GEOMETRY

TRANSITION

GLEs

GEOMETRY
GLEs and CCSS to be taught in 2012-13 and 2013-14

GLE content to be taught and **tested** in Geometry in 2012-13 and 2013-14		
GLE #	**Grade-Level Expectation Text**	**Aligned CCSS #**
M.10.3	Define *sine, cosine,* and *tangent* in ratio form and calculate them using technology	G-SRT.6
M.10.4	Use ratios and proportional reasoning to solve a variety of real-life problems including similar figures and scale drawings	G-SRT.5
M.10.5	Write the equation of a line of best fit for a set of 2-variable real-life data presented in table or scatter plot form, with or without technology	S-ID.6
M.10.6	Write the equation of a line parallel or perpendicular to a given line through a specific point	G-GPE.5
M.10.7	Find volume and surface area of pyramids, spheres, and cones	G-GMD.3
M.10.8	Model and use trigonometric ratios to solve problems involving right triangles	G-SRT.8
M.10.9	Construct 2- and 3-dimensional figures when given the name, description, or attributes, with and without technology	G-CO.12 G-CO.13 G-C.3 G-C.4
M.10.12	Apply the Pythagorean theorem in both abstract and real-life settings	G-SRT.8
M.10.13	Solve problems and determine measurements involving chords, radii, arcs, angles, secants, and tangents of a circle	G-C.2
M.10.14	Develop and apply coordinate rules for translations and reflections of geometric figures	G-CO.2 G-CO.5
M.10.15	Draw or use other methods, including technology, to illustrate dilations of geometric figures	G-CO.2 G-CO.5
M.10.16	Represent and solve problems involving distance on a number line or in the plane	G-GPE.6 G-GPE.7
M.10.18	Determine angle measures and side lengths of right and similar triangles using trigonometric ratios and properties of similarity, including congruence	G-SRT.5 G-SRT.8

GEOMETRY
GLEs and CCSS to be taught in 2012-13 and 2013-14

GLE content to be taught and tested in Geometry in 2012-13 and 2013-14		
GLE #	**Grade-Level Expectation Text**	**Aligned CCSS #**
M.10.19	Develop formal and informal proofs (e.g., Pythagorean theorem, flow charts, paragraphs)	G-CO.9 G-CO.10 G-CO.11 G-SRT.4 G-C.1 G-GPE.4 G-GPE.5 G-GMD.1 G-GMD.2 G-SRT-5 G-SRT.10 G-C.3
M.10.20	Show or justify the correlation (match) between a linear or non-linear data set and a graph	S-ID.6
M.10.21	Determine the probability of conditional and multiple events, including mutually and non-mutually exclusive events	S-CP.6 S-CP.7 S-CP.8 S-CP.4 S-CP.3
M.10.22	Interpret and summarize a set of experimental data presented in a table, bar graph, line graph, scatter plot, matrix, or circle graph	S-ID.5 S-CP.4
M.10.25	Use discrete math to model real life situations (e.g., fair games, elections)	S-MD.6 S-MD.7 S-IC.2
M.10.26	Generalize and represent patterns symbolically, with and without technology	F-IF.3

GEOMETRY
GLEs and CCSS to be taught in 2012-13 and 2013-14

	CCSS and extended CCSS content (highlighted) taught but not tested in 2012-13 and 2013-14	
CCSS #	**Common Core State Standard Text**	**Year to be Implemented**
G-CO.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.	2012-13
G-CO.3	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	2012-13
G-CO.4	Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.	2012-13
G-CO.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.	2012-13
G-CO.8	Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.	2012-13
G-GMD.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.	2012-13
G-GPE.6	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.[1]	2012-13
G-GPE.7	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.	2012-13
G-MG.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).	2012-13
G-SRT.3	Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.	2012-13

---

[1] The highlighted CCSS match GLEs, but the highlighted CCSS content goes beyond the GLEs and will be added to the curriculum in the year shown.

	CCSS and extended CCSS content (highlighted) taught but not tested in 2012-13 and 2013-14	
CCSS #	**Common Core State Standard Text**	**Year to be Implemented**
S-CP.4	Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.*	2012-13
G-C.5	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.	2013-14
G-GPE.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.	2013-14
G-GPE.2	Derive the equation of a parabola given a focus and directrix.	2013-14
G-MG.2	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).	2013-14
G-MG.3	Apply geometric methods to solve design problems (e.g., design an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).	2013-14
G-SRT.7	Explain and use the relationship between the sine and cosine of complementary angles.	2013-14