Side-by-Side Comparison of the Texas Educational Knowledge and Skills (TEKS) and Louisiana Grade Level Expectations (GLEs)

MATHEMATICS: Grade 8

TEKS	Comments	Louisiana GLE
(8.1) Number, Operations, & Quantitative Reasoning. The student understands that different forms of numbers are appropriate for different situations.		Number and Number Relations
(8.1.A) compare and order rational numbers in various forms including integers, percents, and positive and negative fractions and decimals;		1. Compare rational numbers using symbols (i.e., <, £ , =, _, >) and position on a number line (N-1-M) (N-2-M)
(8.1.B) select and use appropriate forms of rational numbers to solve real-life problems including those involving proportional relationships	*GLE is not necessarily about rational numbers.*	7. Use proportional reasoning to model and solve real-life problems.
(8.1.C) approximate (mentally and with calculators) the value of irrational numbers as they arise from problem situations	*No irrational numbers mentioned in GLEs.*	
(8.1.D) express numbers in scientific notation, including negative exponents, in appropriate problem situations using a calculator.	*LA GLE only address positive exponents*	4. Read and write numbers in scientific notation with positive exponents (N-3-M)
	Not in TEKS	2. Use whole number exponents (0-3) in problem-solving contexts (N-1-M) (N-5-M)
(8.2) Number, Operation, and Quantitative Reasoning. The student selects and uses appropriate operations to solve problems and justify solutions.		Number and Number Relations
(8.2.A) select and use appropriate operations to solve problems and justify the selections;	*Not in GLEs at this grade level, it a Grade 7 GLE.*	
(8.2.B) add, subtract, multiply, and divide rational numbers in problem situations;	*Not in GLEs at this grade level, it a Grade 7 GLE.*	
(8.2.C) evaluate a solution for reasonableness; and	*Not in GLEs but mathematics as numerical intuition is a pervasive themes in the Louisiana Frameworks.*	
(8.2.D) use multiplication by a constant factor (unit rate) to represent proportional relationships; for example, the arm span of a gibbon is about 1.4 times its height, a = 1.4h.	*Unit rate is not specifically addressed in the GLE.*	7. Use proportional reasoning to model and solve real-life problems (N-8-M)

TEKS	Comments	Louisiana GLE
(8.3) Patterns, Relationships, and Algebraic Thinking. The student identifies proportional relationships in problem situations and solves problems.		Algebra, Pattern Relations, and Functions
(8.3.A) compare and contrast proportional and non-proportional relationships; and	*GLE partly addresses this TEKS.*	46. Distinguish between and explain when real-life numerical patterns are linear/arithmetic (i.e., grows by addition) or exponential/geometric (i.e., grows by multiplication) (P-1-M) (P-4-M)
(8.3.B) estimate and find solutions to application problems involving percents and proportional relationships such as similarity and rates.	*Matches*	8. Solve real-life problems involving percentages, including percentages less than 1 or greater than 100 (N-8-M) (N-5-M) 9. Find unit/cost rates and apply them in real-life problems (N-8-M) (N-5-M) (A-5-M)
	Not in TEKS	3. Estimate the answer to an operation involving rational numbers based on the original numbers (N-2-M) (N-6-M 5. Simplify expressions involving operations on integers, grouping symbols, and whole number exponents using order of operations (N-4-M) 6. Identify missing information or suggest a strategy for solving a real-life, rational-number problem (N-5-M) 12. Solve and graph solutions of multi-step linear equations and inequalities (A-2-M) 16. Explain and formulate generalizations about how a change in one variable results in a change in another variable (A-4-M)
(8.4) Patterns, Relationships, and Algebraic Thinking. The student makes connections among various representations of a numerical relationship.The student is expected:		Algebra, Pattern Relation, and Functions
(8.4.A)generate a different representation given one representation of data such as a table, graph, equation, or verbal description.	*Approximates*	10. Write real-life meanings of expressions and equations involving rational numbers and variables (A-1-M) (A-5-M) 13. Switch between functions represented as tables, equations, graphs, and verbal representations, with and without technology (A-3-M) (P-2-M) (A-4-M)

TEKS	Comments	Louisiana GLE
(8.5) Patterns, Relationships, and Algebraic Thinking. The student uses graphs, tables, and algebraic representations to make predictions and solve problems.		Algebra, Pattern Relations, and Functions
(8.5.A) estimate, find, and justify solutions to application problems using appropriate tables, graphs, and algebraic equations; and	*Not in GLEs*	
(8.5.B) use an algebraic expression to find any term in a sequence.	*Approximates*	47. Represent the nth term in a pattern as a formula and test the representation (P-1-M) (P-2-M) (P-3-M) (A-5-M)
	Not in TEKS	11. Translate real-life situations that can be modeled by linear or exponential relationships to algebraic expressions, equations, and inequalities (A-1-M) (A-4-M) (A-5-M) 14. Construct a table of *x*- and *y*-values satisfying a linear equation and construct a graph of the line on the coordinate plane (A-3-M) (A-2-M) 15. Describe and compare situations with constant or varying rates of change (A-4-M)
(8.6) Geometry and Spatial Reasoning. The student uses transformational geometry to develop spatial sense.	*Not in GLEs*	Geometry
(8.6.A) generate similar shapes using dilations including enlargements and reductions; and	*Approximates*	26. Predict, draw, and discuss the resulting changes in lengths, orientation, and angle measures that occur in figures under a similarity transformation (dilation) (G-3-M) (G-6-M)
(8.6.B) graph dilations, reflections, and translations on a coordinate plane.	*Not in GLEs*	
(8.7) Geometry and Spatial Reasoning. The student uses geometry to model and describe the physical world.	*Not in GLEs*	Geometry
(8.7.A) draw solids from different perspectives;	*Not in GLEs*	
(8.7.B) use geometric concepts and properties to solve problems in fields such as art and architecture;	*Not in GLEs*	
(8.7.C) use pictures or models to demonstrate the Pythagorean Theorem; and	*LA GLE includes the converse as well.*	31. Use area to justify the Pythagorean theorem and apply the Pythagorean theorem and its converse in real-life problems (G-5-M) (G-7-M)
(8.7.D) locate and name points on a coordinate plane using	*Not in GLEs at this grade level, this*	

TEKS	Comments	Louisiana GLE
ordered pairs of rational numbers.	*GLE is in earlier grades.*	
	Not in TEKS	23. Define and apply the *terms measure, distance, midpoint, bisect, bisector*, and *perpendicular bisector* (G-2-M) 24. Demonstrate conceptual and practical understanding of symmetry, similarity, and congruence and identify similar and congruent figures (G-2-M) 25. Predict, draw, and discuss the resulting changes in lengths, orientation, angle measures, and coordinates when figures are translated, reflected across horizontal or vertical lines, and rotated on a grid (G-3-M) (G-6-M) 33. Graph solutions to real-life problems on the coordinate plane (G-6-M)
(8.8) Measurement. The student uses procedures to determine measures of solids.		Measurement
(8.8.A) find surface area of prisms and cylinders using concrete models and nets (two-dimensional models)	*Approximates*	17. Determine the volume and surface area of prisms and cylinders (M-1-M) (G-7-M) 27. Construct polyhedra using 2-dimensional patterns (nets) (G-4-M)
(8.8.B) connect models to formulas for volume of prisms, cylinders, pyramids, and cones; and	*Approximates*	19. Demonstrate an intuitive sense of the relative sizes of common units of volume in relation to real-life applications and use this sense when estimating (M-2-M) (G-1-M) 20. Identify and select appropriate units for measuring volume (M-3-M
(8.8.C) estimate answers and use formulas to solve application problems involving surface area and volume.	*Not in GLEs*	
	Not in TEKS	18. Apply rate of change in real-life problems, including density, velocity, and international monetary conversions (M-1-M) (N-8-M) (M-6-M) 21. Compare and estimate measurements of volume and capacity within and between the U.S. and metric systems (M-4-M) (G-1-M)

TEKS	Comments	Louisiana GLE
		22. Convert units of volume/capacity within systems for U.S. and metric units (M-5-M)
(8.9) Measurement. The student uses indirect measurement to solve problems.		Measurement
(8.9.A) use the Pythagorean Theorem to solve real-life problems; and		31. Use area to justify the Pythagorean theorem and apply the Pythagorean theorem and its converse in real-life problems (G-5-M) (G-7-M)
(8.9.B) use proportional relationships in similar shapes to find missing measurements.	*LA GLEs uses triangles only.*	29. Solve problems involving lengths of sides of similar triangles (G-5-M) (A-5-M)
	Not in TEKS	28. Apply concepts, properties, and relationships of adjacent, corresponding, vertical, alternate interior, complementary, and supplementary angles (G-5-M)
(8.10) Measurement. The student describes how changes in dimensions affect linear, area, and volume measures.		Measurement
(8.10.A) describe the resulting effects on perimeter and area when dimensions of a shape are changed proportionally; and	*Not in GLES*	
(8.10.B) describe the resulting effect on volume when dimensions of a solid are changed proportionally.	*Approximate*	32. Model and explain the relationship between the dimensions of a rectangular prism and its volume (i.e., how scale change in linear dimension(s) affects volume) (G-5-M) 48. Illustrate patterns of change in dimension(s) and corresponding changes in volumes of rectangular solids (P-3-M)
	Not in TEKS	30. Construct, interpret, and use scale drawings in real-life situations (G-5-M) (M-6-M) (N-8-M)
(8.11) Probability and Statistics. The student applies concepts of theoretical and experimental probability to make predictions.		Data, Probability and Discrete Mathematics
(8.11.A) find the probabilities of compound events (dependent and independent)		45. Calculate, illustrate, and apply single- and multiple-event probabilities, including mutually exclusive, independent events and non-mutually exclusive, dependent events (D-5-M)

TEKS	Comments	Louisiana GLE
(8.11.B) use theoretical probabilities and experimental results to make predictions and decisions; and		44. Use experimental data presented in tables and graphs to make outcome predictions of independent events (D-5-M)
(8.11.C) select and use different models to simulate an event.	*Not in GLEs.*	
(8.12) Probability and Statistics. The student uses statistical procedures to describe data.		Data, Probability and Discrete Mathematics
(8.12.A) select the appropriate measure of central tendency to describe a set of data for a particular purpose;	*Approximate. GLE meets TEKS in second half. First half is not met by TEKS. Discussion of factors is higher level.*	40. Explain factors in a data set that would affect measures of central tendency (e.g., impact of extreme values) and discuss which measure is most appropriate for a given situation (D-2-M)
(8.12.B) draw conclusions and make predictions by analyzing trends in scatterplots; and	*Implied in GLE*	39. Analyze and make predictions from discovered data patterns (D-2-M) 38. Sketch and interpret a trend line (i.e., line of best fit) on a scatterplot (D-2-M) (A-4-M) (A-5-M)
(8.12.C) construct circle graphs, bar graphs, and histograms, with and without technology.	*Other types of graphs are in lower grades in LA and are expected to be learn.*	36. Organize and display data using circle graphs (D-1-M)
	Not in TEKS	34. Determine what kind of data display is appropriate for a given situation (D-1-M) 35. Match a data set or graph to a described situation, and vice versa (D-1-M) 37. Collect and organize data using box-and-whisker plots and use the plots to interpret quartiles and range (D-1-M) (D-2-M) 41. Select random samples that are representative of the population, including sampling with and without replacement, and explain the effect of sampling on bias (D-2-M) (D-4-M) 42. Use lists, tree diagrams, and tables to apply the concept of permutations to represent an ordering with and without replacement (D-4-M)

TEKS	Comments	Louisiana GLE
(8.13) Probability and Statistics. The student evaluates predictions and conclusions based on statistical data.	*Not in GLEs*	Data, Probability and Discrete Mathematics
(8.13.A) evaluate methods of sampling to determine validity of an inference made from a set of data; and	*Approximates*	41. Select random samples that are representative of the population, including sampling with and without replacement, and explain the effect of sampling on bias (D-2-M) (D-4-M)
(8.13.B) recognize misuses of graphical or numerical information and evaluate predictions and conclusions based on data analysis.	*Approximates*	41. Select random samples that are representative of the population, including sampling with and without replacement, and explain the effect of sampling on bias (D-2-M) (D-4-M)
(8.14) Underlying Processes and Mathematical Tools. The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.	*Mathematics as problem solving is a pervasive theme of the Louisiana Mathematics Frameworks, there are just no GLEs for this section.*	
(8.14.A) identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics;		
(8.14.B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;		
(8.14.C) select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem; and		
(8.14.D) select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems.		
(8.15) Underlying Processes and Mathematical Tools. The student communicates about Grade 8 mathematics through informal and mathematical language, representations, and models.The student is expected to:	*Mathematics as communication is a pervasive theme of the Louisiana Mathematics Frameworks, there are just no GLEs for this section.*	
(8.15.A) communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models; and		
(8.15.B) evaluate the effectiveness of different representations to communicate ideas.		

TEKS	Comments	Louisiana GLE
(8.16) Underlying Processes and Mathematical Tools. The student uses logical reasoning to make conjectures and verify conclusions. The student is expected to:	*Mathematics as numerical intuition is a pervasive theme of the Louisiana Mathematics Frameworks, there are just no GLEs for this section.*	
(8.16.A) make conjectures from patterns or sets of examples and nonexamples; and		
(8.16.B) validate his/her conclusions using mathematical properties and relationships.		