

GEOMETRY PRECISION GLEs

NUMBER AND NUMBER RELATIONS		
GLE.1	Simplify and determine the value of radical expressions	
GLE.2	Predict the effect of operations on real numbers (e.g., the quotient of a positive number divided by a positive number less than 1 is greater than the original dividend)	
GLE.3	Define sine, cosine, and tangent in ratio form and calculate them using technology	
	3a	ratio form
	3b	calculate using technology
GLE.4	Use ratios and proportional reasoning to solve a variety of real-life problems including similar figures and scale drawings	
	4a	similar figures
	4b	scale drawings
	4c	other
ALGEBRA		
GLE.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	
	5a	table
	5b	scatter plot
GLE.6	Write the equation of a line parallel or perpendicular to a given line through a specific point	
	6a	parallel
	6b	perpendicular
MEASUREMENT		
GLE.7	Find the volume and surface area of pyramids, spheres, and cones	
	7a	surface area of pyramids and cones
	7b	volume of pyramids and cones
	7c	surface area and volume of spheres
GLE.8	Model and use trigonometric ratios to solve problems involving right triangles	
	8a	determine lengths of sides in right triangle
	8b	determine measures of angles in right triangle
	8c	problems involving angles of elevation and depression

GEOMETRY		
GLE.9	Construct 2- and 3-dimensional figures when given the name, description, or attributes with and without technology	
	9a	2-D
	9b	3-D
GLE.10	Form and test conjectures concerning geometric relationships including lines, angles, and polygons (i.e., triangles, quadrilaterals, and n-gons) with and without technology	
	10a	triangle inequality theorem
	10b	median and altitude of triangles
	10c	perpendicular bisectors and angle bisectors of triangle
	10d	midsegment of triangle
	10e	parallelogram, rectangle, rhombus, square
	10f	kite
	10g	trapezoid and isosceles trapezoid
	10h	special right triangles (30-60-90 and 45-45-90)
	10i	interior angles
	10j	exterior angles
	10k	segments and angles
	10l	perpendicular and parallel lines
	10m	isosceles triangles
	10n	congruent triangles
	10o	similarity
GLE.11	Determine angle measurements using the properties of parallel, perpendicular, and intersecting lines in a plane	
	11a	angles formed by parallel lines and a transversal (alternate interior, alternate exterior, corresponding, supplementary)
	11b	angles formed by perpendicular or intersecting lines
GLE.12	Apply the Pythagorean theorem in both abstract and real-life settings	
GLE.13	Solve problems and determine measurements involving chords, radii, arcs, angles, secants, and tangents of a circle	
	13a	central angles, congruent central angles, congruent chords and intercepted arcs
	13b	segment lengths from radius perpendicular to chord
	13c	chords equidistant from center
	13e	tangent perpendicular to radius
	13f	angles and segment lengths of intersecting chords
	13g	angle and segment lengths of secant and tangent from external point
	13h	angle and segment lengths of intersecting secants
	13i	angle and congruent segment lengths of two tangents from external point

GEOMETRY (Continued)		
GLE.14	Develop and apply coordinate rules for translations and reflections of geometric figures	
	14a	translations
	14b	reflections
GLE.15	Draw and or use other methods, including technology, to illustrate dilations of geometric figures	
GLE.16	Represent and solve problems involving distance on a number line or in the plane (<i>distance formula</i>)	
GLE.17	Compare and contrast inductive and deductive reasoning approaches to justify conjectures and solve problems	
	17a	define inductive and deductive
	17b	solve problems using inductive
	17c	solve problems using deductive (<i>strategies include Venn diagrams, matrix logic, syllogisms, etc.</i>)
GLE.18	Determine angle measures and side lengths of right and similar triangles using trigonometric ratios and properties of similarity, including congruence (<i>NOTE: trigonometric ratios testing in GLE.3 and GLE.8</i>)	
	18a	Apply triangle congruence theorems to find missing parts of geometric figures and apply logical justification (SSS, SAS, ASA, AA)
	18b	Apply triangle congruence theorems to find missing parts of geometric figures and apply logical justification (LL, HA, LA, HL)
	18c	Apply triangle similarity theorems to find missing parts of geometric figures and apply logical justification (AA, SSS, SAS)
GLE.19	Develop formal and informal proofs (e.g., Pythagorean theorem, flow charts, paragraphs, <i>two-column, algebraic</i>)	
DATA ANALYSIS, PROBABILITY, AND DISCRETE MATH		
GLE.20	Show or justify the correlation (match) between a linear or non-linear data set and a graph (<i>use technology to determine correlation coefficient</i>)	
GLE.21	Determine the probability of conditional and multiple events, including mutually and non-mutually exclusive events	
GLE.22	Interpret and summarize a set of experimental data presented in a table, bar graph, line graph, scatter plot, matrix, or circle graph	
	22a	table, bar graph, line graph
	22b	scatter plot, matrix, circle graph
GLE.23	Draw and justify conclusions based on the use of logic (e.g., conditional statements, converse, inverse, contrapositive)	
GLE.24	Use counting procedures and techniques to solve real-life problems	
GLE.25	Use discrete math to model real life situations (leg., fair games, elections)	
PATTERNS, RELATIONS, FUNCTIONS		
GLE.26	Generalize and represent patterns symbolically, with and without technology	
GLE.27	Translate among tabular, graphical, and symbolic representations of patterns in real-life situations, with and without technology	



