Test Code	Year	Form
1081	23	4
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2023 *STAAR Released* Blueprint
Grade 8 Mathematics
Spring, 2023–2024

SE Descriptions	Reporting Category	TEKS/SE	R or S	No. of Items	% of Test
1. Number and operations. The student applies mathematical process standards to represent and use real numbers in a variety of forms. The student is expected to extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers.	1	8.2A	S	1	3%
2. Number and operations. The student applies mathematical process standards to represent and use real numbers in a variety of forms. The student is expected to 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.	1	8.2B	S	1	3%
3. Number and operations. The student applies mathematical process standards to represent and use real numbers in a variety of forms. The student is expected to order a set of real numbers arising from mathematical and real-world contexts.	1	8.2D	R	2	5%
4. Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation.	3	8.3A	S	1	3%
5. Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to compare and contrast the attributes of a shape and its dilation(s) on a coordinate plane.	3	8.3B	S	1	3%
6. Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to 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.	3	8.3C	R	2	5%
7. Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to 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.	2	8.4A	S	1	3%

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8. Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship.	2	8.4B	R	2	5%
9. Proportionality. The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope. The student is expected to use data from a table or graph to determine the rate of change or slope and *y*-intercept in mathematical and real-world problems.	2	8.4C	R	2	5%
10. Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to represent linear proportional situations with tables, graphs, and equations in the form of $y = kx$.	2	8.5A	S	1	3%
11. Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to represent linear non-proportional situations with tables, graphs, and equations in the form of $y = mx + b$, where $b \neq 0$.	2	8.5B	S	1	3%
12. Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to use a trend line that approximates the linear relationship between bivariate sets of data to make predictions.	4	8.5D	R	2	5%
13. Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$, where $b \neq 0$.	2	8.5F	S	1	3%
14. Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to identify functions using sets of ordered pairs, tables, mappings, and graphs.	2	8.5G	R	2	5%
15. Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations.	2	8.5I	R	2	5%

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16. Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height.	3	8.6A	S	1	3%
17. Expressions, equations, and relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to use models and diagrams to explain the Pythagorean theorem.	3	8.6C	S	1	3%
18. Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to solve problems involving the volume of cylinders, cones, and spheres.	3	8.7A	R	2	5%
19. Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to 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.	3	8.7B	R	2	5%
20. Expressions, equations, and relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to use the Pythagorean theorem and its converse to solve problems.	3	8.7C	R	1	3%
21. Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to 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.	2	8.8C	R	2	5%
22. Expressions, equations, and relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to 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.	3	8.8D	S	1	3%
23. Expressions, equations, and relationships. The student applies mathematical process standards to use multiple representations to develop foundational concepts of simultaneous linear equations. The student is expected to 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.	2	8.9A	S	1	3%

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24. Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane.	3	8.10A	S	1	3%
25. Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to 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.	3	8.10C	R	2	5%
26. Two-dimensional shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to model the effect on linear and area measurements of dilated two- dimensional shapes.	3	8.10D	S	1	3%
27. Personal financial literacy. The student applies mathematical process standards to develop an economic way of thinking and problem solving useful in one's life as a knowledgeable consumer and investor. The student is expected to calculate and compare simple interest and compound interest earnings.	4	8.12D	R	2	5%
28. Personal financial literacy. The student applies mathematical process standards to develop an economic way of thinking and problem solving useful in one's life as a knowledgeable consumer and investor. The student is expected to 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.	4	8.12G	S	1	3%

Item Types by Point	1-point questions (MC & TE Items)	32	**Total**	**R**	23	58%
	2-point questions (TE Items)	8		**S**	14	35%
	Total	48		**All**	40	100%

Note: ***R*** = *Readiness Standard*, ***S*** = *Supporting Standard*. Percentages are rounded to the nearest whole number.

Reporting Categories: 1. Numerical Representations and Relationships
2. Computations and Algebraic Relationships
3. Geometry and Measurement
4. Data Analysis and Personal Finance