

FSA EOC Tutorials for Florida are designed specifically for the Mathematics Florida Standards to prepare students for the Florida Standards Assessments (FSA). EOC Categories are at the heart of FSA EOC Tutorial structure – bringing category-based learning to the student experience, and category-based performance and progress tracking to the teacher experience.

Math Tutorials offer targeted instruction, practice and review designed to develop computational fluency, deepen conceptual understanding, and apply mathematical practices. They automatically identify and address learning gaps down to elementary-level content, using adaptive remediation to bring students to grade-level no matter where they start. Students engage with the content in an interactive, feedback-rich environment as they progress through standards-aligned modules. By constantly honing the ability to apply their knowledge in abstract and real world scenarios, students build the depth of knowledge and higher order skills required to demonstrate their mastery when put to the test.

In each module, the Learn It and Try It make complex ideas accessible to students through focused content, modeled logic and process, multi-modal representations, and personalized feedback as students reason through increasingly challenging problems. The Review It offers a high impact summary of key concepts and relates those concepts to students' lives. The Test It assesses students' mastery of the module's concepts, providing granular performance data to students and teachers after each attempt. To help students focus on the content most relevant to them, unit-level pretests and posttests can quickly identify where students are strong and where they're still learning.

Test-Taking Strategies for EOC Tutorials allow students to practice and apply learning approaches that will hone their test-taking skills and focus them for success on the day of their EOC test.

Unit 1: Points, Lines, and Angles

- **POINTS, RAYS, LINE SEGMENTS, LINES, AND FIGURES**

- MAFS.912.G-CO.1.1: Geometry: Congruence Experiment with transformations in the plane 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.

- **PARALLEL LINES AND ANGLE RELATIONSHIPS**

- MAFS.912.G-CO.3.9: Geometry: Congruence Prove geometric theorems Prove theorems about lines and angles; use theorems about lines and angles to solve problems.

- **PERPENDICULAR BISECTOR AND ANGLE BISECTOR THEOREMS**

- MAFS.912.G-CO.3.9: Geometry: Congruence Prove geometric theorems Prove theorems about lines and angles; use theorems about lines and angles to solve problems.

Unit 2: Parallel and Perpendicular Lines

• PARALLEL AND PERPENDICULAR LINES

- MAFS.912.G-GPE.2.5: Geometry: Expressing Geometric Properties with Equations Use coordinates to prove simple geometric theorems algebraically 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).

Unit 3: Coordinate Geometry

• SLOPE-INTERCEPT FORM OF A LINEAR EQUATION

- MAFS.912.G-GPE.2.5: Geometry: Expressing Geometric Properties with Equations Use coordinates to prove simple geometric theorems algebraically 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).

• LENGTH AND THE DISTANCE FORMULA

- MAFS.912.G-GPE.2.6: Geometry: Expressing Geometric Properties with Equations Use coordinates to prove simple geometric theorems algebraically Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
- MAFS.912.G-GPE.2.7: Geometry: Expressing Geometric Properties with Equations Use coordinates to prove simple geometric theorems algebraically Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.

• MIDPOINT FORMULA ON THE COORDINATE PLANE

- MAFS.912.G-GPE.2.6: Geometry: Expressing Geometric Properties with Equations Use coordinates to prove simple geometric theorems algebraically Find the point on a directed line segment between two given points that partitions the segment in a given ratio.

Unit 4: Conjectures in Coordinate Geometry

• CONJECTURES IN COORDINATE GEOMETRY

- MAFS.912.G-CO.3.10: Geometry: Congruence Prove geometric theorems Prove theorems about triangles; use theorems about triangles to solve problems.
- MAFS.912.G-GPE.2.4: Geometry: Expressing Geometric Properties with Equations Use coordinates to prove simple geometric theorems algebraically Use coordinates to prove simple geometric theorems algebraically.

Unit 5: Perimeter and Area on the Coordinate Plane

• PERIMETER ON THE COORDINATE PLANE

- MAFS.912.G-GPE.2.7: Geometry: Expressing Geometric Properties with Equations Use coordinates to prove simple geometric theorems algebraically Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.
- MAFS.912.G-MG.1.1: Geometry: Modeling with Geometry Apply geometric concepts in modeling situations Use geometric shapes, their measures, and their properties to describe

objects (e.g., modeling a tree trunk or a human torso as a cylinder).

- **AREA ON THE COORDINATE PLANE**

- MAFS.912.G-GPE.2.7: Geometry: Expressing Geometric Properties with Equations Use coordinates to prove simple geometric theorems algebraically Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.
- MAFS.912.G-MG.1.1: Geometry: Modeling with Geometry Apply geometric concepts in modeling situations Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).

Unit 6: Transformations on the Coordinate Plane

- **TRANSFORMATIONS ON THE COORDINATE PLANE**

- MAFS.912.G-CO.1.5: Geometry: Congruence Experiment with transformations in the plane 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.1.3: Geometry: Congruence Experiment with transformations in the plane Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
- MAFS.912.G-CO.1.2: Geometry: Congruence Experiment with transformations in the plane 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.1.4: Geometry: Congruence Experiment with transformations in the plane Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
- MAFS.912.G-SRT.1.1.a: Geometry: Similarity, Right Triangles, and Trigonometry Understand similarity in terms of similarity transformations Verify experimentally the properties of dilations given by a center and a scale factor: 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.
- MAFS.912.G-SRT.1.1.b: Geometry: Similarity, Right Triangles, and Trigonometry Understand similarity in terms of similarity transformations Verify experimentally the properties of dilations given by a center and a scale factor: The dilation of a line segment is longer or shorter in the ratio given by the scale factor.

- **DILATIONS, TRANSLATIONS, ROTATIONS, AND REFLECTIONS**

- MAFS.912.G-CO.1.2: Geometry: Congruence Experiment with transformations in the plane 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: Geometry: Congruence Experiment with transformations in the plane Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
- MAFS.912.G-CO.1.5: Geometry: Congruence Experiment with transformations in the plane 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-SRT.1.1.a: Geometry: Similarity, Right Triangles, and Trigonometry Understand similarity in terms of similarity transformations Verify experimentally the properties of dilations given by a center and a scale factor: 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.
- MAFS.912.G-SRT.1.1.b: Geometry: Similarity, Right Triangles, and Trigonometry Understand similarity in terms of similarity transformations Verify experimentally the properties of dilations given by a center and a scale factor: The dilation of a line segment is longer or shorter in the ratio given by the scale factor.

Unit 7: Congruence and Similarity

• TRIANGLES AND CONGRUENCE TRANSFORMATIONS

- MAFS.912.G-CO.2.6: Geometry: Congruence Understand congruence in terms of rigid motions 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-SRT.2.5: Geometry: Similarity, Right Triangles, and Trigonometry Prove theorems involving similarity Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.
- MAFS.912.G-CO.2.7: Geometry: Congruence Understand congruence in terms of rigid motions 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: Geometry: Congruence Understand congruence in terms of rigid motions Explain how the criteria for triangle congruence (ASA, SAS, SSS, and Hypotenuse-Leg) follow from the definition of congruence in terms of rigid motions.

• TRIANGLES AND SIMILARITY TRANSFORMATIONS

- MAFS.912.G-SRT.1.2: Geometry: Similarity, Right Triangles, and Trigonometry Understand similarity in terms of similarity transformations 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-SRT.1.3: Geometry: Similarity, Right Triangles, and Trigonometry Understand similarity in terms of similarity transformations Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.
 - MAFS.912.G-SRT.2.5: Geometry: Similarity, Right Triangles, and Trigonometry Prove theorems involving similarity Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.
 - MAFS.912.G-SRT.2.4: Geometry: Similarity, Right Triangles, and Trigonometry Prove theorems involving similarity Prove theorems about triangles.
- **CONGRUENCE OF OTHER POLYGONS**
 - MAFS.912.G-CO.2.6: Geometry: Congruence Understand congruence in terms of rigid motions 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.1.5: Geometry: Congruence Experiment with transformations in the plane 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.1.3: Geometry: Congruence Experiment with transformations in the plane Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
 - **SIMILARITY OF OTHER POLYGONS**
 - MAFS.912.G-SRT.1.2: Geometry: Similarity, Right Triangles, and Trigonometry Understand similarity in terms of similarity transformations 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.

Unit 8: Triangles

- **TRIANGLE ANGLE THEOREMS**
 - MAFS.912.G-CO.3.10: Geometry: Congruence Prove geometric theorems Prove theorems about triangles; use theorems about triangles to solve problems.
- **MEDIANS AND ALTITUDES OF TRIANGLES**
 - MAFS.912.G-CO.3.10: Geometry: Congruence Prove geometric theorems Prove theorems about triangles; use theorems about triangles to solve problems.

Unit 9: Triangle Bisectors

- **TRIANGLE BISECTORS**
 - MAFS.912.G-CO.3.10: Geometry: Congruence Prove geometric theorems Prove theorems about triangles; use theorems about triangles to solve problems.

- MAFS.912.G-SRT.2.4: Geometry: Similarity, Right Triangles, and Trigonometry Prove theorems involving similarity Prove theorems about triangles.
- MAFS.912.G-C.1.3: Geometry: Circles Understand and apply theorems about circles Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.

Unit 10: Quadrilaterals and Constructions

• PARALLELOGRAMS AND RECTANGLES

- MAFS.912.G-CO.3.11: Geometry: Congruence Prove geometric theorems Prove theorems about parallelograms; use theorems about parallelograms to solve problems.

• SQUARES AND RHOMBI

- MAFS.912.G-CO.3.11: Geometry: Congruence Prove geometric theorems Prove theorems about parallelograms; use theorems about parallelograms to solve problems.

• CONSTRUCTIONS

- MAFS.912.G-CO.4.12: Geometry: Congruence Make geometric constructions Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.).
- MAFS.912.G-CO.4.13: Geometry: Congruence Make geometric constructions Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.

Unit 11: Triangles and Trigonometry

• PYTHAGOREAN THEOREM

- MAFS.912.G-SRT.3.8: Geometry: Similarity, Right Triangles, and Trigonometry Define trigonometric ratios and solve problems involving right triangles Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.
- MAFS.912.G-SRT.2.4: Geometry: Similarity, Right Triangles, and Trigonometry Prove theorems involving similarity Prove theorems about triangles.
- MAFS.912.G-CO.3.10: Geometry: Congruence Prove geometric theorems Prove theorems about triangles; use theorems about triangles to solve problems.

• TRIGONOMETRIC RATIOS

- MAFS.912.G-SRT.3.8: Geometry: Similarity, Right Triangles, and Trigonometry Define trigonometric ratios and solve problems involving right triangles Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.
- MAFS.912.G-SRT.3.7: Geometry: Similarity, Right Triangles, and Trigonometry Define trigonometric ratios and solve problems involving right triangles Explain and use the relationship between the sine and cosine of complementary angles.
- MAFS.912.G-SRT.3.6: Geometry: Similarity, Right Triangles, and Trigonometry Define trigonometric ratios and solve problems involving right triangles 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.

Unit 12: Radians and the Unit Circle

• RADIANS AND THE UNIT CIRCLE

- MAFS.912.G-C.2.5: Geometry: Circles Find arc lengths and areas of sectors of circles Derive using similarity the 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 the area of a sector.
- MAFS.912.G-SRT.3.8: Geometry: Similarity, Right Triangles, and Trigonometry Define trigonometric ratios and solve problems involving right triangles Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.

Unit 13: Circles

• CIRCLE BASICS

- MAFS.912.G-C.1.2: Geometry: Circles Understand and apply theorems about circles Identify and describe relationships among inscribed angles, radii, and chords.

• CENTRAL ANGLES, INSCRIBED ANGLES, AND CHORDS

- MAFS.912.G-C.1.2: Geometry: Circles Understand and apply theorems about circles Identify and describe relationships among inscribed angles, radii, and chords.
- MAFS.912.G-C.1.3: Geometry: Circles Understand and apply theorems about circles 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: Geometry: Congruence Prove geometric theorems Prove theorems about lines and angles; use theorems about lines and angles to solve problems.

• SECANTS, ANGLES, AND INTERCEPTED ARCS

- MAFS.912.G-CO.3.9: Geometry: Congruence Prove geometric theorems Prove theorems about lines and angles; use theorems about lines and angles to solve problems.
- MAFS.912.G-C.1.2: Geometry: Circles Understand and apply theorems about circles Identify and describe relationships among inscribed angles, radii, and chords.

• TANGENTS, ANGLES, AND INTERCEPTED ARCS

- MAFS.912.G-CO.3.9: Geometry: Congruence Prove geometric theorems Prove theorems about lines and angles; use theorems about lines and angles to solve problems.
- MAFS.912.G-C.1.2: Geometry: Circles Understand and apply theorems about circles Identify and describe relationships among inscribed angles, radii, and chords.

Unit 14: Properties of Circles

• CIRCUMFERENCE AND ARC LENGTH

- MAFS.912.G-GMD.1.1: Geometry: Geometric Measurement and Dimension Explain volume formulas and use them to solve problems Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone.

- **AREA OF CIRCLES AND SECTORS**

- MAFS.912.G-GMD.1.1: Geometry: Geometric Measurement and Dimension Explain volume formulas and use them to solve problems Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone.
- MAFS.912.G-C.2.5: Geometry: Circles Find arc lengths and areas of sectors of circles Derive using similarity the 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 the area of a sector.

Unit 15: Congruence, Similarity, and Equations of Circles

- **CONGRUENT AND SIMILAR CIRCLES**

- MAFS.912.G-C.1.1: Geometry: Circles Understand and apply theorems about circles Prove that all circles are similar.

- **CIRCLES**

- MAFS.912.G-GPE.1.1: Geometry: Expressing Geometric Properties with Equations Translate between the geometric description and the equation for a conic section 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.

Unit 16: Surface Area

- **SURFACE AREA AND VOLUME OF SPHERES**

- MAFS.912.G-GMD.2.4: Geometry: Geometric Measurement and Dimension Visualize relationships between two-dimensional and three-dimensional objects 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: Geometry: Geometric Measurement and Dimension Explain volume formulas and use them to solve problems Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.

- **RELATING TWO-DIMENSIONAL FIGURES TO THREE-DIMENSIONAL SOLIDS**

- MAFS.912.G-GMD.2.4: Geometry: Geometric Measurement and Dimension Visualize relationships between two-dimensional and three-dimensional objects Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.

Unit 17: Volume

- **VOLUME OF PRISMS AND PYRAMIDS**

- MAFS.912.G-GMD.1.3: Geometry: Geometric Measurement and Dimension Explain volume formulas and use them to solve problems Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.
- MAFS.912.G-GMD.1.1: Geometry: Geometric Measurement and Dimension Explain volume formulas and use them to solve problems Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone.

- **VOLUME OF CYLINDERS AND CONES**

- MAFS.912.G-GMD.1.3: Geometry: Geometric Measurement and Dimension Explain volume formulas and use them to solve problems Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.
- MAFS.912.G-GMD.1.1: Geometry: Geometric Measurement and Dimension Explain volume formulas and use them to solve problems Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone.

- **VOLUME OF COMPOSITE SOLIDS**

- MAFS.912.G-GMD.1.3: Geometry: Geometric Measurement and Dimension Explain volume formulas and use them to solve problems Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.

Unit 18: Surface Area and Modeling with Geometry

- **SURFACE AREA OF COMPOSITE SOLIDS**

- MAFS.912.G-MG.1.1: Geometry: Modeling with Geometry Apply geometric concepts in modeling situations Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).

- **MODELING SITUATIONS WITH GEOMETRY**

- MAFS.912.G-MG.1.2: Geometry: Modeling with Geometry Apply geometric concepts in modeling situations Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).
- MAFS.912.G-MG.1.3: Geometry: Modeling with Geometry Apply geometric concepts in modeling situations 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).

Unit 19: Test-Taking Strategies

- **STUDY HABITS**
- **BEING PREPARED AND GETTING STARTED**
- **WORDING IN TEST QUESTIONS**
- **WORDING IN ANSWER CHOICES**
- **QUESTIONS WITH PASSAGES AND VISUAL DATA**



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- **ESSAY AND SHORT ANSWER QUESTIONS**
 - **WORD PROBLEMS**
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