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

## MATHEMATICS: Grade 7

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| TEKS | Comments | Louisiana GLE |
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| (7.1) Number, Operation, and Quantitative Reasoning. The student represents and uses numbers in a variety of equivalent forms. The student is expected to: | | Number and Number Relations |
| (7.1.A) compare and order integers and positive rational numbers; | | 2. Compare positive fractions, decimals, percents, and integers using symbols (i.e., <, ≤, =, >, ≥) and position on a number line (N-2-M) |
| (7.1.B) convert between fractions, decimals, whole numbers, and percents mentally, on paper, or with a calculator; and | | 1. Recognize and compute equivalent representations of fractions, decimals, and percents (i.e., halves, thirds, fourths, fifths, eighths, tenths, hundredths) (N-1-M) |
| (7.1.C) represent squares and square roots using geometric models. | | 13. Determine the square root of perfect squares and mentally approximate other square roots by identifying the two whole numbers between which they fall (A-1-M) |
| | *Not addressed in TEKS* | 4. Model and apply the distributive property in real-life applications (N-4-M) |
| (7.2) Number, Operation, and Quantitative Reasoning. The student adds, subtracts, multiplies, or divides to solve problems and justify solutions. The student is expected to: | | Number and Number Relations |
| (7.2.A) represent multiplication and division situations involving fractions and decimals with models, including concrete objects, pictures, words, and numbers; | *Not in GLEs* | |
| (7.2.B) use addition, subtraction, multiplication, and division to solve problems involving fractions and decimals; | | 5. Multiply and divide positive fractions and decimals (N-5-M)<br><br>7. Select and discuss appropriate operations and solve single- and multi-step, real-life problems involving positive fractions, percents, mixed numbers, decimals, and positive and negative integers (N-5-M) (N-3-M) (N-4-M) |
| (7.2.C) use models, such as concrete objects, pictorial models, and number lines, to add, subtract, multiply, and divide integers and connect the actions to algorithms; | *Not in GLEs* | |
| (7.2.D) use division to find unit rates and ratios in proportional relationships such as speed, density, price, recipes, and student-teacher ratio; | | 10. Determine and apply rates and ratios (N-8-M) |

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| (7.2.E) simplify numerical expressions involving order of operations and exponents | | 3. Solve order of operations problems involving grouping symbols and multiple operations (N-4-M) |
| (7.2.F) select and use appropriate operations to solve problems and justify the selections; and | | 7. Select and discuss appropriate operations and solve single- and multi-step, real-life problems involving positive fractions, percents, mixed numbers, decimals, and positive and negative integers (N-5-M) (N-3-M) (N-4-M) |
| (7.2.G) determine the reasonableness of a solution to a problem. | *TEKS partially addressed in this GLE* | 8. Determine the reasonableness of answers involving positive fractions and decimals by comparing them to estimates (N-6-M) (N-7-M) |
| (7.3) Patterns, Relationships, and Algebraic Thinking. The student solves problems involving direct proportional relationships. The student is expected to: | | Algebra, Pattern Relationships, and Functions |
| (7.3.A) estimate and find solutions to application problems involving percent; and | *Not in GLEs* | |
| (7.3.B) estimate and find solutions to application problems involving proportional relationships such as similarity, scaling, unit costs, and related measurement units. | *Approximates* | 11. Use proportions involving whole numbers to solve real-life problems (N-8-M) |
| | *In 8th Grade TEKS* | 41. Illustrate patterns of change in length(s) of sides and corresponding changes in areas of polygons (P-3-M) |
| (7.4) Patterns, Relationships, and Algebraic Thinking. The student represents a relationship in numerical, geometric, verbal, and symbolic form. The student is expected to: | | Algebra, Pattern Relationships, and Functions |
| (7.4.A) generate formulas involving unit conversions, perimeter, area, circumference, volume, and scaling; | *Not in GLEs* | |
| (7.4.B) graph data to demonstrate relationships in familiar concepts such as conversions, perimeter, area, circumference, volume, and scaling; and | *Not in GLEs* | |
| (7.4.C) use words and symbols to describe the relationship between the terms in an arithmetic sequence (with a constant rate of change) and their positions in the sequence. | *TEKS partially addressed by this GLE.* | 39. Analyze and describe simple exponential number patterns (e.g., 3, 9, 27 or $3^1$, $3^2$, $3^3$) (P-1-M) |
| (7.5) Patterns, Relationships, and Algebraic Thinking. The student uses equations to solve problems. The student is expected to: | | Algebra, Pattern Relationships, and Functions |
| (7.5.A) use concrete and pictorial models to solve equations and use symbols to record the actions; and | *Implied, but GLE goes beyond this TEKS.* | 12. Evaluate algebraic expressions containing exponents (especially 2 and 3) and square roots, using substitution (A-1-M) |

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| (7.5.B) formulate problem situations when given a simple equation and formulate an equation when given a problem situation. | *Approximates* | 14. Write a real-life meaning of a simple algebraic equation or inequality, and vice versa (A-1-M) (A-5-M) |
| | *Not addressed in TEKS* | 15. Match algebraic inequalities with equivalent verbal statements and vice versa (A-1-M)<br><br>16. Solve one- and two-step equations and inequalities (with one variable) in multiple ways (A-2-M)<br><br>17. Graph solutions sets of one-step equations and inequalities as points, or open and closed rays on a number line (e.g., x = 5, x < 5, x £ 5, x > 5, x _ 5) (A-2-M)<br><br>18. Describe linear, multiplicative, or changing growth relationships (e.g., 1, 3, 6, 10, 15, 21, …) verbally and algebraically (A-3-M) (A-4-M) (P-1-M)<br><br>19. Use function machines to determine and describe the rule that generates outputs from given inputs (A-4-M) (P-3-M) |
| (7.6) Geometry and Spatial Reasoning. The student compares and classifies two- and three-dimensional figures using geometric vocabulary and properties. The student is expected to: | | Geometry |
| (7.6.A) use angle measurements to classify pairs of angles as complementary or supplementary; | *This GLE goes beyond this TEKS.*<br>*There is a comparable GLE in grade 8 to this TEKS.* | 24. Identify and draw angles (using protractors), circles, diameters, radii, altitudes, and 2-dimensional figures with given specifications (G-2-M) |
| (7.6.B) use properties to classify triangles and quadrilaterals; | *This is a grade 4 GLE.* | |
| (7.6.C) use properties to classify three-dimensional figures, including pyramids, cones, prisms, and cylinders; and | *This is a grade 3 GLE.* | |
| (7.6.D) use critical attributes to define similarity. | *This is a grade 8 GLE.* | |
| (7.7) Geometry and Spatial Reasoning. The student uses coordinate geometry to describe location on a plane. The student is expected to: | | Geometry |
| (7.7.A) locate and name points on a coordinate plane using ordered pairs of integers; and | *This is a grade 6 GLE.* | |

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| (7.7.B) graph reflections across the horizontal or vertical axis and graph translations on a coordinate plane. | *Approximates* | 25. Draw the results of reflections and translations of geometric shapes on a coordinate grid (G-3-M)<br><br>29. Plot points on a coordinate grid in all 4 quadrants and locate the coordinates of a missing vertex in a parallelogram (G-6-M) (A-5-M) |
| (7.8) Geometry and Spatial Reasoning. The student uses geometry to model and describe the physical world. The student is expected to: | | Geometry |
| (7.8.A) sketch three-dimensional figures when given the top, side, and front views; | *Not in GLEs* | |
| (7.8.B) make a net (two-dimensional model) of the surface area of a three-dimensional figure; and | *Not in GLEs* | |
| (7.8.C) use geometric concepts and properties to solve problems in fields such as art and architecture. | *Not in GLEs* | |
| | *In 8th Grade TEKS*<br><br>*Not in TEKS*<br><br>*Not in TEKS* | 27. Model and explain the relationship between perimeter and area (how scale change in a linear dimension affects perimeter and area) and between circumference and area of a circle (G-5-M)<br><br>30. Apply the knowledge that the measures of the interior angles in a triangle add up to 180 degrees (G-7-M)<br><br>26. Recognize π as the ratio between the circumference and diameter of any circle (i.e., p = C/d or p = C/2r) (G-5-M) |
| (7.9) Measurement. The student solves application problems involving estimation and measurement. The student is expected to: | | Measurement |
| (7.9.A) estimate measurements and solve application problems involving length (including perimeter and circumference) and area of polygons and other shapes; | | 20. Determine the perimeter and area of composite plane figures by subdivision and area addition (M-1-M) (G-7-M)<br><br>28 Determine the radius, diameter, circumference, and area of a circle and apply these measures in real-life problems (G-5-M) (G-7-M) (M-6-M) |
| (7.9.B) connect models for volume of prisms (triangular and rectangular) and cylinders to formulas of prisms (triangular and rectangular) and cylinders; and | *Not in GLEs* | |

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| (7.9.C) estimate measurements and solve application problems involving volume of prisms (rectangular and triangular) and cylinders. | *Not in GLEs* | |
| | *Not in TEKS* | 21. Compare and order measurements within and between the U.S. and metric systems in terms of common reference points (e.g., weight/mass and area) (M-4-M) (G-1-M)<br><br>22. Convert between units of area in U.S. and metric units within the same system (M-5-M)<br><br>23. Demonstrate an intuitive sense of comparisons between degrees Fahrenheit and Celsius in real-life situations using common reference points (M-5-M) |
| (7.10) Probability and Statistics. The student recognizes that a physical or mathematical model can be used to describe the experimental and theoretical probability of real-life events. The student is expected to: | *Matches* | Data Analysis, Probability, and Discrete Math |
| (7.10.A) construct sample spaces for simple or composite experiments; and | *There is also a grade 6 GLE.* | 38. Compare theoretical and experimental probability in real-life situations |
| (7.10.B) find the probability of independent events | *Not in GLEs* | |
| (7.11) Probability and Statistics. The student understands that the way a set of data is displayed influences its interpretation. The student is expected to: | | Data Analysis, Probability, and Discrete Math |
| (7.11.A) select and use an appropriate representation for presenting and displaying relationships among collected data, including line plot, line graph, bar graph, stem and leaf plot, circle graph, and Venn diagrams, and justify the selection; and | *Approximates* | 34. Create and use Venn diagrams with three overlapping categories to solve counting logic problems (D-3-M)<br><br>31. Analyze and interpret circle graphs, and determine when a circle graph is the most appropriate type of graph to use (D-2-M) |
| (7.11.B) make inferences and convincing arguments based on an analysis of given or collected data. | *Approximates* | 33. Analyze discrete and continuous data in real-life applications (D-2-M) (D-6-M) |
| | *Not in TEKS* | 37. Determine probability from experiments and from data displayed in tables and graphs (D-5-M)<br><br>36. Apply the fundamental counting principle in real-life situations (D-4-M) |

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| (7.12) Probability and Statistics. The student uses measures of central tendency and range to describe a set of data. The student is expected to: | | Data Analysis, Probability, and Discrete Math |
| (7.12.A) describe a set of data using mean, median, mode, and range; and | *Not in GLEs* | |
| (7.12.B) choose among mean, median, mode, or range to describe a set of data and justify the choice for a particular situation. | *This GLE exceeds the TEKS.* | 32. Describe data in terms of patterns, clustered data, gaps, and outliers (D-2-M) |
| | *Not in TEKS* | 33. Analyze discrete and continuous data in real-life applications (D-2-M) (D-6-M)<br><br>35. Use informal thinking procedures of elementary logic involving *if/then* statements (D-3-M)<br><br>40. Analyze and verbally describe real-life additive and multiplicative patterns involving fractions and integers (P-1-M) (P-4-M) |
| (7.13) Underlying Processes and Mathematical Tools. The student applies Grade 7 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school. The student is expected to: | *Mathematics as problem solving is a pervasive theme in the Louisiana Mathematics Framework, there are no specific GLEs for this section.* | |
| (7.13.A) identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics; | | |
| (7.13.B)use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness; | | |
| (7.13.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 | | |
| (7.13.D) select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental | | |

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| math, estimation, and number sense to solve problems. | | |
| (7.14) Underlying Processes and Mathematical Tools. The student communicates about Grade 7 mathematics through informal and mathematical language, representations, and models. The student is expected to: | *Mathematics as communication is a pervasive theme in the Louisiana Mathematics Framework, there are no specific GLEs for this section.* | |
| (7.14.A) communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models; and | | |
| (7.14.B) evaluate the effectiveness of different representations to communicate ideas. | | |
| (7.15) Underlying Processes and Mathematical Tools. The student uses logical reasoning to make conjectures and verify conclusions. The student is expected: | *Mathematics as numerical intuition is a pervasive theme in the Louisiana Mathematics Framework, there are no specific GLEs for this section.* | |
| (7.15.A) make conjectures from patterns or sets of examples and nonexamples; and | | |
| (7.15.B) validate his/her conclusions using mathematical properties and relationships. | | |