problems; and • Distinguish between and solve problems involving angles of elevation and depression	I can: • Use triangle similarity to prove theorems about triangles. • Prove the Pythagorean theorem using similarity. • Use trigonometric ratios and the Pythagorean theorem to solve right triangles in applied problems. • Use similarity to explain the definition of trigonometric ratios for acute angles. • Explain the relationship between sine and cosine of complementary angles. • Use the relationship between sine and cosine of complementary angles.

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INSTRUCTIONAL TOOLS

Resources:

District-Adopted Textbook: enVision Florida Geometry – Pearson

Geometry Course Description & Standards

Geometry Honors Course Description & Standards

Pre-AICE 2 Course Description & Standards

Geometry EOC Item Specifications

Pacing		Date(s)
Traditional	12	2/3 – 2/18

Geometry Cycle 3 District Assessment – *Optional*

Assessment Window: 03/22/2021 – 03/31/2021

Standard	# of Questions on Cycle 3
MAFS.912.G-C.1.1	2
MAFS.912.G-CO.3.9	2
MAFS.912.G-CO.4.12	2
MAFS.912.G-GPE.2.5	2
MAFS.912.G-GPE.2.6	2
MAFS.912.G-SRT.1.1	2
MAFS.912.G-SRT.1.3	2
MAFS.912.G-SRT.2.4	2
MAFS.912.G-SRT.2.5	2
MAFS.912.G-SRT.3.7	2
MAFS.912.G-SRT.3.8	2

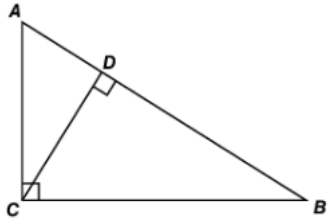
Geometry EOC Review – Escambia County School District

MAFS.912.G-SRT.3.8

Math Nation Geometry EOC Resources –

Pearson enVision Geometry Lessons	Algebra Nation Geometry Lessons
Lesson 8-1	Section 7 – Topics 1, 2, 4, 5, 6, 7
Lesson 8-2	Section 7 – Topics 8, 9
Lesson 8-5	Section 7 – Topic 10

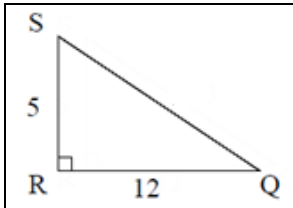
<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr>
<td>8-1
G-SRT.2.4
G-SRT.3.8</td>
<td>Homework and Practice #’s:
10, 11, 15, 16, 20–22, 26–28</td>
<td>
FSA Practice Test Alignment: For standard MAFS.912.G-SRT.2.4, see CBT item #13 and #20

MAFS.912.G-SRT.2.4
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr>
<td>establishes the AA criterion for two triangles to be similar by using the properties of similarity transformations</td>
<td>
Consider the given figure.


What information about this figure would be used as a step in a proof of the Pythagorean theorem?
A. showing that $\triangle CDB \sim \triangle ABC$
B. showing that $AD^2 + DC^2 = AC^2$
C. showing that $\triangle ABC \sim \triangle ACD \sim \triangle CBD$
D. showing that $\overline{CD}$ is the perpendicular bisector of $\overline{AB}$
</td>
</tr>
</table>
</td>
</tr>
</table>

MAFS.912.G-SRT.3.8/MAFS.912.G-SRT.3.7/MAFS.912.G-SRT.3.6

Level 3:	**Example:**
solves for sides of right triangles using trigonometric ratios and the Pythagorean theorem in applied problems; uses the relationship between sine and cosine of complementary angles	Triangle QRS is shown below. Which of the following statements are true? Select all that apply.



- ☐ $\angle S \cong \angle Q$
- ☐ $\angle S$ and $\angle Q$ are complementary
- ☐ $\angle S$ and $\angle Q$ are supplementary
- ☐ $\cos Q = \sin R$
- ☐ $\cos Q = \cos S$
- ☐ $\sin S = \cos Q$
- ☐ $\sin S = \sin Q$

Example:

Find the height of a flagpole to the nearest tenth if the angle of elevation of the sun is 28° and the shadow of the flagpole is 50

Assessment Clarification: G-SRT.3.8 assessment items must be set in a real-world context

Prior Knowledge: geometric mean, Pythagorean Theorem

New Vocabulary: Pythagorean triple

Virtual Nerd Videos: Missing Hypotenuse in a 45°, 45°, 90° Triangle
Missing Sides in a 30°, 60°, 90° Triangle

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
8-2 G-SRT.3.6 G-SRT.3.7 G-SRT.3.8	**Homework and Practice #'s:** 16, 25–29, 36–45, 48	**FSA Practice Test Alignment**: For standard MAFS.912.G-SRT.3.8, see CBT item #32 **Remarks**: • See lesson 8-1 for level 3 description and example of standards G-SRT.3.6, G-SRT.3.7, and G-SRT.3.8 (all three standards have the same level 3 description) • Standard G-SRT.3.7 is to explain and use the relationship between sine and cosine of complementary angles. This is never explicitly covered in this section, so it is important to talk about this with students. Example 3 is a good place to discuss. Show students the values of the sine and cosine of the angles and discuss when they are equal and what you notice about those angles (that they add to 90° – complementary). **Assessment Clarifications:** • G-SRT.3.6 and G-SRT.3.7 assessment items must be set in a mathematical context. • G-SRT.3.8 assessment items must be set in a real-world context **Prior Knowledge:** proportion, ratio **New Vocabulary**: cosine, sine, tangent, trigonometric ratios **Virtual Nerd Videos**: Trigonometric Ratios Values of Trigonometric Ratios in a 30°, 60°, 90° Triangle

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
8-5 G-SRT.3.7 G-SRT.3.8	**Homework and Practice #'s:** 15– 18, 26, 27	**Remarks**: • This section is designated as Honors Only, however, all students should understand angles of elevation and depression which are covered in this section. • Standard G-SRT.4.9 is not a Geometry (applies to Pre-Calculus and Trigonometry courses only) standard. Students do NOT need to find the area using trigonometry. • See lesson 8-1 for level 3 description and example of standards G-SRT3.7 and G-SRT.3.8 **Prior Knowledge:** trigonometric ratios **New Vocabulary**: angle of depression, angle of elevation **Virtual Nerd Videos**: Solve a Problem Using an Angle of Elevation Solve a Problem Using an Angle of Depression

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TOPIC 8 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
Prove the Pythagorean Theorem - PowerPoint	MAFS.912.G-SRT.2.4
Special Right Triangles: 45, 45, 90 - Worksheet	MAFS.912.G-SRT.2.4
Special Right Triangles: 30, 60, 90 - Worksheet	MAFS.912.G-SRT.2.4
CPALMS – TV Size (solve a problem using the Pythagorean Theorem)	MAFS.912.G-SRT.3.8
CPALMS – Holiday Lights (solve a problem using the Pythagorean Theorem)	MAFS.912.G-SRT.3.8
CPALMS – Will it Fit? (solve a problem using the Pythagorean Theorem)	MAFS.912.G-SRT.3.8
CPALMS – Finding the Area of an Equilateral Triangle	MAFS.912.G-SRT.3.8
CPALMS – Pythagoras – You Clever Dog (Pythagorean Theorem and its converse)	MAFS.912.G-SRT.3.8
CPALMS – Mt. Whitney to Death Valley	MAFS.912.G-SRT.3.8
Solving Problems Using Sine and Cosine	MAFS.912.G-SRT.3.8 MAFS.912.G-SRT.3.7
Trigonometry and the Pythagorean Theorem	MAFS.912.G-SRT.3.8
Angle of Elevation and Depression	MAFS.912.G-SRT.3.8
Special Triangle Application Problem - Worksheet	MAFS.912.G-SRT.3.8
Angles of Elevation and Depression - Worksheet	MAFS.912.G-SRT.3.8
Trig Ratio Word Problems - Worksheet	MAFS.912.G-SRT.3.8
Trig Ratios - PowerPoint	MAFS.912.G-SRT.3.8
CPALMS – Finding Sine	MAFS.912.G-SRT.3.7
CPALMS – Patterns in the 30-60-90 Table	MAFS.912.G-SRT.3.7
CPALMS – Sine and Cosine Relationship Between Complementary Angles	MAFS.912.G-SRT.3.7

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TOPIC 8 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
Sine and Cosine of Complementary Angles and Special Angles	MAFS.912.G-SRT.3.7
Relationships Between Trig Functions - Worksheet	MAFS.912.G-SRT.3.7
Finding Angle Measures, Side Ratios, and Side Lengths Using Trig - Worksheet	MAFS.912.G-SRT.3.6
Discovering Trig - Worksheet	MAFS.912.G-SRT.3.6
Trigonometric Ratios - Worksheet	MAFS.912.G-SRT.3.6
Trig Ratio Error Analysis - PowerPoint	MAFS.912.G-SRT.3.6
Trig Ratio Word Problem - PowerPoint	MAFS.912.G-SRT.3.6

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Topic 9: Coordinate Geometry

Pacing		Date(s)
Traditional	14	2/22 – 3/11

MATHEMATICS FLORIDA STANDARDS (MAFS) & MATHEMATICAL PRACTICES (MP)	ESSENTIAL CONTENT	OBJECTIVES (from Item Specifications)
MAFS.912.G-GPE.2.4: Use coordinates to prove simple geometric theorems algebraically. For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point $(1, \sqrt{3})$ lies on the circle centered at the origin and containing the point $(0, 2)$. MAFS.912.G-GPE.2.7: Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula. MAFS.912.G-CO-3.10: Prove theorems about triangles; use theorems about triangles to solve problems. *Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.* MAFS.912.G-GPE.1.1: Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation. MAFS.912.G-GPE.1.2 (Honors): Derive the equation of a parabola of a given focus and directrix. MAFS.912.G-GPE.1.3 (Honors): Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.	• Classify and solve problems involving triangles, quadrilaterals and polygons on the coordinate plane; • Proofs using coordinate geometry; • Equations of circles; • Focus and directrix of a parabola (Honors); • Graph and write the equation of an ellipse (Honors); and • Graph and write the equation of a hyperbola (Honors);	I can: • Use coordinate geometry to prove simple geometric theorems algebraically. • Use coordinate geometry to find a perimeter of a polygon. • Use coordinate geometry to find the area of triangles and rectangles. • Prove theorems about triangles. • Use theorems about triangles to solve problems. • Use the Pythagorean theorem, the coordinates of a circle's center, and the circle's radius to derive the equation of a circle. • Determine the center and radius of a circle given its equation in general form.

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Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

INSTRUCTIONAL TOOLS

Resources:

District-Adopted Textbook: enVision Florida Geometry – Pearson

Geometry Course Description & Standards

Geometry Honors Course Description & Standards

Pre-AICE 2 Course Description & Standards

Geometry EOC Item Specifications

Pacing		Date(s)
Traditional	14	2/22 – 3/11

Geometry Cycle 3 District Assessment - *Optional*

Assessment Window: 03/022/2021 – 03/31/2021

Standard	# of Questions on Cycle
MAFS.912.G-C.1.1	2
MAFS.912.G-CO.3.9	2
MAFS.912.G-CO.4.12	2
MAFS.912.G-GPE.2.5	2
MAFS.912.G-GPE.2.6	2
MAFS.912.G-SRT.1.1	2
MAFS.912.G-SRT.1.3	2
MAFS.912.G-SRT.2.4	2
MAFS.912.G-SRT.2.5	2
MAFS.912.G-SRT.3.7	2
MAFS.912.G-SRT.3.8	2

Geometry EOC Review – Escambia County School District

MAFS.912.G-GPE.2.4

MAFS.912.G-GPE.2.7

MAFS.912.G-CO.3.10

MAFS.912.G-GPE.1.1

Math Nation Geometry EOC Resources –

Pearson enVision Geometry Lessons	Algebra Nation Geometry Lessons
Lesson 9-1	Section 8 – Topics 11, 12
Lesson 9-2	Section 8 – Topics 11, 12
Lesson 9-3	Section 9 – Topics 5, 6, 7
Lesson 9-4 (Honors)	Section 5 – Topics 1, 2, 3, 4, 5, 11

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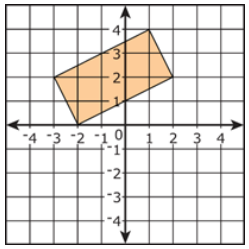
Geometry Honors, IB MYP Geometry, Pre-AICE 2 2021 – 2022 Course Codes: 1206320, 1206810, 1209820

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>9-1
G-GPE.2.4
G-GPE.2.7</td><td>Homework and Practice #’s:
18–21, 24–26, 28–30</td><td>
FSA Practice Test Alignment: For standard MAFS.912.G-GPE.2.4, see CBT item #26
For standard MAFS.912.G-GPE.2.7, see CBT item #27

MAFS.912.G-GPE.2.4
<table>
<tr><th>Level 3:</th><th>Examples:</th></tr>
<tr><td>uses coordinates to prove or disprove that a figure is a square, right triangle, or rectangle; uses coordinates to prove or disprove properties of triangles, properties of circles, properties of quadrilaterals when given a graph</td><td>
A triangle has the vertices (–5, –1), (–2, –3), and (–5, –4). Which term describes the triangle?
A. Equilateral triangle
B. Scalene triangle
C. Right triangle
D. Isosceles triangle

A figure has vertices at (2, 5), (4, 3), (5, 4), and (3, 6). Which most precisely describes the figure?
A. Parallelogram
B. Rectangle
C. Rhombus
</td></tr>
</table>

MAFS.912.G-GPE.2.7
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>when given a graphic, finds area and perimeter of regular polygons where at least two sides have a horizontal or vertical side; finds area and perimeter of parallelograms</td><td>
A rectangle is graphed on the coordinate plane.

Part A: Write an expression that can be used to calculate the perimeter of the rectangle.
Part B: Write an expression that can be used to calculate the area of the rectangle.
</td></tr>
</table>
</td></tr>
</table>

		Assessment Clarification: G-GPE.2.7 assessment items must be set in a real-world context **Prior Knowledge:** distance formula, midpoint formula, slope of a line **Virtual Nerd Videos**: Finding the Area of a Parallelogram on the Coordinate Plane

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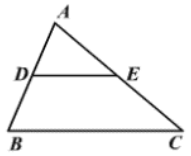
<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr>
<td>9-2
G-CO.3.10
G-GPE.2.4</td>
<td>Homework and Practice #’s:
1, 12, 15, 18–22, 24, 32

(#18 – 21 could be extended to complete the proof)</td>
<td>MAFS.912.G-CO.3.10
<table>
<tr>
<td>Level 3:
completes no more than two steps in a proof using theorems (measures of interior angles of a triangle sum to 180; base angles of isosceles triangles are congruent, the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length) about triangles; solves problems about triangles using algebra; solves problems using the triangle inequality and the Hinge theorem</td>
<td>Example:
Given:
D is the midpoint of $\overline{AB}$
E is the midpoint of $\overline{AC}$
Prove $\overline{DE} \parallel \overline{BC}$
 

<table>
<tr><th>Statements</th><th>Reasons</th></tr>
<tr><td>1. $AD = DB$ and $AE = EC$</td><td>1.</td></tr>
<tr><td>2.</td><td>2. Reflexive Property</td></tr>
<tr><td>3. $\Delta ADE \sim \Delta ABC$</td><td>3. SAS</td></tr>
<tr><td>4.</td><td>4. Corresponding Angles of Similar Triangles are Congruent,</td></tr>
<tr><td>5. $DE \parallel CB$</td><td>5.</td></tr>
</table>
Definition of Segment Bisector, Definition of Midpoint, Converse of Same-side Interior Angles Theorem, $m\angle ADE = m\angle ABC$, $m\angle A = m\angle A$, $m\angle D = m\angle E$, Converse of Corresponding Angles Theorem,</td>
</tr>
</table>
</td>
</tr>
</table>

		Remarks: • See lesson 9-1 for level 3 description and example of standard G-GPE.2.4 • Before teaching this lesson, access students' prior knowledge from Topic 6 by having students complete the properties of quadrilaterals worksheet located in the exemplar tasks. This worksheet is not the focus of standard G-GPE.2.4, but will help prepare students for coordinate geometry proofs. • Do Example 1, Try It and Additional Example 1. • For extension of those examples, have students complete the plan they come up with to prove the theorem and geometric shape. • Do Example 2 and Try It. • Skip Examples 3 and 4. • Lesson Quiz: skip #2 (not aligned to G-GPE.2.4). • Reteach to Build and Additional Practice would be another resource to use for this lesson. **Prior Knowledge:** deductive reasoning, proof **Virtual Nerd Videos**: How to Write a Coordinate Proof How to Position a Figure on the Coordinate Plane for a Coordinate Proof

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>9-3
G-GPE.1.1
G-GPE.2.4</td><td>Homework and Practice #'s:
16, 19, 20, 22, 30, 31, 33, 34, 36, 37, 41, 42</td><td>
FSA Practice Test Alignment: For standard MAFS.912.G-GPE.1.1, see CBT item #6

MAFS.912.G-GPE.1.1
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>completes the square to find the center and radius of a circle given by its equation; derives the equation of a circle using the Pythagorean theorem, the coordinates of a circle's center, and the circle's radius</td><td>Find the center and radius of $x^2 + y^2 - 8x + 2y + 8 = 0$

A. center (4, –1); r = 3
B. center (–4, 1); r = 3
C. center (4, –1); r = 9
D. center (–4, 1); r = 9</td></tr>
</table>
Remarks:
• See lesson 9-1 for level 3 description and example of standard G-GPE.2.4
• Completing the square is not covered in this lesson but standard G-GPE.1.1 states it needs to be used. Use the exemplar tasks to supplement this concept.
• Skip Example 1

Prior Knowledge: center, circle, radius

Virtual Nerd Videos: Derive the Equation for a Circle
Graph a Circle Without Making a Table
</td></tr>
</table>

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LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
9-4 (Honors) G-GPE.1.2	**Homework and Practice #'s:**	**Prior Knowledge:** vertex **New Vocabulary**: directrix, focus, parabola **Virtual Nerd Videos**: Relate the Equation of a Vertical Parabola to its Graph What is a Parabola?

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LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
9-5 (Honors) G-GPE.1.3	**Homework and Practice #'s:**	**New Vocabulary**: center of an ellipse, co-vertices, ellipse, foci of an ellipse, major axis, minor axis, standard form of the equation of an ellipse, vertices of an ellipse. **Virtual Nerd Videos**: What is an Ellipse? Standard Form of the Equation of a Vertical Ellipse Centered at the Origin

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
9-6 (Honors) G-GPE.1.3	**Homework and Practice #'s:**	**New Vocabulary**: center of a hyperbola, conjugate axis, foci of a hyperbola, hyperbola, standard form of the equation of a hyperbola, transverse axis, vertices of a hyperbola **Virtual Nerd Videos**: What is a Hyperbola? Standard for Equation of a Horizontal Hyperbola Centered at the Origin

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TOPIC 9 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
CPALMS – Proofs of Quadrilaterals in a Coordinate Plane	MAFS.912.G-GPE.2.4
CPALMS – Describe the Quadrilateral	MAFS.912.G-GPE.2.4
CPALMS – Diagonals of a Rectangle	MAFS.912.G-GPE.2.4
CPALMS – Midpoints of Sides of a Quadrilateral	MAFS.912.G-GPE.2.4
CPALMS – Type of Triangle	MAFS.912.G-GPE.2.4
CPALMS – Special Parallelograms in the Coordinate Plane	MAFS.912.G-GPE.2.4
Proofs Using Coordinate Geometry - Worksheet	MAFS.912.G-GPE.2.4
Proofs Using Coordinate Geometry (2) - Worksheet	MAFS.912.G-GPE.2.4
CPALMS – Just Plane Ole Area (calculate perimeter and area of figures on the coordinate plane)	MAFS.912.G-GPE.2.7
Coordinate Geometry Area and Perimeter - Worksheet	MAFS.912.G-GPE.2.7
Application of Area and Perimeter - Worksheet	MAFS.912.G-GPE.2.7
Equations of Circles - Worksheet	MAFS.912.G-GPE.1.1
Circle Reasoning - PowerPoint	MAFS.912.G-GPE.1.1
Equation of a Circle - PowerPoint	MAFS.912.G-GPE.1.1
Equations of Circles (2) - Worksheet	MAFS.912.G-GPE.1.1 MAFS.912.G-GPE.2.4
Circles Practice - Worksheet	MAFS.912.G-GPE.1.1
Writing Equations of Circles - Worksheet	MAFS.912.G-GPE.1.1
Circle Reasoning Activity 1 - Worksheet	MAFS.912.G-GPE.1.1
Circle Reasoning Activity 2 - Worksheet	MAFS.912.G-GPE.1.1

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TOPIC 9 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
Graphing Circles on a Coordinate Plane - Worksheet	MAFS.912.G-GPE.1.1

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Topic 10: Circles

Pacing		Date(s)
Traditional	12	3/22 – 4/6

MATHEMATICS FLORIDA STANDARDS (MAFS) & MATHEMATICAL PRACTICES (MP)	ESSENTIAL CONTENT	OBJECTIVES (from Item Specifications)
MAFS.912.G-CO.1.1: Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc. MAFS.912.G-C.2.5: Derive using similarity that fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for area of a sector. MAFS.912.G-C.1.2: Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle* MAFS.912.G-C.1.3: Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle. MAFS.912.G-CO.4.13: Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle. MAFS.912.G-C.1.4 (Honors): Construct a tangent line from a point outside a given circle to the circle	• Arc length; • Area of sectors and segments of circles; • Tangent lines; • Prove and apply relationships between chords, arcs, and central angles; • Find lengths of chords given the distance from the center of a circle; • Identify and apply relationships between the measures of inscribed angles, arcs, and central angles; • Identify and apply relationships between an angle formed by a chord and a tangent to its intercepted arc; and • Recognize and apply angle relationships formed by secants and tangents	I can: • Use the precise definitions of angles, circles, perpendicular lines, parallel lines, and line segments, basing the definitions on the undefined notions of point, line, distance along a line, and distance around a circular arc. • Use similarity to derive the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure as the constant of proportionality. • Apply similarity to solve problems that involve the length of the arc intercepted by an angle and the radius of a circle. • Derive the formula for the area of a sector. • Use the formula for the area of a sector to solve problems. • Solve problems related to circles using the properties of central angles, inscribed angles, circumscribed angles, diameters, radii, chords, and tangents. • Use or justify properties of angles of a quadrilateral that is inscribed in a circle. • Identify the result of a formal geometric construction. • Determine the steps of a formal geometric construction.

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INSTRUCTIONAL TOOLS

Pacing		Date(s)
Traditional	12	3/22 – 4/6

Resources:

District-Adopted Textbook: enVision Florida Geometry – Pearson

Geometry Course Description & Standards

Geometry Honors Course Description & Standards

Pre-AICE 2 Course Description & Standards

Geometry EOC Item Specifications

Geometry EOC Review – Escambia County School District

MAFS.912.G-CO.1.1

MAFS.912.G-C.2.5

MAFS.912.G-C.1.2

MAFS.912.G-C.1.3

Math Nation Geometry EOC Resources –

Pearson enVision Geometry Lessons	Algebra Nation Geometry Lessons
Lesson 10-1	Section 9 – Topics 1, 2, 3, 4
Lesson 10-2	Section 10 – Topics 5, 6
Lesson 10-3	Section 10 – Topics 5, 6
Lesson 10-4	Section 10 – Topics 1, 2
Lesson 10-5	Section 10 – Topics 5, 6

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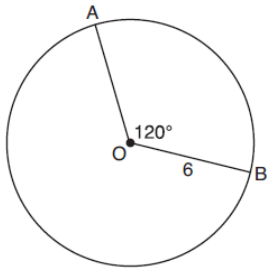
<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>10-1
G-C.2.5
G-CO.1.1</td><td>Homework and Practice #’s:
11, 14, 17, 19–22, 25, 26, 30, 31</td><td>
FSA Practice Test Alignment: For standard MAFS.912.G-C.2.5, see CBT items #24 and #34

MAFS.912.G-C.2.5
<table>
<tr><td>Level 3:
applies similarity to solve problems that involve the length of the arc intercepted by an angle and the radius of a circle; defines radian measure as the constant of proportionality</td><td>Example:
The diagram below shows circle O with radii $\overline{OA}$ and $\overline{OB}$. The measure of angle AOB is 120°, and the length of a radius is 6 inches.
 

Which expression represents the length of arc AB, in inches?
A. $\frac{120}{360}(6\pi)$
B. $120(6)$
C. $\frac{1}{3}(36\pi)$
D. $\frac{1}{3}(12\pi)$</td></tr>
</table>
MAFS.912.G-CO.1.1
<table>
<tr><td>Level 3:
uses precise definitions that are based on the undefined notions of point, line, distance along a line, and distance around a circular arc</td><td>Example:
Which of the following would you consider to be an example of a geometric line segment? Select all that apply.
☐ The 10-yard line on a football field
☐ A scientist's line of vision as he looks into space with a telescope
☐ A line of 15 dancers on stage
☐ A light shone into the darkness
☐ Hands of a clock</td></tr>
</table>
</td></tr>
</table>

		Prior Knowledge: arc, segment **New Vocabulary**: arc length, central angle, intercepted angle, major arc, minor arc, radian, sector of a circle, segment of a circle **Virtual Nerd Videos**: Formula for Arc Length Formula for the Area of a Sector of a Circle

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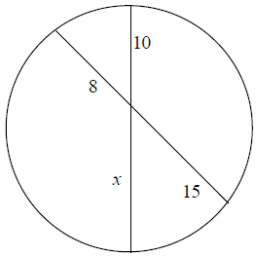
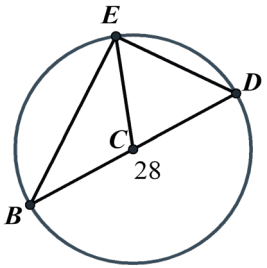
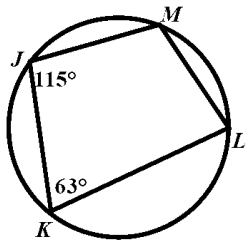
LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
10-2 G-C.1.2 G-C.1.4 (G-C.1.4 is an Honors Standard)	**Homework and Practice #'s:** 11, 16–18, 20, 21, 24, 26, 27	**FSA Practice Test Alignment:** For standard MAFS.912.G-C.1.2, see CBT item #3 **MAFS.912.G-C.1.2** **Level 3:** solves problems that use no more than two properties including using the properties of inscribed angles, circumscribed angles, and chords **Examples:** Find the value of x. If necessary, round your answer to the nearest tenth.  A. 5.3 B. 12 C. 18.8 D. 120 The figure below shows a circle with center C, diameter $\overline{BD}$, and inscribed ΔBDE. If $m\angle BED = (3x)°$, what is the $m\angle EBC$?  A. 5.3 B. 12 C. 18.8 D. 120

		Remarks: Example 5 should only be covered in Honors – this covers standard G-C.1.4 **Prior Knowledge:** converse, Pythagorean Theorem **New Vocabulary**: point of tangency, tangent to a circle **Virtual Nerd Videos**: How to Determine Whether a Line is Tangent to a Circle Tangent Line to a Circle

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>10-3
G-C.1.2
G-C.1.3
G-CO.4.13</td><td>Homework and Practice #’s:
14, 18, 19, 21–23, 25, 27, 32, 33</td><td>
FSA Practice Test Alignment: For standard MAFS.912.G-C.1.3, see CBT item #12

MAFS.912.G-C.1.3
<table>
<tr><td>Level 3:
creates or provides steps for the construction of the inscribed and circumscribed circles of a triangle; uses properties of angles for a quadrilateral inscribed in a circle; chooses a property of angles for a quadrilateral inscribed in a circle within an informal argument</td><td>Example:
Find the $m\angle L$?
 

A. 25°
B. 65°
C. 115°
D. 155°</td></tr>
</table>
MAFS.912.G-CO.4.13
<table>
<tr><td>Level 3:
identifies, sequences, or reorders steps in a construction: copying a segment, copying an angle, bisecting a segment, bisecting an angle, constructing perpendicular lines, including the perpendicular bisector of a line segment, and constructing a line parallel to a given line through a point not on the line</td><td>Example:
Use the line segment $\overline{HI}$ to answer the question. Which step should be first to draw a line perpendicular to $\overline{HI}$ at midpoint J?
 

A. Place the compass point on point H and set its width to less than $\overline{HJ}$
B. Place the compass point on point H and set its width to more than $\overline{HJ}$
C. Place the compass point on point J and set its width to less than HI
D. Place the compass point on point J and set its width to more than HI</td></tr>
</table>
</td></tr>
</table>

		Remarks: • See lesson 10-2 for level 3 description and example of standard G-C.1.2 • The book does not include standard G-C.1.3 in this lesson but it should because quadrilaterals are inscribed in circles. **New Vocabulary**: chord **Virtual Nerd Videos**: Determine Whether Two Chords are Equidistant from the Center of a Circle Length of a Chord in a Circle given Another Chord Equidistant from the Center

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
10-4 G-C.1.2	**Homework and Practice #'s:** 22, 23, 25, 27, 28, 30, 31, 38, 39	**Remarks**: See lesson 10-2 for level 3 description and example of standard G-C.1.2 **Prior Knowledge:** chord **New Vocabulary**: inscribed angle **Virtual Nerd Videos**: Find the Measure of an Inscribed Angle given Measure of Intercepted Arc Find Missing Measures of Angles in Quadrilaterals Inscribed in Circles

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
10-5 G-C.1.2	**Homework and Practice #'s:** 12, 13, 16, 17, 22, 28, 29	**Remarks**: See lesson 10-2 for level 3 description and example of standard G-C.1.2 **Prior Knowledge:** chord, tangent to a circle **New Vocabulary**: secant **Virtual Nerd Videos**: Use Intersecting Chords to Find Arc Measures in a Circle Find the Measure of an Angle Created by Intersecting Chords in a Circle

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TOPIC 10 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
CPALMS – Arc Length	MAFS.912.G-C.2.5
CPALMS – Arc Length and Radians	MAFS.912.G-C.2.5
CPALMS – Deriving the Sector Area Formula	MAFS.912.G-C.2.5
CPALMS – Sector Area	MAFS.912.G-C.2.5
Arc Length and Areas of Sectors	MAFS.912.G-C.2.5
Sector Area Application	MAFS.912.G-C.2.5
Area of Sectors - Worksheet	MAFS.912.G-C.2.5
Area of a Sector - Worksheet	MAFS.912.G-C.2.5
Properties of Tangents	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Tangent Segments	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Applying Tricky Tangent and Secant Lines	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Segment Relationships in Circles	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Lines Tangent to a Circle - Worksheet	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Inscribed Quadrilateral - PowerPoint	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Parts of a Circle - Worksheet	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Segment Lengths in Circles (easy)	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Segment Lengths in Circles (2) (medium)	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3

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TOPIC 10 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
Segment Lengths in Circles (3) (hard)	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Circles Packet	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
CPALMS – Inscribed Quadrilaterals	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Tangents, Secants and Chords - Worksheet	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Circles and Tangents - Worksheet	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Angles in Inscribed Right Triangles and Quadrilaterals - Worksheet	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Inscribed Angle Theorem and its Applications	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
CPALMS – Inscribed Angle on Diameter	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Practice with Segments and Circles	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Segment Measures (easy)	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Segment Measures (medium)	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Segment Measures (hard)	MAFS.912.G-C.1.2 MAFS.912.G-C.1.3
Construct a Square and Hexagon Inscribed in a Given Circle - Worksheet	MAFS.912.G-CO.4.13
Inscribing Shapes in Circles - Worksheet	MAFS.912.G-CO.4.13
Rectangles Inscribed in Circles	MAFS.912.G-CO.4.13

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Topic 11: Two – and Three – Dimensional Models

Pacing		Date(s)
Traditional	10	4/7 – 4/21

MATHEMATICS FLORIDA STANDARDS (MAFS) & MATHEMATICAL PRACTICES (MP)	ESSENTIAL CONTENT	OBJECTIVES (from Item Specifications)

MAFS.912.G-GMD.2.4: Identify the shapes of two-dimensional cross-sections of three dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.
 	
MAFS.912.G-GMD.1.3: Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.
 	
MAFS.912.G-MG.1.1: Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).
 	
MAFS.912.G-GMD.1.1: Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.*
 	
MAFS.912.G-MG.1.3: Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).
 	
MAFS.912.G-GMD.1.2 (Honors): Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.
	• Euler's Formula – calculate number of vertices, faces and edges in polyhedrons;
	• Cross sections of polyhedrons;
	• Rotations of polygons;
	• Volume:
	  ○ Cylinder;
	  ○ Prism;
	  ○ Pyramid;
	  ○ Cone; and
	  ○ Sphere
	• Cavalieri's Principle
		I can:
		• Identify the shape of a two-dimensional cross-section of a three-dimensional object.
		• Identify a three-dimensional object generated by a rotation of a two-dimensional object.
		• Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.
		• Use geometric shapes to describe objects found in the real world.
		• Use measures of geometric shapes to find the area, volume, surface area, perimeter, or circumference of a shape found in the real world.
		• Apply properties of geometric shapes to solve real-world problems.
		• Give an informal argument for the formulas for the circumference of a circle; the area of a circle; or the volume of a cylinder, a pyramid, and a cone.
		• Apply geometric methods to solve design problems.

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INSTRUCTIONAL TOOLS

Pacing		Date(s)
Traditional	10	4/7 – 4/21

Resources:

District-Adopted Textbook: enVision Florida Geometry – Pearson

Geometry Course Description & Standards

Geometry Honors Course Description & Standards

Pre-AICE 2 Course Description & Standards

Geometry EOC Item Specifications

Geometry EOC Review – Escambia County School District

MAFS.912.G-GMD.2.4

MAFS.912.G-GMD.1.3

MAFS.912.G-MG.1.1

MAFS.912.G-GMD.1.1

MAFS.912.G-MG.1.3

Math Nation Geometry EOC Resources –

Pearson enVision Geometry Lessons	Algebra Nation Geometry Lessons
Lesson 11-1	Section 11 – Topics 1, 14
Lesson 11-2	Section 11 – Topics 3, 4
Lesson 11-3	Section 11 – Topic 6
Lesson 11-4	Section 11 – Topic 8

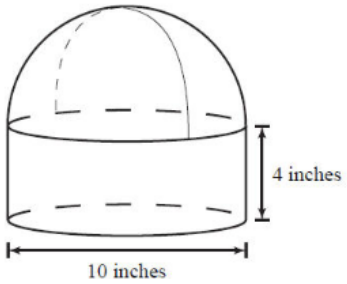
<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>11-1
G-GMD.2.4</td><td>Homework and Practice #’s:
10, 12–14, 20–22, 24, 25, 28–31</td><td>FSA Practice Test Alignment: For standard MAFS.912.G-GMD.2.4, see CBT item #16

MAFS.912.G-GMD.2.4
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>identifies a three-dimensional object generated by rotations of a triangular and rectangular object about a line of symmetry of the object; identifies the location of a horizontal or vertical slice that would give a particular cross section; draws the shape of a particular two-dimensional cross-section that is the result of horizontal or vertical slice of a three-dimensional shape</td><td>a) Draw the shape of the horizontal cross section of a cylinder.

b) Draw the shape of the vertical cross section of a cylinder.</td></tr>
</table>
Prior Knowledge: cross section, edge, face, three-dimensional, vertex

Virtual Nerd Videos: List the Vertices, Edges and Faces of a Polyhedron
What is a Solid?</td></tr>
</table>

<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>11-2
G-GMD.1.3
G-MG.1.1</td><td>Homework and Practice #'s:
13, 14, 17–23, 26</td><td>FSA Practice Test Alignment: For standard MAFS.912.G-GMD.1.3, see CBT item #29
For standard MAFS.912.G-MG.1.1, see CBT item #2

MAFS.912.G-MG.1.1
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>uses measures and properties to model and describe a real-world object that can be modeled by composite three-dimensional objects; uses given dimensions to answer questions about area, surface area, perimeter, and circumference of a real-world object that can be modeled by composite three-dimensional objects</td><td>Abraham works at the Delicious Cake Factory and packages cakes in cardboard containers shaped like right circular cylinders with hemispheres on top, as shown in the diagram below.
CAKE CONTAINER
 

Abraham wants to wrap the cake containers completely in colored plastic wrap and needs to know how much wrap he will need. What is the total exterior surface area of the container?
A. 90π square inches
B. 115π square inches
C. 190π square inches
D. 308π square inches</td></tr>
</table></td></tr>
</table>

MAFS.912.G-GMD.1.3

Level 3:	**Example:**
finds a dimension, when given a graphic and the volume for cylinders, pyramids, cones, or spheres	A cylindrical water tank holds $1809.6\ m^3$ of water. If the height of the tank is $9m$, what is the radius? 

Remarks:

- The textbook includes standard G-MG.1.2 in this section but it is not explicitly covered. This standard will be covered in the next topic, density, which is not covered in the textbook and will be taught with supplemental materials.

Assessment Clarification: G-GMD.1.3 and G-MG.1.1 assessment items must be set in a real-world context

Prior Knowledge: cylinder, prism

New Vocabulary: Cavalieri's Principle, oblique cylinder, oblique prism

Virtual Nerd Videos: Formula for the Volume of a Prism
How to Find the Volume of a Cylinder

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<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr><td>11-3
G-GMD.1.1
G-GMD.1.3
G-MG.1.3
G-GMD.1.2
(G-GMD.1.2 is an Honors Standard)</td><td>Homework and Practice #’s:
12, 13, 17, 25–27, 29–31</td><td>FSA Practice Test Alignment: For standard MAFS.912.G-GMD.1.1, see CBT item #9
For standard MAFS.912.G-MG.1.3, see CBT item #25

MAFS.912.G-GMD.1.1
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>uses dissection arguments and Cavalier’s principle for volume of a cylinder, pyramid, and cone</td><td>Two circular cylinders have the same base radius and the same height, yet one of the cylinders is right and the other is oblique. Which statement regarding the relationship between the volumes of these two cylinders is correct?

A. The volume of the right cylinder is greater than the volume of the oblique cylinder.

B. The volume of the right cylinder is less than the volume of the oblique cylinder.

C. The volume of the right cylinder is equal to the volume of the oblique cylinder.

D. There is not enough information to determine a relationship between the two volumes.</td></tr>
</table>
MAFS.912.G-MG.1.3
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>applies geometric methods to solve design problems where numerical physical constraints are given; writes an equation that models a design problem that involves perimeter, area, or volume of simple composite figures; uses ratios and a grid system to determine perimeter, area, or volume</td><td>A farmer wants to build a new grain silo. The shape of the silo is to be a cylinder with a hemisphere on top, where the radius of the hemisphere is to be the same length as the radius of the base of the cylinder. The farmer would like the height of the silo’s cylinder portion to be 3 times the diameter of the base of the cylinder. What should the radius of the silo be if the silo is to hold 22,500π cubic feet of grain?</td></tr>
</table>
</td></tr>
</table>

		Remarks: • See lesson 11-2 for level 3 description and example of standard G-GMD.1.3 • G-MG.1.3 is not listed as a standard in the textbook for this lesson. According to the TEPO and the level 3 ALD description, this standard should be included because it covers design problems dealing with volume. **Assessment Clarification**: G-GMD.1.3 and G-MG.1.3 assessment items must be set in a real-world context **Prior Knowledge:** cone, pyramid **Virtual Nerd Videos**: How to Find the Volume of a Composite Figure Formula for the Volume of a Cone

LESSON & STANDARD	SUGGESTED PROBLEMS	REMARKS
11-4 G-GMD.1.3 G-MG.1.1 G-GMD.1.2 (G-GMD.1.2 is an Honors Standard)	**Homework and Practice #'s:** 12, 29–31, 33–35	**Remarks**: See lesson 11-2 for level 3 description and example of standards G-GMD.1.3 and G-MG.1.1 **Assessment Clarification**: G-GMD.1.3 and G-MG.1.1 assessment items must be set in a real-world context **Prior Knowledge:** cone, cylinder, sphere **New Vocabulary**: hemisphere **Virtual Nerd Videos**: How to Find the Volume of a Sphere What is a Sphere?

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TOPIC 11 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
CPALMS – Slice It (Cross Sections)	MAFS.912.G-GMD.2.4
CPALMS – Slice of a Cone (Cross Sections)	MAFS.912.G-GMD.2.4
CPALMS – Inside the Box (Cross Sections)	MAFS.912.G-GMD.2.4
CPALMS – 2D Rotations of Rectangles	MAFS.912.G-GMD.2.4
CPALMS – 2D Rotations of Triangles	MAFS.912.G-GMD.2.4
CPALMS – Working Backwards – 2D Rotations	MAFS.912.G-GMD.2.4
General Prisms and Cylinders and Their Cross-Sections	MAFS.912.G-GMD.2.4
Slicing Three Dimensional Figures - Worksheet	MAFS.912.G-GMD.2.4
CPALMS – Volumes of Spheres and Cylinders	MAFS.912.G-GMD.1.3
CPALMS – Volume of a Cone and a Cylinder	MAFS.912.G-GMD.1.3
CPALMS – Comparing Volumes of Cylinders	MAFS.912.G-GMD.1.3
CPALMS – Volume of a Pyramid	MAFS.912.G-GMD.1.3
CPALMS – Volume of Cylinders, Cones, Pyramids and Spheres	MAFS.912.G-GMD.1.3
Definition and Properties of Volume	MAFS.912.G-GMD.1.3
Practice with Cavalieri's Principle	MAFS.912.G-GMD.1.3
The Volume Formula of a Pyramid and Cone	MAFS.912.G-GMD.1.3
Volume of Pyramids	MAFS.912.G-GMD.1.3
The Volume Formula of a Sphere	MAFS.912.G-GMD.1.3
Real World Scenarios Involving Volume of a Cone, Cylinder and Sphere - Worksheet	MAFS.912.G-GMD.1.3

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TOPIC 11 EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
Volume of Pyramids and Spheres - Worksheet	MAFS.912.G-GMD.1.3
CPALMS – Estimating Volume	MAFS.912.G-MG.1.1
Real World Volume Problems - PowerPoint	MAFS.912.G-MG.1.1
Volume and Density - Worksheet	MAFS.912.G-MG.1.3
Real World Applications - PowerPoint	MAFS.912.G-MG.1.3
CPALMS – Relationship Between Volume of a Cone and Cylinder	MAFS.912.G-GMD.1.1
CPALMS – Volume of a Pyramid (Informal Argument Using Cavalieri's Principle)	MAFS.912.G-GMD.1.1
CPALMS – Volume of a Cone	MAFS.912.G-GMD.1.1
CPALMS – Volume of a Cylinder	MAFS.912.G-GMD.1.1

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Topic: Density

Pacing		Date(s)
Traditional	3	4/22 – 4/26

MATHEMATICS FLORIDA STANDARDS (MAFS) & MATHEMATICAL PRACTICES (MP)	ESSENTIAL CONTENT	OBJECTIVES (from Item Specifications)
MAFS.912.G-MG.1.2: Apply concepts of density based on area and volume in modeling situations (e.g. persons per square mile, BTUs per cubic foot).	• Density based on area; and • Density based on volume.	I can: • Apply concepts of density based on area in modeling situations. • Apply concepts of density based on volume in modeling situations.

INSTRUCTIONAL TOOLS

Resources:

District-Adopted Textbook: enVision Florida Geometry – Pearson

Geometry Course Description & Standards

Geometry Honors Course Description & Standards

Pre-AICE 2 Course Description & Standards

Geometry EOC Item Specifications

Geometry EOC Review – Escambia County School District
MAFS.912.G-MG.1.2

Math Nation Geometry EOC Resources –

Pearson enVision Geometry Lessons	Algebra Nation Geometry Lessons
Lesson 11-2 (Needs Supplemental Lessons)	Section 11 – Topic 12

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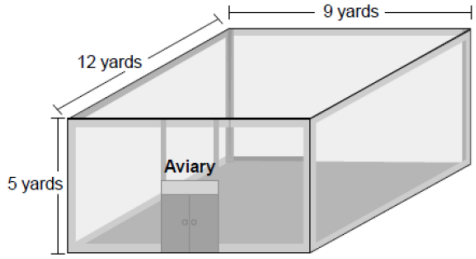
<table>
<tr><th>LESSON & STANDARD</th><th>SUGGESTED PROBLEMS</th><th>REMARKS</th></tr>
<tr>
<td>Density Lesson
Day 1
G-MG.1.2
Density Lesson Plan
Density Day 1 Presentation</td>
<td>Homework and Practice #’s:
Density Day 1 Worksheet
Density Day 1 Worksheet
Density Day 1 Worksheet- Answer Key</td>
<td>
FSA Practice Test Alignment: For standard MAFS.912.G-MG.1.2, see CBT item #31

MAFS.912.G-MG.1.2
<table>
<tr><th>Level 3:</th><th>Example:</th></tr>
<tr><td>calculates density based on area and volume and identifies appropriate unit rates</td><td>An aviary is an enclosure for keeping birds. There are 134 birds in the aviary shown in the diagram.
 

What is the number of birds per cubic yard for this aviary? Round your answer to the nearest hundredth.
A. 0.19 birds per cubic yard
B. 0.25 birds per cubic yard
C. 1.24 birds per cubic yard
D. 4.03 birds per cubic yard</td></tr>
</table>
Prior Knowledge: volume measurements, measurements in similar figures

Remarks:
• The textbook includes standard G-MG.1.2 in section 11-2 but it is not explicitly covered. This standard will be taught with supplemental materials.

Assessment Clarification: G-MG.1.2 assessment items must be set in a real-world context

New Vocabulary: density of an area, density based on volume
</td>
</tr>
<tr>
<td>Density Lesson
Day 2
G-MG.1.2
Density Lesson Plan
Density Day 2 Presentation</td>
<td>Homework and Practice #’s:
Density Day 2 Practice Worksheet
Density Day 2 Worksheet
Density Day 2 Worksheet- Answer Key</td>
<td></td>
</tr>
</table>

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TOPIC: DENSITY EXEMPLAR TASKS & CPALMS RESOURCES	ALIGNED STANDARDS
CPALMS - Archimedes and the King's Crown	MAFS.912.G-MG.1.2
CPALMS - Eratosthenes and the circumference of the earth	MAFS.912.G-MG.1.2
CPALMS - How many cells are in the human body?	MAFS.912.G-MG.1.2
CPALMS - How many leaves on a tree?	MAFS.912.G-MG.1.2
CPALMS - How many leaves on a tree? (Version 2)	MAFS.912.G-MG.1.2
How thick is a soda can? (Variation I)	MAFS.912.G-MG.1.2
How thick is a soda can? (Variation II)	MAFS.912.G-MG.1.2