STAAR Grade 8 Mathematics Assessment Eligible TEKS

1. Numerical Representations and Relationships (4 questions)		
S	8.2A	Extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers.
S	8.2B	Approximate the value of an irrational number, including π and square roots of numbers less than 225, and locate that rational number approximation on a number line.
S	8.2C	Convert between standard decimal notation and scientific notation.
R	8.2D	Order a set of real numbers arising from mathematical and real-world contexts.

2. Computations and Algebraic Relationships (16 questions)		
S	8.4A	Use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, $(y_2 - y_1)/ (x_2 - x_1)$, is the same for any two points (x_1, y_1) and (x_2, y_2) on the same line.
R	8.4B	Graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship.
R	8.4C	Use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems.
S	8.5A	Represent linear proportional situations with tables, graphs, and equations in the form of $y = kx$.
S	8.5B	Represent linear non-proportional situations with tables, graphs, and equations in the form of $y = mx + b$, where $b \neq 0$.
S	8.5E	Solve problems involving direct variation.
S	8.5F	Distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$, where $b \neq 0$.
R	8.5G	Identify functions using sets of ordered pairs, tables, mappings, and graphs.
S	8.5H	Identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems.
R	8.5I	Write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations.
S	8.8A	Write one-variable equations or inequalities with variables on both sides that represent problems using rational number coefficients and constants.
S	8.8B	Write a corresponding real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants.
R	8.8C	Model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.
S	8.9A	Identify and verify the values of x and y that simultaneously satisfy two linear equations in the form $y = mx + b$ from the intersections of the graphed equations.

Source: STAAR® Released Items Texas Education Agency

STAAR Grade 8 Mathematics Assessment Eligible TEKS

3. Geometry and Measurement (15 questions)

S	8.3A	Generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation.
S	8.3B	Compare and contrast the attributes of a shape and its dilation(s) on a coordinate plane.
R	8.3C	Use an algebraic representation to explain the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation.
S	8.6A	Describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height.
S	8.6C	Use models and diagrams to explain the Pythagorean theorem.
R	8.7A	Solve problems involving the volume of cylinders, cones, and spheres.
R	8.7B	Use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders.
R	8.7C	Use the Pythagorean Theorem and its converse to solve problems.
S	8.7D	Determine the distance between two points on a coordinate plane using the Pythagorean Theorem.
S	8.8D	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.
S	8.10A	Generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane.
S	8.10B	Differentiate between transformations that preserve congruence and those that do not.
R	8.10C	Explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.
S	8.10D	Model the effect on linear and area measurements of dilated two-dimensional shapes.

4. Data Analysis and Personal Financial Literacy (7 questions)

S	8.5C	Contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation.
R	8.5D	Use a trend line that approximates the linear relationship between bivariate sets of data to make predictions.
S	8.11A	Construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data.
S	8.11B	Determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.
S	8.12A	Solve real-world problems comparing how interest rate and loan length affect the cost of credit.
S	8.12C	Explain how small amounts of money invested regularly, including money saved for college and retirement, grow over time.
R	8.12D	Calculate and compare simple interest and compound interest earnings.
S	8.12G	Estimate the cost of a two-year and four-year college education, including family contribution, and devise a periodic savings plan for accumulating the money needed to contribute to the total cost of attendance for at least the first year of college.

Not Eligible for STAAR

8.6B	Model the relationship between the volume of a cylinder and a cone having both congruent bases and heights and connect that relationship to the formulas.
8.11C	Simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.
8.12B	Calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator.
8.12E	Identify and explain the advantages and disadvantages of different payment methods.
8.12F	Analyze situations to determine if they represent financially responsible decisions and identify the benefits of financial responsibility and the costs of financial irresponsibility.

Blueprint Summary

	Total	STAAR	
Readiness	13	60%-65%	25 – 27
Supporting	27	35%-40%	15 – 17
Total Number of Questions on Test: 38 Multiple Choice; 4 Griddable; 42 Total			

Source: STAAR® Released Items Texas Education Agency