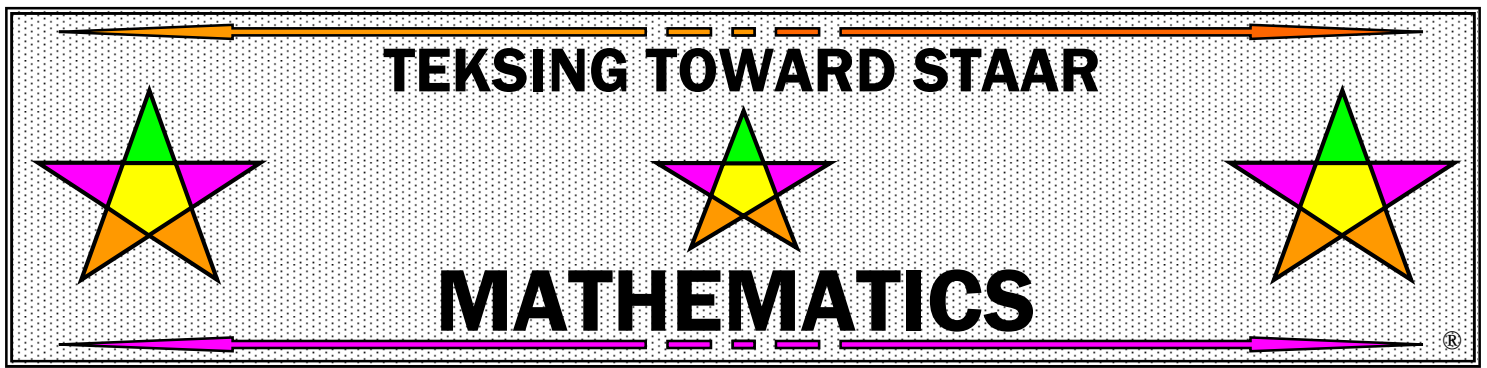




# **GRADE 8**

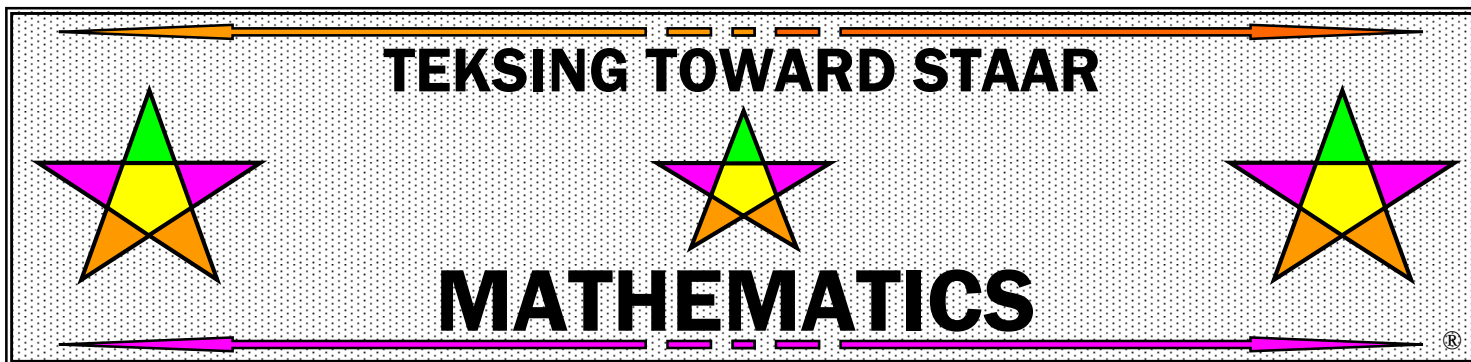
## **STAAR Format**

### **Mini-Assessments**

#### **And**

### **Periodic**

## **Assessments**



## Overview

### Grade 8 Mini-assessments and Periodic Assessments

#### MINI-ASSESSMENTS

The Mini-Assessments were created with all students in mind and provides teachers with 10 questions that address each TEKS in each STAAR REPORTING CATEGORY with focus on the Process Standard TEKS. Each Mini-Assessment is correlated to a specific Category and TEKS. These assessments should not be utilized until after all instruction has been completed for the TEKS addressed in the assessment.

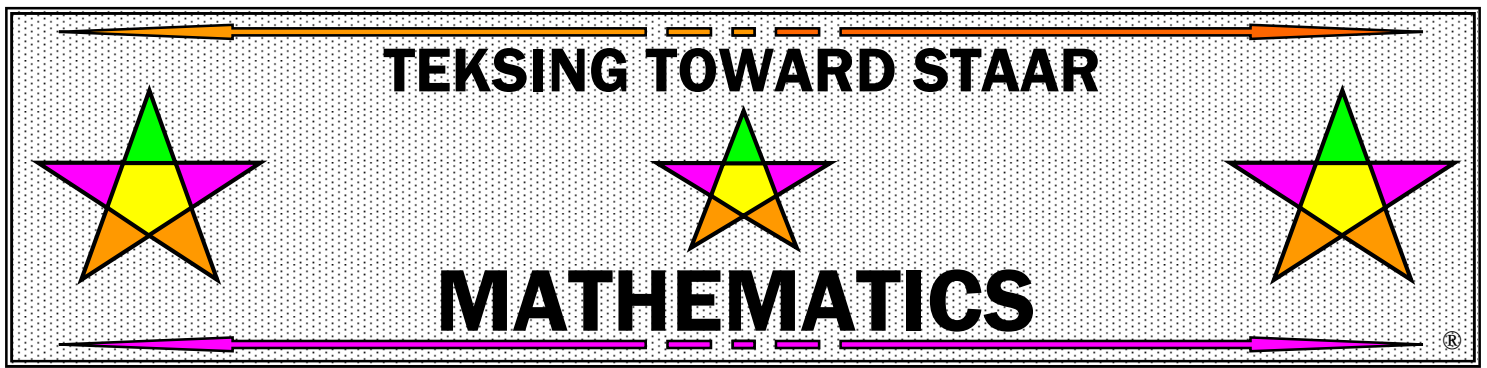
- The Mini-Assessment can be utilized at any time after instruction has occurred for the TEKS addressed in the assessment.
- Allow approximately 20 minutes for completion of each Mini-Assessment. The time may vary for some assessments.
- The Mini-Assessment should be completed by individual students, graded by the teacher and performance discussed by the teacher with individual students.
- Results can and should be recorded in the Class Profile to reflect the entire class performance and on the Student Profile for the student's performance.

#### PERIODIC ASSESSMENTS

The Periodic Assessments were created with all students in mind and provides teachers with 20 questions that periodically assess multi-TEKS. Each question is correlated to a specific Category and TEKS. These assessments should not be utilized until after all instruction has been completed for all TEKS addressed in the assessment.

- The Periodic Assessment can be utilized at any time after instruction has occurred for all the TEKS addressed in the assessment.
- Allow approximately 40 minutes for completion of each Periodic Assessment. The time may vary for some assessments.
- The Mini-Assessment should be completed by individual students, graded by the teacher and performance discussed by the teacher with individual students.
- Results can and should be recorded in the Class Profile to reflect the entire class performance and on the Student Profile for the student's performance.

An answer key is provided for the Mini-Assessments and Periodic Assessments. Teachers should consider creating a personal Solution Manual to become more familiar with the Revised TEKS and assessment of the Revised TEKS, as well as formulate various solution strategies for each question. Teachers are encouraged to communicate with the author regarding discussion of any question in this document.



# **GRADE 8**

## **STAAR Format**

### **Mini-Assessments**

Organized by  
**TEKS Categories**

**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS  
Table of Contents**

**Mathematical Process Standards**

**These student expectations will not be listed separately. They will be incorporated into assessments for TEKS in other categories since the application of mathematical process standards is part of each knowledge statement for all other TEKS.**

**8.(1) Mathematical Process Standards**

The student uses mathematical processes to acquire and demonstrate mathematical understanding.

| TEKS          | STUDENT EXPECTATION                                                                                                                                                                                                                           |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>8.1(A)</b> | apply mathematics to problems arising in everyday life, society, and the workplace                                                                                                                                                            |
| <b>8.1(B)</b> | use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution |
| <b>8.1(C)</b> | select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems                                   |
| <b>8.1(D)</b> | communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate                                                                            |
| <b>8.1(E)</b> | create and use representations to organize, record, and communicate mathematical ideas                                                                                                                                                        |
| <b>8.1(F)</b> | analyze mathematical relationships to connect and communicate mathematical ideas                                                                                                                                                              |
| <b>8.1(G)</b> | display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication                                                                                                           |

**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS  
Table of Contents**

**Number and Operations**

**8.(2) Number and Operations**

The student applies mathematical process standards to represent and use rational numbers in a variety of forms.

| <b>STAAR Standard</b> | <b>TEKS</b>   | <b>STUDENT EXPECTATION</b>                                                                                                                                               |
|-----------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Supporting</b>     | <b>8.2(A)</b> | extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers                                       |
| <b>Supporting</b>     | <b>8.2(B)</b> | approximate the value of an irrational number, including $\pi$ and square roots of numbers less than 225, and locate that rational number approximation on a number line |
| <b>Supporting</b>     | <b>8.2(C)</b> | convert between standard decimal notation and scientific notation                                                                                                        |
| <b>Readiness</b>      | <b>8.2(D)</b> | order a set of real numbers arising from mathematical and real-world contexts                                                                                            |

**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS  
Table of Contents**

**Proportionality**

**8.(3) Proportionality**

The student applies mathematical process standards to use proportional relations to describe dilations.

| STAAR Standard | TEKS   | STUDENT EXPECTATION                                                                                                                                                                                |
|----------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supporting     | 8.3(A) | generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation                                                                            |
| Supporting     | 8.3(B) | compare and contrast the attributes of a shape and its dilations(s) on a coordinate plane                                                                                                          |
| Readiness      | 8.3(C) | 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 |

**Proportionality**

**8.(4) Proportionality**

The student applies mathematical process standards to explain proportional and non-proportional relationships involving slope.

| STAAR Standard | TEKS   | STUDENT EXPECTATION                                                                                                                                                                                                                                                     |
|----------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supporting     | 8.4(A) | 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 |
| Readiness      | 8.4(B) | graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship                                                                                                                                                      |
| Readiness      | 8.4(C) | use data from a table or graph to determine the rate of change or slope and $y$ -intercept in mathematical and real-world problems                                                                                                                                      |

**Proportionality**

**8.(5) Proportionality**

The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions.

| STAAR Standard | TEKS   | STUDENT EXPECTATION                                                                                                                                                      |
|----------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supporting     | 8.5(A) | represent linear proportional situations with tables, graphs, and equation in the form of $y = kx$ .                                                                     |
| Supporting     | 8.5(B) | represent linear non-proportional situation with tables, graphs, and equations in the form of $y = mx + b$ , where $b \neq 0$                                            |
| Supporting     | 8.5(C) | 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 |
| Readiness      | 8.5(D) | use a trend line that approximates the linear relationship between bivariate sets of data to make predictions                                                            |
| Supporting     | 8.5(E) | solve problems using direct variation                                                                                                                                    |

**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS  
Table of Contents**

**Proportionality**

**8.(5) Proportionality**

The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions.

| <b>STAAR Standard</b> | <b>TEKS</b>   | <b>STUDENT EXPECTATION</b>                                                                                                                                      |
|-----------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Supporting</b>     | <b>8.5(F)</b> | distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form of $y = kx$ or $y = mx + b$ , where $b \neq 0$ |
| <b>Readiness</b>      | <b>8.5(G)</b> | identify functions using sets of ordered pairs, tables, mappings, and graphs                                                                                    |
| <b>Supporting</b>     | <b>8.5(H)</b> | identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems                                           |
| <b>Readiness</b>      | <b>8.5(I)</b> | write an equation in the form $y = mx + b$ to model a linear relationship between verbal, numerical, tabular, and graphical representations                     |

**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS  
Table of Contents**

**Expressions, Equations, and Relationships**

**8.(6) Expressions, Equations, and Relationships**

The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas.

| STAAR Standard | TEKS   | STUDENT EXPECTATION                                                                                                                                      |
|----------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supporting     | 8.6(A) | describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height                                                              |
| Not tested     | 8.6(B) | 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 |
| Supporting     | 8.6(C) | use models and diagrams to explain the Pythagorean Theorem                                                                                               |

**Expressions, Equations, and Relationships**

**8.(7) Expressions, Equations, and Relationships**

The student applies mathematical process standards to use geometry to solve problems.

| STAAR Standard | TEKS   | STUDENT EXPECTATION                                                                                                                                                                                             |
|----------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Readiness      | 8.7(A) | solve problems involving the volume of cylinders, cones, and spheres                                                                                                                                            |
| Readiness      | 8.7(B) | use previous knowledge of surface area to make connections to the formula for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms and cylinders |
| Readiness      | 8.7(C) | use the Pythagorean Theorem and its converse to solve problems                                                                                                                                                  |
| Supporting     | 8.7(D) | determine the distance between two points on a coordinate plane using the Pythagorean Theorem                                                                                                                   |

**Expressions, Equations, and Relationships**

**8.(8) Expressions, Equations, and Relationships**

The student applies mathematical process standards to use one-variable equations or inequalities in problem situations.

| STAAR Standard | TEKS   | STUDENT EXPECTATION                                                                                                                                                                                                      |
|----------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supporting     | 8.8(A) | write one-variable equations or inequalities with variables on both sides that represent problems using rational number coefficients and constants                                                                       |
| Supporting     | 8.8(B) | write a 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                                              |
| Readiness      | 8.8(C) | 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                               |
| Supporting     | 8.8(D) | 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 |



**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS  
Table of Contents**

**Expressions, Equations, and Relationships**

**8.(9) Expressions, Equations, and Relationships**

The student applies mathematical process standards to use multiple representations to develop foundational concepts of simultaneous linear equations.

| <b>STAAR<br/>Standard</b> | <b>TEKS</b>   | <b>STUDENT EXPECTATION</b>                                                                                                                                              |
|---------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Supporting</b>         | <b>8.9(A)</b> | 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 |

**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS  
Table of Contents**

**Two-Dimensional Shapes**

**8.(10) Two-Dimensional Shapes**

The student applies mathematical process standards to develop transformational geometry concepts.

| <b>STAAR Standard</b> | <b>TEKS</b>    | <b>STUDENT EXPECTATION</b>                                                                                                                                                                                                                                |
|-----------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Supporting</b>     | <b>8.10(A)</b> | generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane                                                                                            |
| <b>Supporting</b>     | <b>8.10(B)</b> | differentiate between transformations that preserve congruence and those that do not                                                                                                                                                                      |
| <b>Readiness</b>      | <b>8.10(C)</b> | explain the effects translations, reflections over the $x$ - or $y$ -axis, and rotations limited to $90^\circ$ , $180^\circ$ , $270^\circ$ , and $360^\circ$ as applied to two-dimensional shapes on a coordinate plane using an algebraic representation |
| <b>Supporting</b>     | <b>8.10(D)</b> | model the effect on linear and area measurements of dilated two-dimensional shapes                                                                                                                                                                        |

**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS  
Table of Contents**

**Measurement and Data**

**8.(11) Measurement and Data**

The student applies mathematical process standards to use statistical procedures to describe data.

| <b>STAAR Standard</b> | <b>TEKS</b>    | <b>STUDENT EXPECTATION</b>                                                                                                                                                                                    |
|-----------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Supporting</b>     | <b>8.11(A)</b> | construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data                                              |
| <b>Supporting</b>     | <b>8.11(B)</b> | 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                                       |
| <b>Not Tested</b>     | <b>8.11(C)</b> | Simulate generating random samples of the same size from a populations with known characteristics to develop the notion of a random sample being representative of the populations from which is was selected |

**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS  
Table of Contents**

**Personal Financial Literacy**

**8.(14) Personal Financial Literacy**

The student applies mathematical processes standards to develop an economic way of thinking and problem solving useful in one's life as a knowledgeable consumer and investor.

| <b>STAAR Standard</b> | <b>TEKS</b>    | <b>STUDENT EXPECTATION</b>                                                                                                                                                                                                                                |
|-----------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Supporting</b>     | <b>8.12(A)</b> | solve real-world problems comparing how interest rate and loan length affect the cost of credit                                                                                                                                                           |
| <b>Not Tested</b>     | <b>8.12(B)</b> | 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                                                                          |
| <b>Supporting</b>     | <b>8.12(C)</b> | explain and compare simple interest and compound interest earnings                                                                                                                                                                                        |
| <b>Readiness</b>      | <b>8.12(D)</b> | Calculate and compare simple interest and compound interest earnings                                                                                                                                                                                      |
| <b>Not Tested</b>     | <b>8.12(E)</b> | Identify and explain the advantages and disadvantages of different payment methods                                                                                                                                                                        |
| <b>Not Tested</b>     | <b>8.12(F)</b> | Analyze situations to determine if they represent financially responsible decisions and identify the benefits of financial responsibility and the costs of financial irresponsibility                                                                     |
| <b>Supporting</b>     | <b>8.12(G)</b> | 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 |

**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS ANSWER KEY**

| NUMBER AND OPERATIONS          |                 |   |   |   |   |   |   |   |   |    |
|--------------------------------|-----------------|---|---|---|---|---|---|---|---|----|
| TEKS<br>Assessed               | Question Number |   |   |   |   |   |   |   |   |    |
|                                | 1               | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| <b>8.2A MA 1</b><br>Supporting | D               | H | A | G | C | J | A | J | D | G  |
| <b>8.2A MA 2</b><br>Supporting | C               | G | B | H | B | G | D | J | C | F  |
| <b>8.2B MA 1</b><br>Supporting | A               | H | B | G | C | J | B | H | B | H  |
| <b>8.2B MA 2</b><br>Supporting | C               | F | A | H | D | G | A | G | C | H  |
| <b>8.2C MA 1</b><br>Supporting | C               | J | A | H | D | F | B | G | D | F  |
| <b>8.2C MA 2</b><br>Supporting | D               | H | C | F | A | G | C | F | C | H  |
| <b>8.2D MA 1</b><br>Readiness  | A               | H | D | G | B | F | C | G | C | F  |
| <b>8.2D MA 2</b><br>Readiness  | C               | F | C | F | D | J | D | H | B | G  |

**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS ANSWER KEY**

| <b>PROPORTIONALITY</b>         |                        |          |          |          |          |          |          |          |          |           |
|--------------------------------|------------------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| <b>TEKS<br/>Assessed</b>       | <b>Question Number</b> |          |          |          |          |          |          |          |          |           |
|                                | <b>1</b>               | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> | <b>10</b> |
| <b>8.3A MA 1</b><br>Supporting | B                      | H        | C        | J        | C        | H        | J        | H        | A        | F         |
| <b>8.3A MA 2</b><br>Supporting | D                      | J        | D        | H        | A        | F        | H        | G        | D        | F         |
| <b>8.3B MA 1</b><br>Supporting | 36                     | G        | A        | J        | B        | 15       | A        | J        | C        | H         |
| <b>8.3B MA 2</b><br>Supporting | C                      | G        | B        | J        | A        | 8.5      | C        | G        | B        | J         |
| <b>8.3C MA 1</b><br>Readiness  | D                      | H        | B        | G        | A        | F        | C        | J        | B        | F         |
| <b>8.3C MA 2</b><br>Readiness  | B                      | G        | A        | H        | C        | J        | B        | F        | C        | G         |
| <b>8.4A MA 1</b><br>Supporting | 2                      | F        | C        | F        | B        | H        | D        | G        | B        | J         |
| <b>8.4A MA 2</b><br>Supporting | 4                      | G        | D        | H        | B        | H        | A        | J        | A        | H         |
| <b>8.4B MA 1</b><br>Readiness  | C                      | F        | D        | G        | B        | G        | A        | H        | D        | J         |
| <b>8.4B MA 2</b><br>Readiness  | D                      | J        | B        | F        | B        | H        | 6        | F        | A        | H         |
| <b>8.4C MA 1</b><br>Readiness  | B                      | G        | C        | G        | D        | J        | A        | 5        | C        | H         |
| <b>8.4C MA 2</b><br>Readiness  | A                      | F        | B        | F        | C        | F        | B        | 1.5      | D        | H         |
| <b>8.5A MA 1</b><br>Supporting | C                      | J        | D        | H        | B        | G        | D        | 5        | A        | J         |
| <b>8.5A MA 2</b><br>Supporting | B                      | H        | D        | J        | A        | F        | C        | H        | B        | G         |
| <b>8.5B MA 1</b><br>Supporting | B                      | J        | B        | F        | A        | H        | C        | G        | C        | J         |
| <b>8.5B MA 2</b><br>Supporting | B                      | G        | A        | G        | D        | H        | C        | F        | A        | G         |
| <b>8.5C MA 1</b><br>Supporting | A                      | G        | C        | J        | A        | F        | B        | H        | D        | H         |
| <b>8.5C MA 2</b><br>Supporting | D                      | G        | C        | J        | B        | F        | A        | J        | B        | J         |
| <b>8.5D MA 1</b><br>Supporting | B                      | F        | B        | H        | A        | J        | C        | H        | A        | G         |
| <b>8.5D MA 2</b><br>Supporting | C                      | F        | C        | F        | A        | J        | B        | G        | B        | H         |
| <b>8.5E MA 1</b><br>Supporting | D                      | H        | C        | H        | C        | J        | 1275     | H        | D        | F         |
| <b>8.5E MA 2</b><br>Supporting | B                      | F        | B        | G        | B        | J        | 1250     | H        | B        | G         |
| <b>8.5F MA 1</b><br>Supporting | B                      | F        | D        | G        | A        | G        | B        | J        | B        | F         |

**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS ANSWER KEY**

| <b>PROPORTIONALITY</b>         |                        |          |          |          |          |          |          |          |          |           |
|--------------------------------|------------------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| <b>TEKS<br/>Assessed</b>       | <b>Question Number</b> |          |          |          |          |          |          |          |          |           |
|                                | <b>1</b>               | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> | <b>10</b> |
| <b>8.5F MA 2</b><br>Supporting | C                      | H        | D        | F        | A        | J        | B        | F        | C        | H         |
| <b>8.5G MA 1</b><br>Readiness  | A                      | H        | D        | G        | A        | G        | D        | J        | D        | H         |
| <b>8.5G MA 2</b><br>Readiness  | C                      | G        | C        | J        | D        | F        | A        | F        | C        | G         |
| <b>8.5H MA 1</b><br>Supporting | A                      | F        | B        | F        | C        | G        | D        | G        | B        | G         |
| <b>8.5H MA 2</b><br>Supporting | B                      | H        | B        | G        | C        | H        | B        | F        | B        | J         |
| <b>8.5I MA 1</b><br>Readiness  | A                      | G        | B        | F        | C        | J        | D        | F        | B        | H         |
| <b>8.5I MA 2</b><br>Readiness  | B                      | F        | C        | G        | D        | H        | B        | J        | C        | G         |

**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS ANSWER KEY**

| <b>EXPRESSIONS, EQUATIONS, AND RELATIONSHIPS</b> |                        |          |          |          |          |          |          |          |          |           |
|--------------------------------------------------|------------------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| <b>TEKS<br/>Assessed</b>                         | <b>Question Number</b> |          |          |          |          |          |          |          |          |           |
|                                                  | <b>1</b>               | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> | <b>10</b> |
| <b>8.6A MA 1</b><br>Supporting                   | C                      | J        | A        | G        | A        | H        | B        | H        | C        | H         |
| <b>8.6A MA 2</b><br>Supporting                   | B                      | H        | D        | H        | C        | H        | D        | J        | A        | G         |
| <b>8.6C MA 1</b><br>Supporting                   | D                      | J        | C        | F        | C        | G        | A        | H        | D        | J         |
| <b>8.6C MA 2</b><br>Supporting                   | C                      | F        | A        | H        | B        | H        | D        | G        | A        | G         |
| <b>8.7A MA 1</b><br>Readiness                    | C                      | H        | C        | J        | 19       | G        | D        | J        | A        | H         |
| <b>8.7A MA 2</b><br>Readiness                    | A                      | H        | B        | F        | A        | H        | B        | J        | C        | F         |
| <b>8.7B MA 1</b><br>Readiness                    | A                      | G        | B        | G        | B        | F        | D        | H        | D        | G         |
| <b>8.7B MA 2</b><br>Readiness                    | B                      | F        | 784      | G        | A        | H        | C        | F        | A        | G         |
| <b>8.7C MA 1</b><br>Readiness                    | D                      | G        | C        | J        | D        | G        | B        | F        | B        | J         |
| <b>8.7C MA 2</b><br>Readiness                    | B                      | J        | D        | F        | C        | G        | C        | H        | B        | G         |
| <b>8.7D MA 1</b><br>Supporting                   | A                      | G        | D        | H        | A        | H        | B        | H        | C        | J         |
| <b>8.7D MA 2</b><br>Supporting                   | B                      | G        | A        | H        | B        | F        | C        | J        | D        | G         |
| <b>8.8A MA 1</b><br>Supporting                   | B                      | F        | C        | F        | D        | G        | A        | H        | B        | G         |
| <b>8.8A MA 2</b><br>Supporting                   | C                      | H        | C        | F        | A        | J        | C        | G        | C        | F         |
| <b>8.8B MA 1</b><br>Supporting                   | B                      | H        | A        | F        | A        | J        | B        | F        | A        | F         |
| <b>8.8B MA 2</b><br>Supporting                   | A                      | H        | C        | F        | A        | H        | C        | H        | C        | F         |
| <b>8.8C MA 1</b><br>Readiness                    | D                      | F        | D        | H        | B        | G        | B        | J        | C        | F         |
| <b>8.8C MA 2</b><br>Readiness                    | C                      | G        | B        | J        | C        | H        | C        | H        | D        | G         |
| <b>8.8D MA 1</b><br>Supporting                   | C                      | J        | D        | H        | D        | G        | A        | J        | C        | F         |
| <b>8.8D MA 2</b><br>supporting                   | A                      | G        | D        | J        | A        | H        | 15       | H        | 160      | G         |
| <b>8.9A MA 1</b><br>Supporting                   | A                      | G        | C        | H        | C        | G        | A        | J        | C        | J         |
| <b>8.9A MA 2</b><br>supporting                   | B                      | H        | C        | J        | D        | G        | D        | G        | D        | F         |



**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS ANSWER KEY**

| <b>TWO-DIMENSIONAL FIGURES</b>  |                        |          |          |          |          |          |          |          |          |           |
|---------------------------------|------------------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| <b>TEKS<br/>Assessed</b>        | <b>Question Number</b> |          |          |          |          |          |          |          |          |           |
|                                 | <b>1</b>               | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> | <b>10</b> |
| <b>8.10A MA 1</b><br>Supporting | C                      | J        | D        | J        | C        | F        | D        | G        | B        | F         |
| <b>8.10A MA 2</b><br>Supporting | B                      | H        | A        | H        | C        | H        | B        | F        | C        | J         |
| <b>8.10B MA 1</b><br>Supporting | A                      | J        | D        | H        | A        | J        | D        | H        | A        | J         |
| <b>8.10B MA 2</b><br>Supporting | C                      | J        | B        | F        | C        | G        | D        | J        | A        | J         |
| <b>8.10C MA 1</b><br>Readiness  | A                      | F        | C        | G        | B        | H        | A        | G        | C        | J         |
| <b>8.10C MA 2</b><br>Readiness  | B                      | J        | B        | G        | A        | G        | B        | J        | C        | H         |
| <b>8.10D MA 1</b><br>Supporting | C                      | J        | B        | 24       | C        | J        | A        | G        | C        | F         |
| <b>8.10D MA 2</b><br>Supporting | 105                    | J        | D        | H        | C        | H        | A        | G        | D        | J         |

**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS ANSWER KEY**

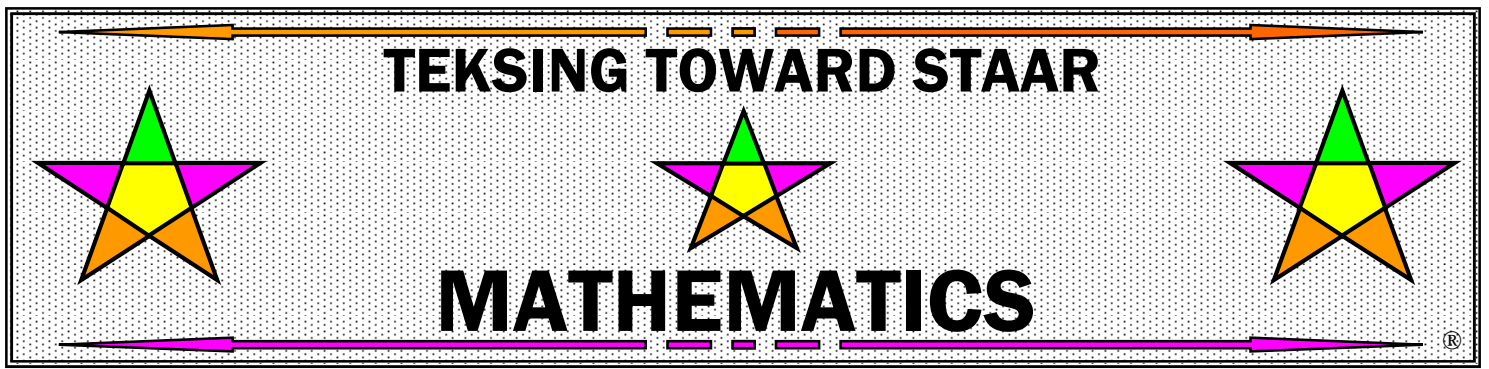
**MEASUREMENT AND DATA**

| <b>TEKS<br/>Assessed</b>        | <b>Question Number</b> |          |          |          |          |          |          |          |          |           |
|---------------------------------|------------------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
|                                 | <b>1</b>               | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> | <b>10</b> |
| <b>8.11A MA 1</b><br>Readiness  | C                      | J        | B        | J        | C        | H        | A        | H        | A        | F         |
| <b>8.11A MA 2</b><br>Readiness  | D                      | H        | D        | F        | C        | J        | A        | J        | F        | G         |
| <b>8.11B MA 1</b><br>Supporting | B                      | H        | B        | F        | D        | F        | C        | H        | C        | J         |
| <b>8.11B MA 2</b><br>Supporting | C                      | F        | A        | G        | A        | J        | B        | H        | C        | G         |

**TEKSING TOWARD STAAR  
GRADE 8 MINI-ASSESSMENTS ANSWER KEY**

**PERSONAL FINANCIAL LITERACY**

| <b>TEKS<br/>Assessed</b>      | <b>Question Number</b> |          |          |          |          |          |          |          |          |           |
|-------------------------------|------------------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
|                               | <b>1</b>               | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> | <b>10</b> |
| <b>8.12A MA</b><br>Supporting | B                      | J        | C        | J        | B        | H        | C        | F        | D        | J         |
| <b>8.12C MA</b><br>Supporting | D                      | 75       | A        | G        | C        | G        | B        | F        | C        | H         |
| <b>8.12D MA</b><br>Supporting | C                      | H        | C        | H        | A        | G        | A        | H        | A        | J         |
| <b>8.12G MA</b><br>Supporting | C                      | G        | B        | J        | D        | H        | B        | G        | B        | 3000      |



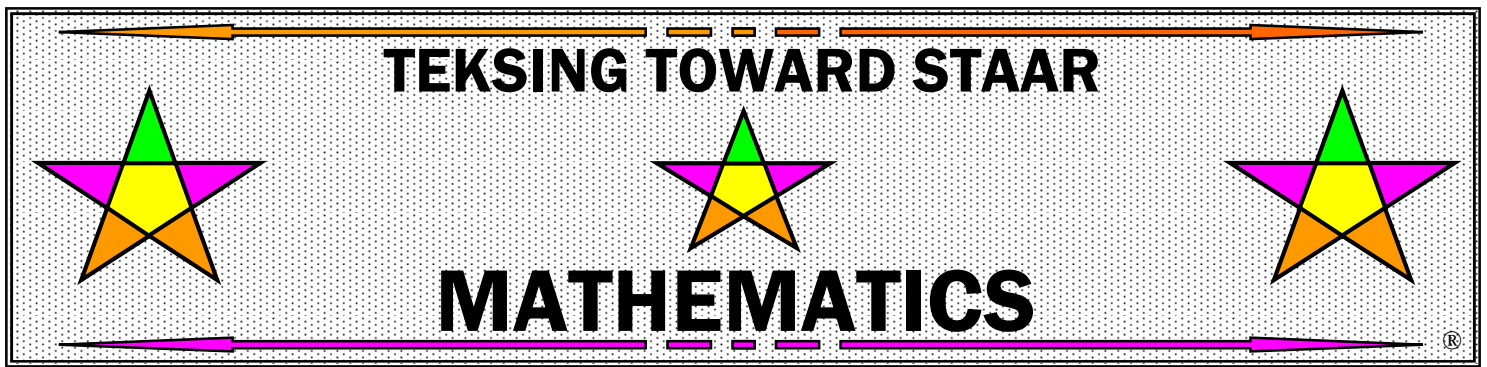
# **GRADE 8**

## Mini-Assessments

## STAAR Format

# **TEKS CATEGORY 1**

## Numbers and Operations



# **GRADE 8**

## **Mini-Assessments**

## **STAAR Format**

## **TEKS Categories**

# **TEKS CATEGORY 1**

## **8.2A**

## 8.2A Mini-Assessment

1. Which statement is NOT true?

- A** Every integer is a real number.
  - B** Every counting number is an integer.
  - C** Every integer is a rational number.
  - D** Every decimal number is an irrational number.
- 

2. Which does NOT represent a rational number?

- F**  $\sqrt{100}$
  - G**  $\sqrt{144}$
  - H**  $\sqrt{90}$
  - J**  $0.\bar{8}$
- 

3. Which number is an irrational number?

- A**  $\sqrt{40}$
  - B**  $\sqrt{49}$
  - C**  $\sqrt{100}$
  - D**  $\sqrt{9}$
- 

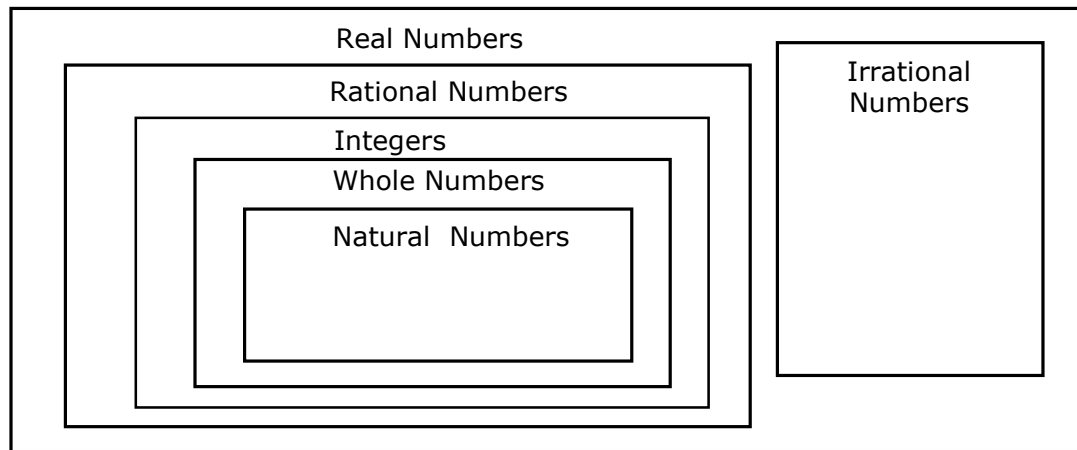
4. A square has an area of  $x$  square units.  $x$  is a whole number that is a perfect square. What set of numbers best describes the length of the side of the square?

- F** Rational numbers
- G** Counting numbers
- H** Integers
- J** Irrational numbers

5. Which of the following represents a set of irrational numbers?

- A**  $\{\sqrt{3}, \sqrt{16}, \sqrt{21}, \sqrt{25}\}$
- B**  $\{3.1, 1.234..., \sqrt{36}, \pi\}$
- C**  $\left\{\frac{12\pi}{4}, \frac{\sqrt{2}}{4}, 1.121314..., \sqrt{5}\right\}$
- D**  $\{23.\bar{1}, 1.234, \sqrt{36}, 4\pi\}$

6. This diagram shows the relationship of the subsets of the real number system.



Which of the following sets contain only rational numbers that are integers?

- F**  $\{6, -3, 1.25\}$
- G**  $\{8, 4, 0.5\}$
- H**  $\left\{-8, \frac{4}{3}, \sqrt{16}, 25\right\}$
- J**  $\left\{\frac{16}{4}, -8, 7, \sqrt{9}\right\}$

7. Which statement is true?

- A** 0.121212... is a rational number.
- B** 0.34353637 is an irrational number.
- C** 8.14 is an integer.
- D** 5.12345 is an irrational number.

8. Which of the following is NOT a subset of the rational numbers?

- F** Integers
- G** Whole Numbers
- H** Perfect square integers
- J** Irrational numbers

---

9. Look at the list of numbers below.

1.313233

$\sqrt{64}$

$3\pi$

$\frac{\sqrt{2}}{2}$

Which of the numbers in the list are irrational numbers?

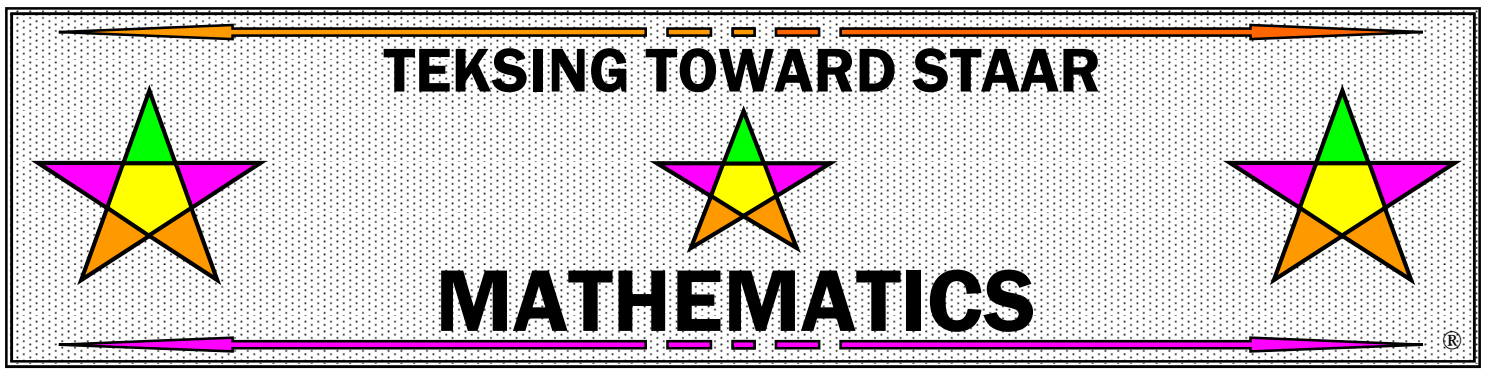
- A** None of them
- B** All of them
- C** 1.313233 and  $\sqrt{64}$  only
- D**  $3\pi$  and  $\frac{\sqrt{2}}{2}$  only

---

10. Edie was asked to create a set of numbers so that 2 were integers, 2 were rational numbers that were not integers, and 2 were irrational numbers. Which of the following sets would satisfy the criteria for Edie's set?

- F**  $\left\{ \sqrt{13}, \pi, -3, 8, 1.6, \frac{18}{6} \right\}$
- G**  $\left\{ 8, \sqrt{120}, 1.3333, 2\pi, -6, \frac{20}{7} \right\}$
- H**  $\left\{ 5\sqrt{2}, 7\pi, 11, -14, 35, \frac{24}{4} \right\}$
- J**  $\left\{ \sqrt{21}, 12.3456..., 10, -14, 26, 3\frac{1}{3} \right\}$





# **GRADE 8**

## **Mini-Assessments**

### **STAAR Format**

# **TEKS CATEGORY 1**

## **8.2C**

## 8.2C Mini-Assessment

1. Which of the following represents 3,280 written in scientific notation?

- A**  $3.28 \times 10^2$
  - B**  $32.8 \times 10^2$
  - C**  $3.28 \times 10^3$
  - D**  $0.328 \times 10^4$
- 

2. How is  $1.2 \times 10^{-4}$  written in standard decimal notation?

- F** 12,000
  - G** 1,200
  - H** 0.012
  - J** 0.00012
- 

3. 48 liters is equivalent to 48,000 milliliters. Express the milliliters in scientific notation.

- A**  $4.8 \times 10^4$
  - B**  $4.8 \times 10^6$
  - C**  $4.8 \times 10^{-4}$
  - D**  $48 \times 10^3$
- 

4. Which expression represents a number that is larger than 8,000 but smaller than 80,000?

- F**  $8.0 \times 10^4$
- G**  $8.0 \times 10^3$
- H**  $7.9 \times 10^4$
- J**  $7.8 \times 10^2$

5. Which of the following numbers would have  $10^3$  in its scientific notation?
- A** 380
  - B** 256.7
  - C** 12,500
  - D** 9,700
- 
6. In 2013, the revenue of a major oil company was approximately \$421 billion. How is 421 billion represented in scientific notation?
- F**  $4.21 \times 10^{11}$
  - G**  $4.21 \times 10^6$
  - H**  $421 \times 10^9$
  - J**  $42.1 \times 10^{10}$
- 
7. A millimeter is approximately 0.00109 yards. How is this number expressed in scientific notation?
- A**  $1.09 \times 10^3$
  - B**  $1.09 \times 10^{-3}$
  - C**  $1.09 \times 10^{-4}$
  - D**  $1.09 \times 10^{-2}$
- 
8. A micron is approximately  $3.94 \times 10^{-5}$ . How is this number written in standard decimal notation?
- F** 0.00394
  - G** 0.0000394
  - H** 394,000
  - J** 0.000394

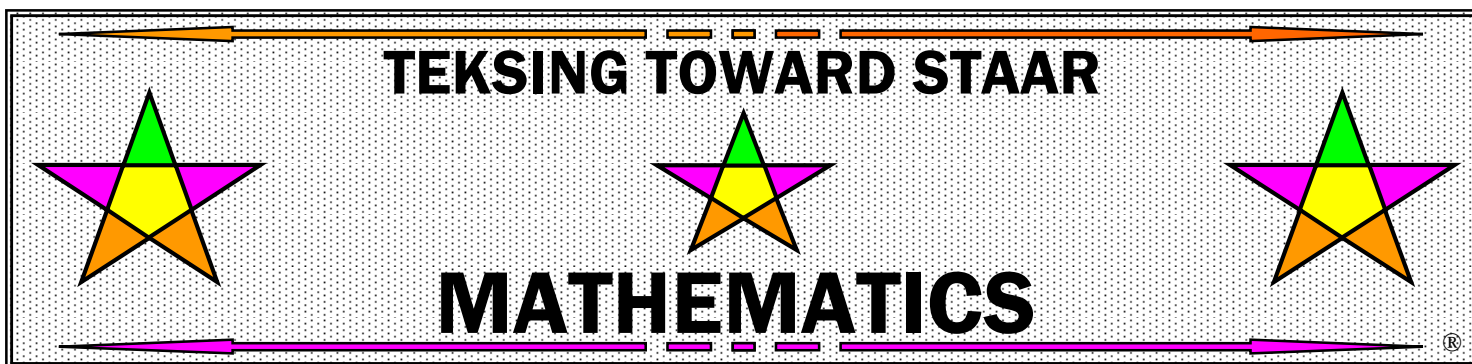
9. If a number written in scientific notation is  $a \times 10^{-3}$ , which of the following could be the number?

- A** 23,000
- B** 3,200
- C** 0.00023
- D** 0.0057

---

10. Which of the following is NOT written in scientific notation?

- F**  $32.7 \times 10^3$
- G**  $1.27 \times 10^3$
- H**  $4.7 \times 10^2$
- J**  $6.1 \times 10^{-3}$



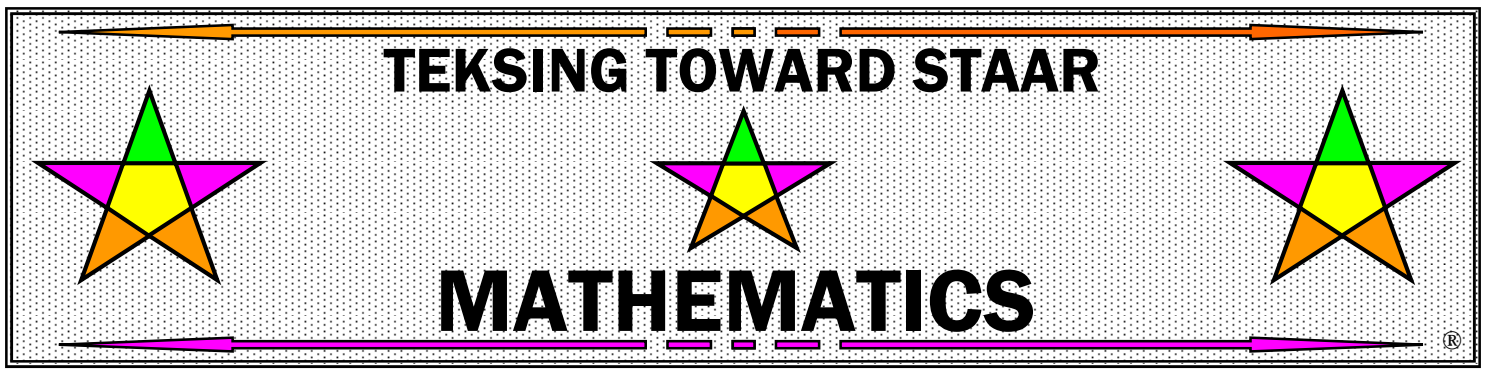
# **GRADE 8**

## Mini-Assessments

## STAAR Format

# **TEKS CATEGORY 2**

## Proportionality



# **GRADE 8**

## Mini-Assessments

## STAAR Format

# **TEKS CATEGORY 2**

## **8.5E**

## Mini-Assessment 8.5E

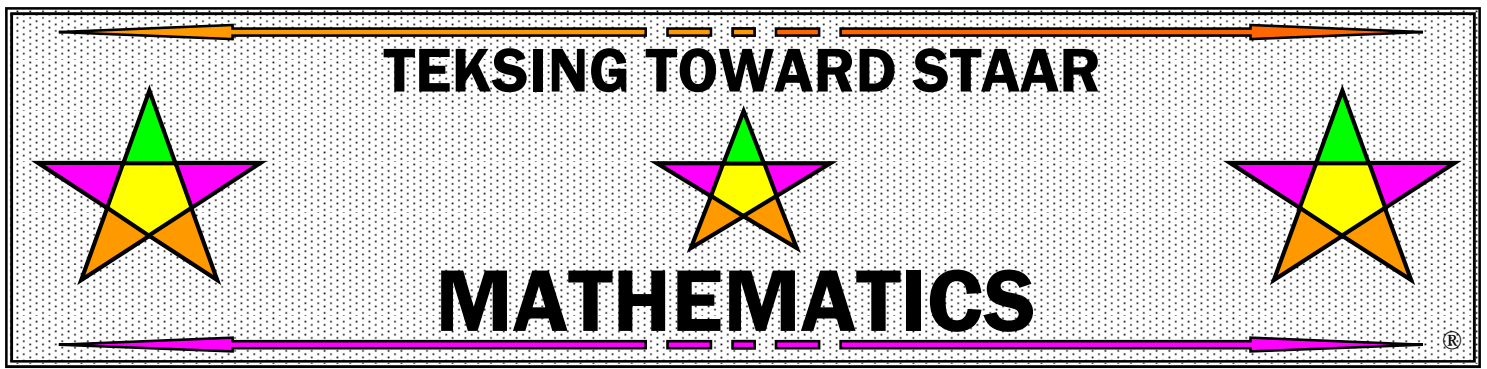
1. Ms. Robertson owns a large daycare center. She is required to have 1 supervisor for every 4 trainees. If she currently has 2 supervisors and 20 trainees, what is the minimum number of additional supervisors she must hire?
- A** 16  
**B** 4  
**C** 2  
**D** 3
- 
2. If  $y$  is directly proportional with  $x$  and  $y = 36$  when  $x = 30$ , what is the value of  $y$  when  $x = 40$ ?
- F** 46  
**G** 42  
**H** 48  
**J** 52
- 
3. The number of soft pretzels processed by a machine in a bakery is directly proportional to the number of minutes that the machine runs. The machine can process 600 pretzels in 10 minutes of continuous running. How many pretzels would the machine process in 52 minutes of continuous running?
- A** 1,200  
**B** 1,500  
**C** 3,120  
**D** 5,200
- 
4. The amount of amount of cheese consumed varies directly with the population of the country. It is estimated that on average 700 people in the United States consume 2 tons of cheese yearly. If Texas follows the same trend as the United States, approximately how many tons of cheese will the 20,850,000 Texans consume this year?
- F** 600 tons  
**G** 16,000 tons  
**H** 60,000 tons  
**J** 100,000 tons

5. A veterinarian uses a table of values to determine the amount of medicine to give a dog. He determines the table shows a direct variation between the amount of medicine and the weight of the dog. The table prescribes a 12-pound dog be given 40 milligrams of medicine. How much medicine should the doctor give a 60-pound dog?
- A** 140 mg  
**B** 180 mg  
**C** 200 mg  
**D** Not Here
- 
6. When 10 quarts of water was added to an empty aquarium, the weight of the aquarium increased 20 pounds. The aquarium holds 35 quarts of water when filled to capacity. If the weight of the water varies directly with the number of quarts used, about how much will the water in the aquarium weigh when it is filled to capacity?
- F** 40 pounds  
**G** 50 pounds  
**H** 60 pounds  
**J** 70 pounds
- 
7. The amount of money Debbie earns varies directly with the number of hours she works. If she earns \$600 when she works 40 hours, how much will she earn for working 85 hours?
- Record your answer on the grid below. Be sure to use the correct place value.

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
|   |   |   |   | . |   |   |
| 0 | 0 | 0 | 0 |   | 0 | 0 |
| 1 | 1 | 1 | 1 |   | 1 | 1 |
| 2 | 2 | 2 | 2 |   | 2 | 2 |
| 3 | 3 | 3 | 3 |   | 3 | 3 |
| 4 | 4 | 4 | 4 |   | 4 | 4 |
| 5 | 5 | 5 | 5 |   | 5 | 5 |
| 6 | 6 | 6 | 6 |   | 6 | 6 |
| 7 | 7 | 7 | 7 |   | 7 | 7 |
| 8 | 8 | 8 | 8 |   | 8 | 8 |
| 9 | 9 | 9 | 9 |   | 9 | 9 |



8. The amount of money Cheri earns varies directly with the number of hours she works. If she earns \$150 when she works 20 hours, how much will she earn for working 60 hours?
- F** \$240  
**G** \$275  
**H** \$450  
**J** \$400
- 
9. A cake decorator can decorate 6 cakes in 90 minutes. At this rate how many cakes could he decorate during his 8-hour workday if he takes two 15-minute coffee breaks?
- A** 20  
**B** 23  
**C** 25  
**D** 30
- 
10. Lucy can type 300 words in 5 minutes. How many words can Lucy type in 27 minutes?
- F** 1,600  
**G** 1,920  
**H** 1,875  
**J** 1,250



# **GRADE 8**

## Mini-Assessments

## STAAR Format

# **TEKS CATEGORY 2**

## **8.5G**

## Mini-Assessment 8.5G

1. Which set of coordinates describes a function?

- A**  $\{(2, -4), (-2, -7), (0, 2), (-3, 8)\}$   
**B**  $\{(8, 9), (1, 5), (1, 6), (-1, 11)\}$   
**C**  $\{(6, -4), (-3, -3), (-8, -8), (6, -1)\}$   
**D**  $\{(8, 3), (-8, -4), (2, 7), (2, 2)\}$

2. Which table describes a function?

**F**

|          |   |   |   |    |    |
|----------|---|---|---|----|----|
| <b>x</b> | 1 | 0 | 1 | 2  | 3  |
| <b>y</b> | 5 | 0 | 4 | 16 | 36 |

**H**

|          |   |   |   |   |   |
|----------|---|---|---|---|---|
| <b>x</b> | 1 | 0 | 4 | 2 | 3 |
| <b>y</b> | 3 | 3 | 3 | 3 | 3 |

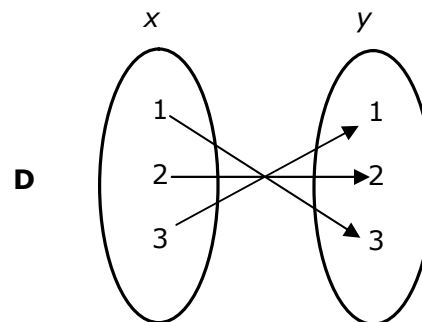
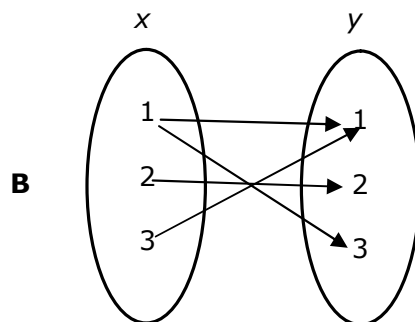
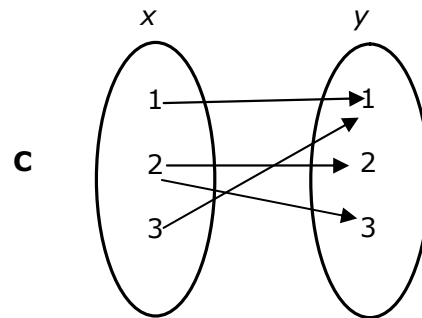
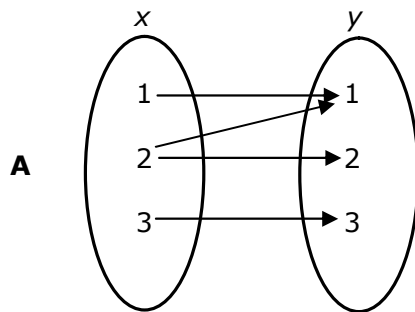
**G**

|          |   |   |   |    |    |
|----------|---|---|---|----|----|
| <b>x</b> | 2 | 2 | 3 | 4  | 6  |
| <b>y</b> | 5 | 0 | 4 | 16 | 36 |

**J**

|          |   |   |   |   |   |
|----------|---|---|---|---|---|
| <b>x</b> | 2 | 0 | 1 | 0 | 3 |
| <b>y</b> | 3 | 1 | 4 | 6 | 7 |

3. Which mapping represents a function?



4. Which table does NOT describe a function?

**F**

|          |   |   |   |   |    |
|----------|---|---|---|---|----|
| <b>x</b> | 1 | 0 | 2 | 3 | 4  |
| <b>y</b> | 3 | 0 | 6 | 9 | 10 |

**H**

|          |   |   |   |   |   |
|----------|---|---|---|---|---|
| <b>x</b> | 1 | 0 | 3 | 2 | 4 |
| <b>y</b> | 7 | 7 | 7 | 7 | 7 |

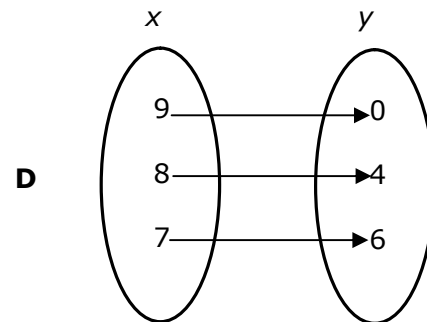
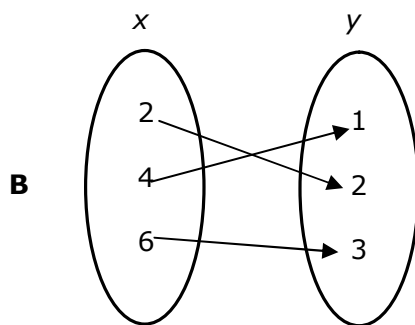
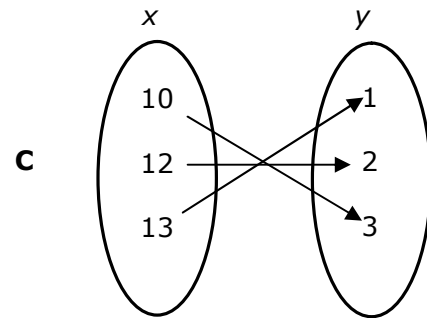
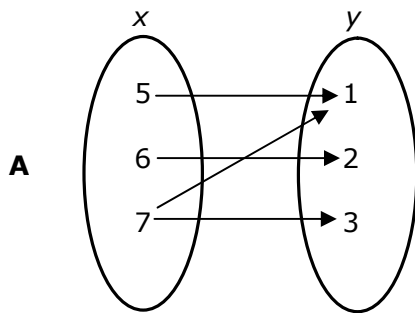
**G**

|          |   |   |   |   |    |
|----------|---|---|---|---|----|
| <b>x</b> | 1 | 3 | 9 | 7 | 9  |
| <b>y</b> | 2 | 4 | 6 | 8 | 10 |

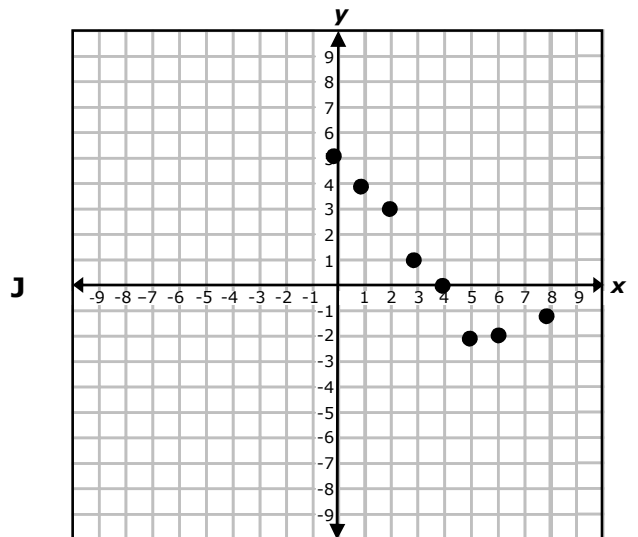
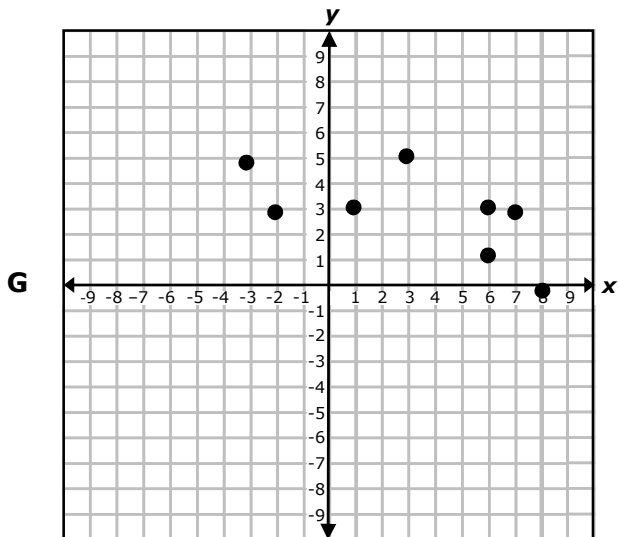
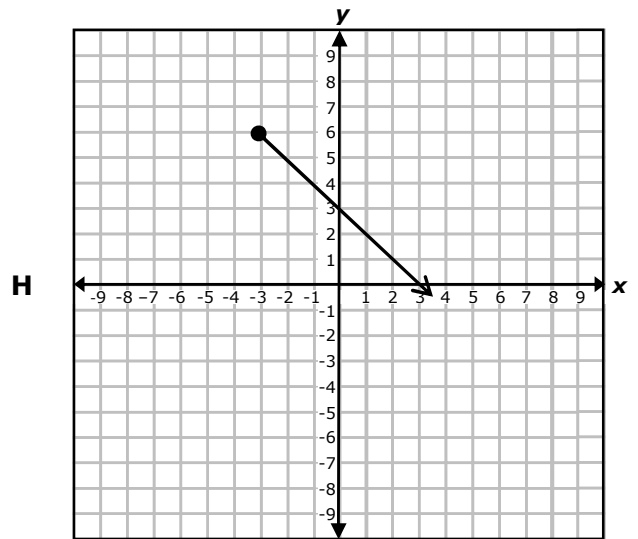
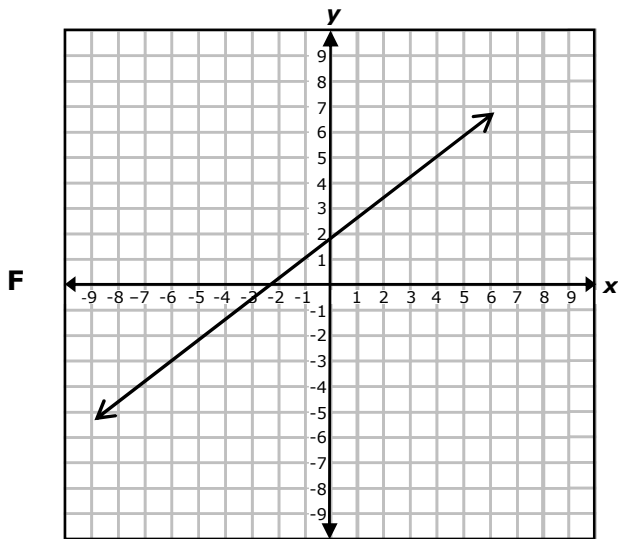
**J**

|          |   |    |   |    |   |
|----------|---|----|---|----|---|
| <b>x</b> | 2 | 0  | 1 | 4  | 3 |
| <b>y</b> | 4 | 10 | 9 | 11 | 7 |

5. Which mapping does NOT represent a function?



6. Which graph does NOT describe a function?



7. Which set of coordinates describe a function?

- A**  $\{(2, 4), (-2, 7), (6, 2), (-2, 8)\}$   
**B**  $\{(7, 2), (3, 9), (3, 10), (-1, 7)\}$   
**C**  $\{(7, -4), (3, -3), (2, -2), (7, -8)\}$   
**D**  $\{(6, 3), (-6, 4), (4, 0), (1, 2)\}$

8. Which table does NOT describe a function?

**F**

|          |   |   |   |   |   |
|----------|---|---|---|---|---|
| <b>x</b> | 1 | 0 | 4 | 2 | 3 |
| <b>y</b> | 3 | 0 | 2 | 5 | 7 |

**H**

|          |   |   |   |   |   |
|----------|---|---|---|---|---|
| <b>x</b> | 1 | 0 | 4 | 2 | 3 |
| <b>y</b> | 3 | 2 | 6 | 4 | 5 |

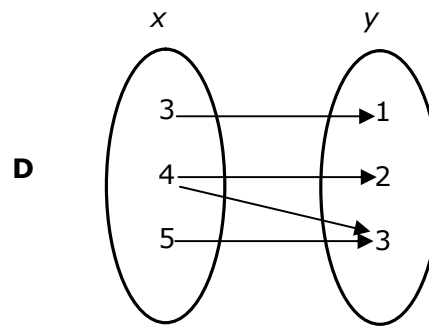
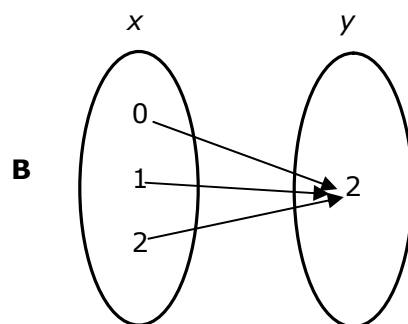
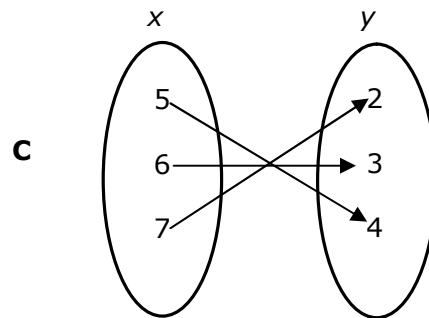
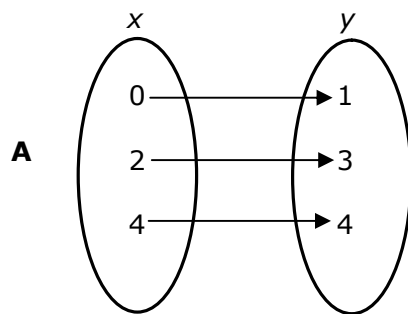
**G**

|          |   |   |   |   |   |
|----------|---|---|---|---|---|
| <b>x</b> | 1 | 2 | 3 | 4 | 5 |
| <b>y</b> | 2 | 3 | 4 | 5 | 6 |

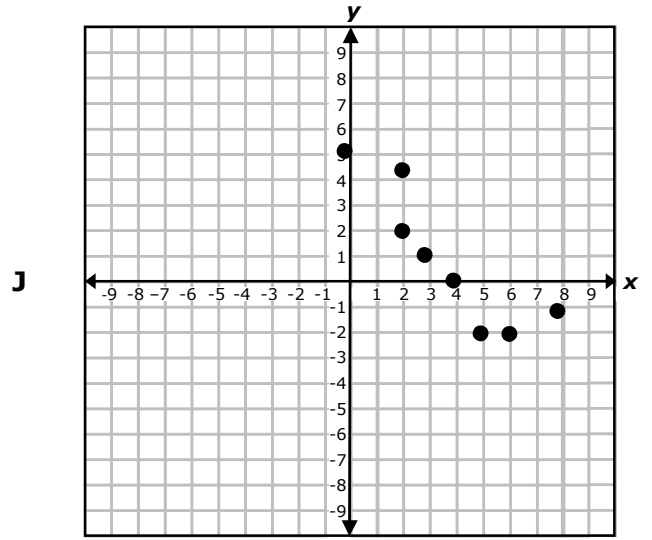
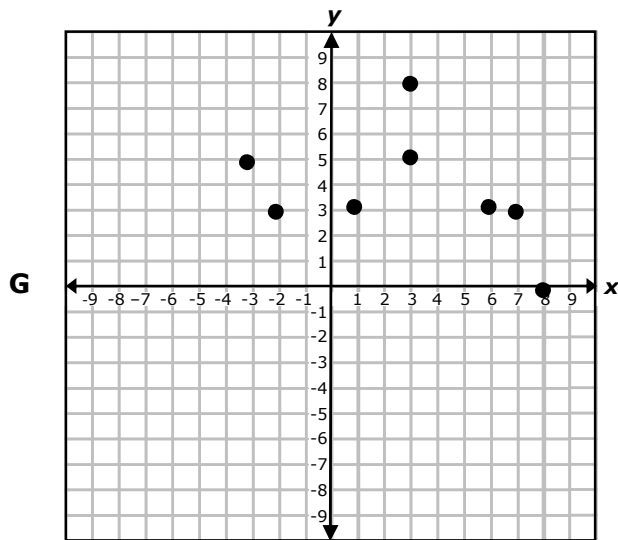
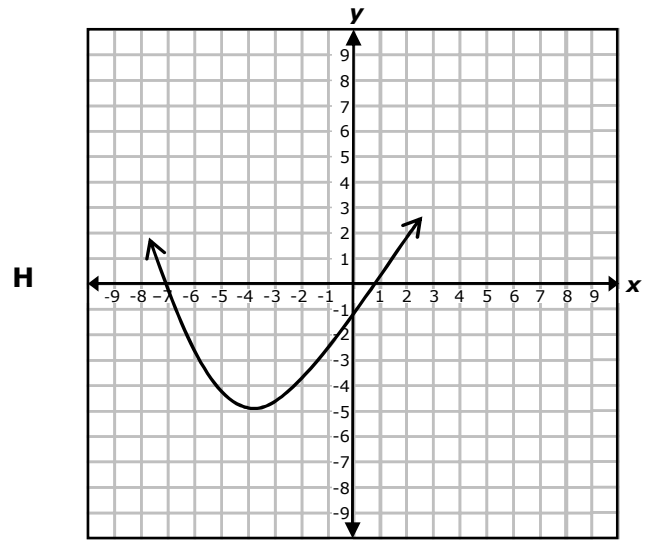
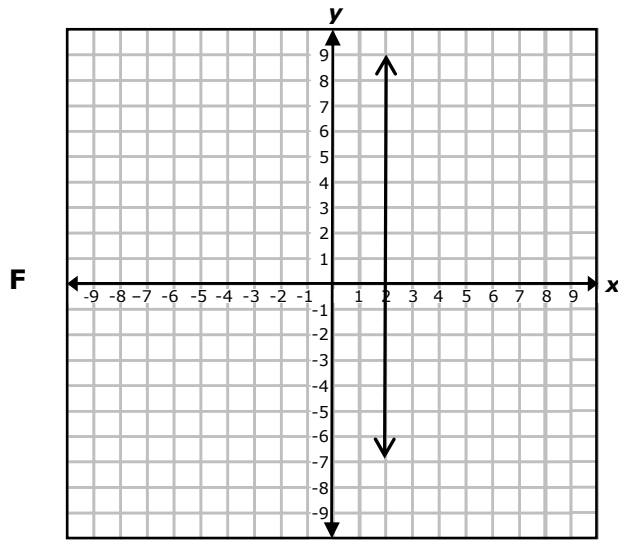
**J**

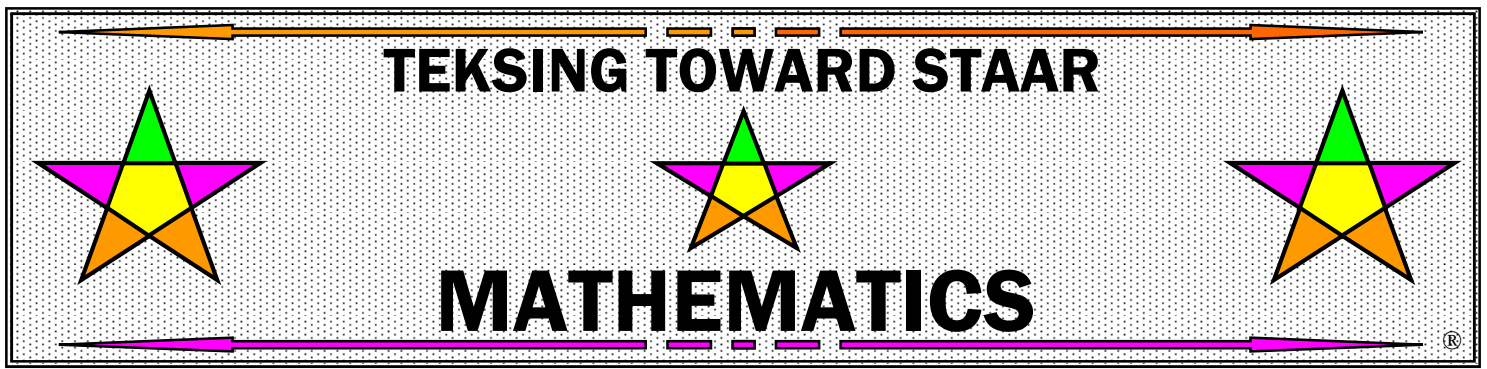
|          |   |   |   |   |   |
|----------|---|---|---|---|---|
| <b>x</b> | 2 | 0 | 0 | 4 | 3 |
| <b>y</b> | 5 | 5 | 3 | 6 | 6 |

9. Which mapping does NOT represent a function?



10. Which graph describes a function?





# **GRADE 8**

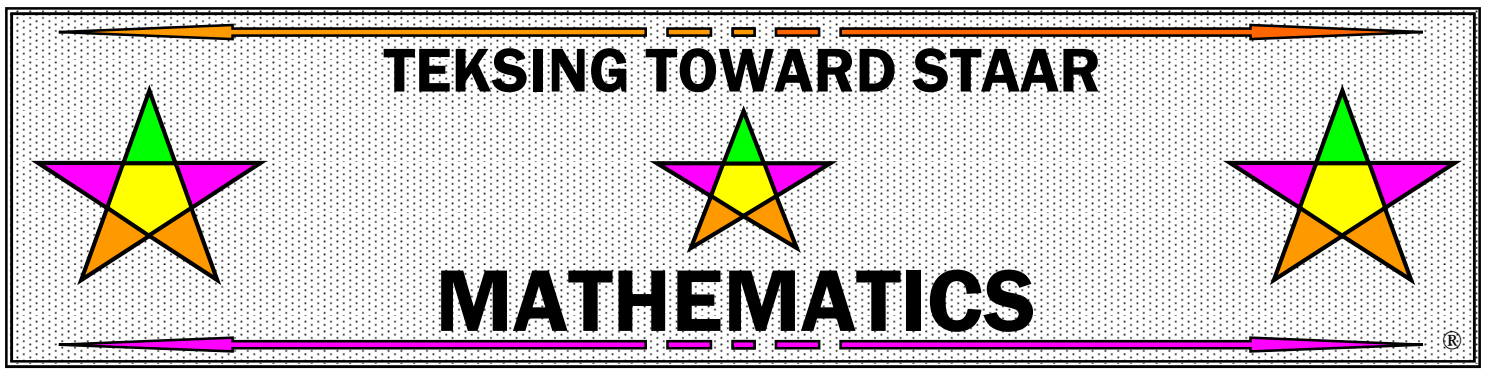
## Mini-Assessments

## STAAR Format

# **TEKS CATEGORY 3**

## Expressions, Equations, and Relationships





# **GRADE 8**

## Mini-Assessments

## STAAR Format

# **TEKS CATEGORY 3**

## 8.7A

## Mini-Assessment 8.7A

1. A cone with a radius of 5 inches has a volume of approximately 314 cubic inches. Which of the following best represents the height of the cone?
- A** 8 inches
  - B** 4 inches
  - C** 12 inches
  - D** 16 inches
- 
2. A sphere has a volume of approximately 113 cubic units. Which of the following best represents the radius of the sphere?
- F** 4 units
  - G** 2 units
  - H** 3 units
  - J** 5 units
- 
3. The circumference of the great circle of a sphere is  $12\pi$  inches. Which of the following expressions can be used to approximate the volume of the sphere?
- A**  $12^3 \times 3.14 \times \frac{4}{3}$
  - B**  $12^2 \times 3.14 \times \frac{4}{3}$
  - C**  $6^3 \times 3.14 \times \frac{4}{3}$
  - D**  $24^3 \times 3.14 \times \frac{4}{3}$
- 
4. The volume of a cylinder is approximately 942 cubic inches. The height of the cylinder is 12 inches. Which is the best approximation for the radius of the cylinder?
- F** 4 inches
  - G** 6 inches
  - H** 7 inches
  - J** 5 inches

5. Ms. Samson is using several cones to decorate for a party. The cones she has chosen are 8 inches tall and have a radius of 3 inches. What is the volume of one of the cones to the nearest whole cubic inch?

Record your answer on the grid below. Be sure to use the correct place value.

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
|   |   |   |   |   | . |   |   |
| + | 0 | 0 | 0 | 0 |   | 0 | 0 |
| - | 1 | 1 | 1 | 1 |   | 1 | 1 |
|   | 2 | 2 | 2 | 2 |   | 2 | 2 |
|   | 3 | 3 | 3 | 3 |   | 3 | 3 |
|   | 4 | 4 | 4 | 4 |   | 4 | 4 |
|   | 5 | 5 | 5 | 5 |   | 5 | 5 |
|   | 6 | 6 | 6 | 6 |   | 6 | 6 |
|   | 7 | 7 | 7 | 7 |   | 7 | 7 |
|   | 8 | 8 | 8 | 8 |   | 8 | 8 |
|   | 9 | 9 | 9 | 9 |   | 9 | 9 |

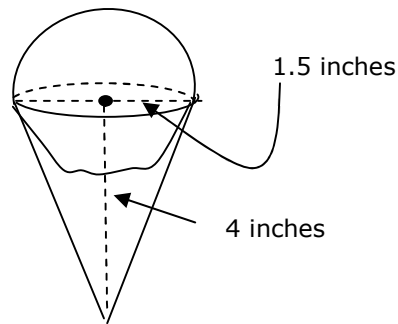
6. Ben drew a cylinder with a ten-inch diameter and a height of 8 inches. Robert drew a cylinder with an eight-inch diameter and a height of 10 inches. Ben stated that he thought the volumes of their two cylinders would be equal. Which statement is true?

- F** Ben's statement is correct. They will have the same volume.
- G** Ben's statement is incorrect. Ben's cylinder will have a volume about 125 cubic units more than Robert's cylinder.
- H** Ben's statement is incorrect. Ben's cylinder will have a volume about 300 cubic units more than Robert's cylinder.
- J** Ben's statement is incorrect. Robert's cylinder will have a volume about 125 cubic units more than Ben's cylinder.

7. A cylinder and a cone have congruent bases and heights. What will be the relationship of the volumes of the two figures?

- A** The volume of the cylinder will be twice the volume of the cone.
- B** The volume of the cone will be one-fourth the volume of the cylinder.
- C** The volume of the cylinder will be  $\frac{4}{3}$  the volume of the cone.
- D** The volume of the cylinder will be three times the volume of the cone.

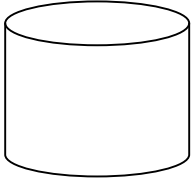
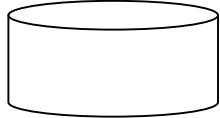
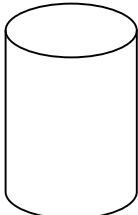
8. A large ice cream cone has a radius of 1.5 inches and a height of 4 inches. Janie orders 1 dip of ice cream that fills the top of the cone so that half of the sphere of ice cream is above the cone and half is pushed into the cone.



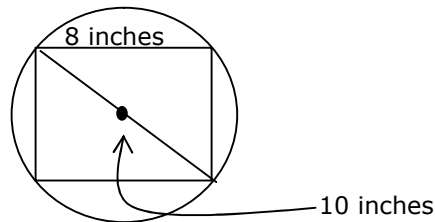
Which is closest to the volume of the cone NOT filled with ice cream?

- F** 9 cubic inches
- G** 14 cubic inches
- H** 7 cubic inches
- J** 2 cubic inches

9. Which cylinder has a volume that is more than 200 cubic units but less than 300 cubic units?

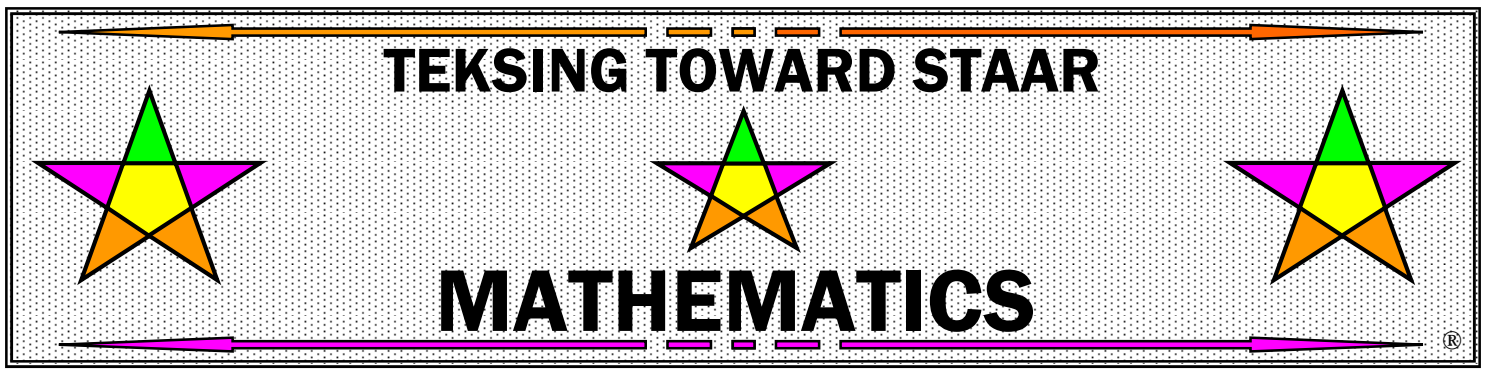
- A**  Radius: 4 units  
Height: 5 units
- B**  Radius: 5 units  
Height: 4 units
- C**  Radius: 8 units  
Height: 3 units
- D**  Radius: 2 units  
Height: 9 units

10. A cylinder has a rectangular prism that fits inside so that the vertices of the prism are on the bases of the cylinder. The top view of the cylinder and prism is shown below. The cylinder and prism are 12 inches tall.



Which statement is NOT true?

- F** The volume of the prism is 576 cubic inches.
- G** The volume of the cylinder is about 942 cubic inches
- H** The volume of the prism fills about 75% of the volume of the cylinder.
- J** The volume of the cylinder not contained in the prism is about 366 cubic inches.



# **GRADE 8**

## Mini-Assessments

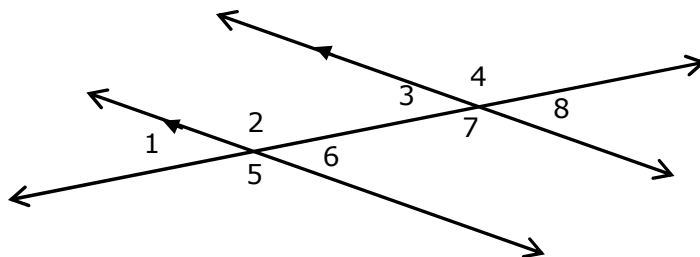
## STAAR Format

# **TEKS CATEGORY 3**

## **8.8D**

## Mini-Assessment 8.8D

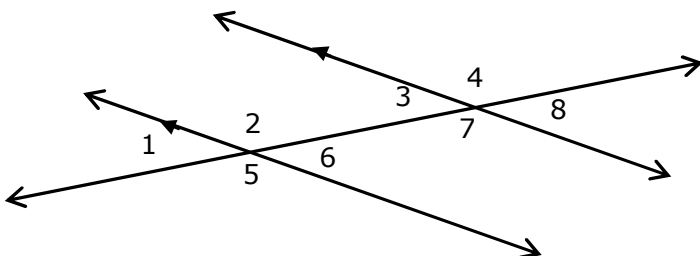
1. In the sketch below, two parallel lines are cut by a transversal.



Which of the following statements is NOT true?

- A**  $\angle 3$  and  $\angle 1$  are corresponding angles.
- B**  $\angle 6$  and  $\angle 3$  are alternate interior angles.
- C**  $\angle 6$  and  $\angle 5$  are same side interior angles.
- D**  $\angle 5$  and  $\angle 4$  are alternate exterior angles.

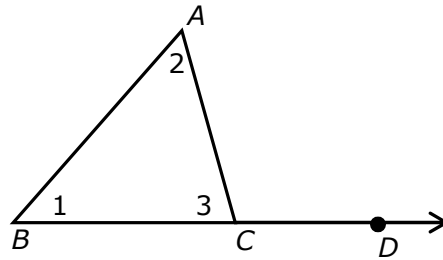
2. In the sketch below, two parallel lines are cut by a transversal.



If  $m\angle 1 = (2x)^\circ$  and  $m\angle 2 = (8x - 20)^\circ$ , which of the following statements is NOT true?

- F**  $m\angle 1 = 40^\circ$  because  $\angle 1$  and  $\angle 2$  are supplementary angles, and thus  $(2x)^\circ + (8x - 20)^\circ = 180^\circ$ . Therefore,  $10x = 200$ , so  $x = 20^\circ$ . Substituting 20 for  $x$  in  $(2x)$  gives  $2 \times 20 = 40$ .
- G**  $m\angle 4 = 140^\circ$  because  $\angle 2$  and  $\angle 4$  are corresponding angles, and thus  $\angle 4$  measures the same as  $\angle 2$ . Thus  $(2x)^\circ + (8x - 20)^\circ = 180^\circ$ . Therefore,  $10x = 200$ , so  $x = 20^\circ$ . Substituting 20 for  $x$  in  $(8x - 20)$  gives  $8 \times 20 - 20 = 160 - 20 = 140$ .
- H**  $m\angle 8 = 40^\circ$  because  $\angle 1$  and  $\angle 8$  are alternate exterior angles and measure the same. Thus  $\angle 2$  and  $\angle 8$  are supplementary angles, and thus  $(2x)^\circ + (8x - 20)^\circ = 180^\circ$ . Therefore,  $10x = 200$ , so  $x = 20^\circ$ . Substituting 20 for  $x$  in  $(2x)$  gives  $2 \times 20 = 40$ .
- J**  $m\angle 7 = 40^\circ$  because  $\angle 7$  and  $\angle 1$  are alternate interior angles, and thus  $\angle 7$  measures the same as  $\angle 1$ . Thus  $(2x)^\circ + (8x - 20)^\circ = 180^\circ$ . Therefore,  $10x = 200$ , so  $x = 20^\circ$ . Substituting 20 for  $x$  in  $(2x)$  gives  $2 \times 20 = 40$ .

3. In the sketch below,  $\triangle ABC$  has an exterior angle  $ACD$ .



If the  $m\angle 1 = 56^\circ$ ,  $m\angle 2 = 54^\circ$ , , what is the measure of  $\angle ACD$ ?

- A**  $70^\circ$
  - B**  $60^\circ$
  - C**  $120^\circ$
  - D**  $110^\circ$
- 
4. The three angles of a triangle have measures of  $56^\circ$ ,  $(2x + 4)^\circ$  and  $x^\circ$ . What are the measures of the three angles of the triangle?
- F**  $56^\circ, 80^\circ, 44^\circ$
  - G**  $56^\circ, 90^\circ, 34^\circ$
  - H**  $56^\circ, 84^\circ, 40^\circ$
  - J**  $56^\circ, 60^\circ, 64^\circ$
- 
5. The following pairs of angle measures are the measures of two angles of two triangles. Which pair of triangles would be similar because they have two pair of congruent angles?
- A**  $48^\circ$  and  $50^\circ$ ;  $92^\circ$  and  $50^\circ$
  - B**  $102^\circ$  and  $60^\circ$ ;  $28^\circ$  and  $60^\circ$
  - C**  $48^\circ$  and  $30^\circ$ ;  $92^\circ$  and  $48^\circ$
  - D**  $48^\circ$  and  $70^\circ$ ;  $62^\circ$  and  $70^\circ$
- 
6. The following pairs of angle measures are the measures of two angles of two triangles. Which pair of triangles would NOT be similar because they do NOT have two pair of congruent angles?
- F**  $41^\circ$  and  $20^\circ$ ;  $119^\circ$  and  $20^\circ$
  - G**  $35^\circ$  and  $82^\circ$ ;  $82^\circ$  and  $73^\circ$
  - H**  $82^\circ$  and  $70^\circ$ ;  $28^\circ$  and  $70^\circ$
  - J**  $58^\circ$  and  $30^\circ$ ;  $92^\circ$  and  $58^\circ$



7. Triangle  $ABC$  has an exterior angle which measures  $112^\circ$ . Which of the following could NOT be the measures of the angles of triangle  $ABC$ ?

**A**  $68^\circ$ ,  $42^\circ$  and  $88^\circ$   
**B**  $30^\circ$ ,  $68^\circ$  and  $82^\circ$   
**C**  $68^\circ$ ,  $60^\circ$  and  $52^\circ$   
**D**  $68^\circ$ ,  $70^\circ$  and  $42^\circ$

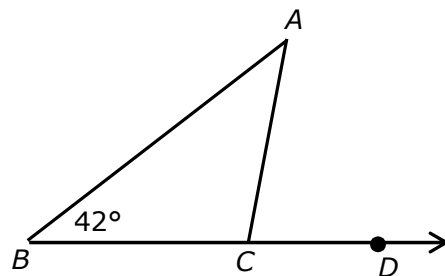
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8. The angles of a triangle have measures of  $78^\circ$ ,  $73^\circ$  and  $29^\circ$ . Which of the following will be the measure of an exterior angle of the triangle?

**F**  $141^\circ$   
**G**  $117^\circ$   
**H**  $112^\circ$   
**J**  $151^\circ$

---

9. Triangle  $ABC$  is shown below with exterior angle  $ACD$ .



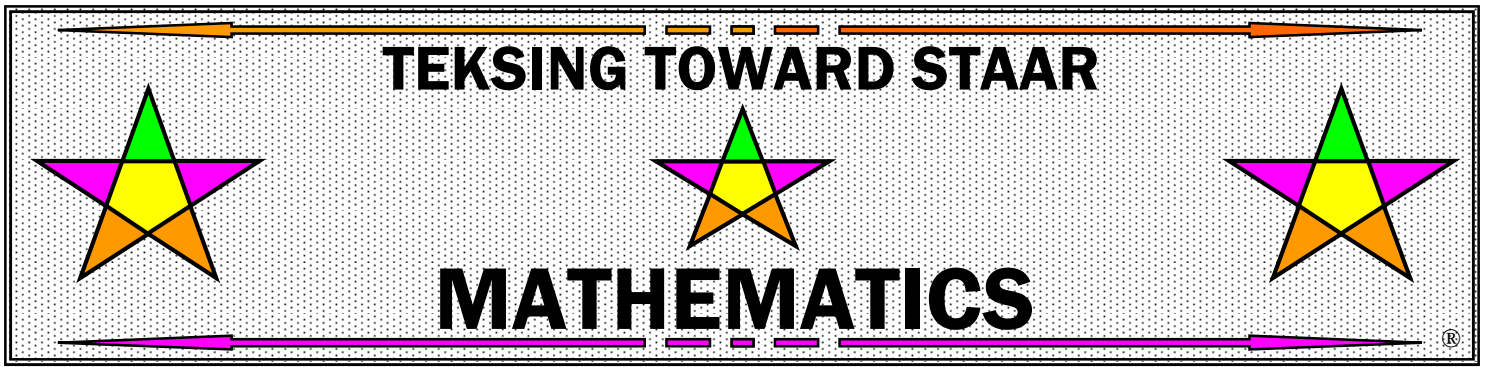
Which of the following is a possible measure of exterior angle  $ACD$ ?

**A**  $30^\circ$   
**B**  $31^\circ$   
**C**  $88^\circ$   
**D**  $38^\circ$

---

10. Which of the following are NOT the measures of the angles of a triangle?

**F**  $58^\circ$ ,  $70^\circ$  and  $62^\circ$   
**G**  $41^\circ$ ,  $68^\circ$  and  $71^\circ$   
**H**  $68^\circ$ ,  $60^\circ$  and  $52^\circ$   
**J**  $73^\circ$ ,  $42^\circ$  and  $65^\circ$



# **GRADE 8**

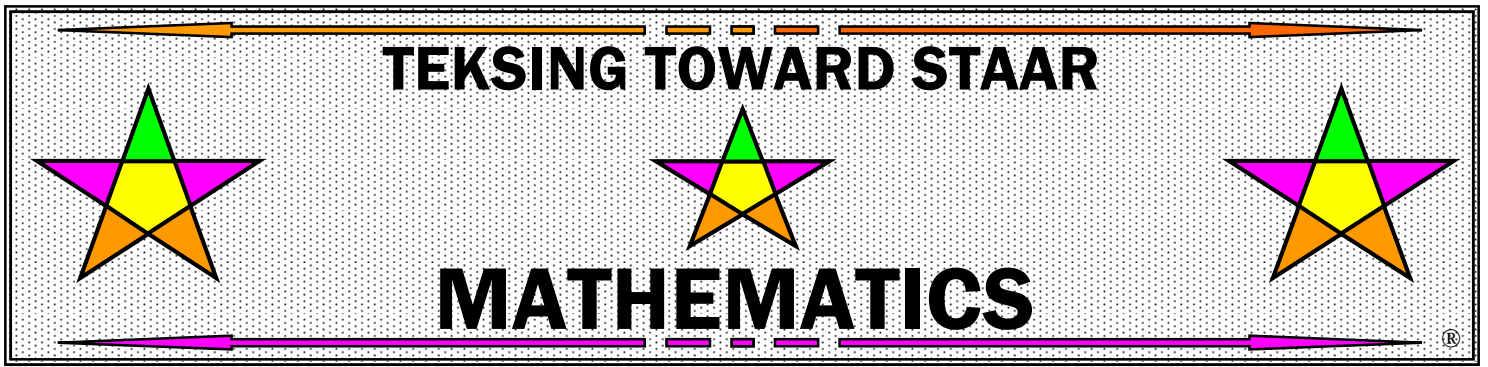
## **Mini-Assessments**

### **STAAR Format**

# **TEKS CATEGORY 4**

## **Two-Dimensional**

### **Shapes**



# **GRADE 8**

## **Mini-Assessments**

### **STAAR Format**

# **TEKS CATEGORY 4**

## **8.10C**

## Mini-Assessment 8.10C

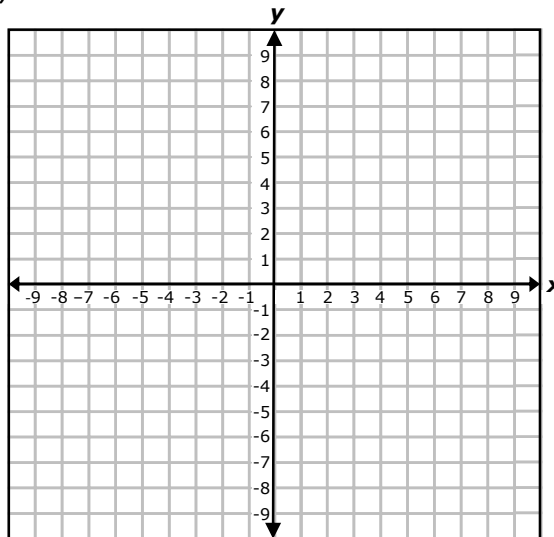
1. What does the algebraic representation  $(x, y) \rightarrow (x - 1, y - 2)$  represent?

- A** Each point of a figure will translate 1 unit left and 2 units down.
  - B** Each point of a figure will translate 1 unit left and 2 units up.
  - C** Each point of a figure will translate 1 unit right and 2 units up.
  - D** Each point of a figure will translate 1 unit right and 2 units down.
- 

2. What does the algebraic representation  $(x, y) \rightarrow (-x, y)$  represent?

- F** Each point of a figure will be reflected across the  $y$ -axis.
  - G** Each point of a figure will be reflected across the  $x$ -axis.
  - H** Each point of a figure will be rotated  $90^\circ$  clockwise.
  - J** Each point of a figure will be rotated  $90^\circ$  counterclockwise.
- 

3. Triangle  $ABC$  has vertices  $A(6, 1)$ ,  $B(1, 7)$ , and  $C(-3, -2)$ . The translation to create triangle  $A'B'C'$  is  $(x, y) \rightarrow (x - 1, y + 2)$ .



Which of the following will be the coordinates of the vertices of triangle  $A'B'C'$ ?

- A**  $(5, 2)$ ,  $(0, -4)$ ,  $(0, 9)$
- B**  $(5, 3)$ ,  $(0, -4)$ ,  $(0, 8)$
- C**  $(5, 3)$ ,  $(0, 9)$ ,  $(-4, 0)$
- D**  $(5, 2)$ ,  $(1, -3)$ ,  $(0, 9)$

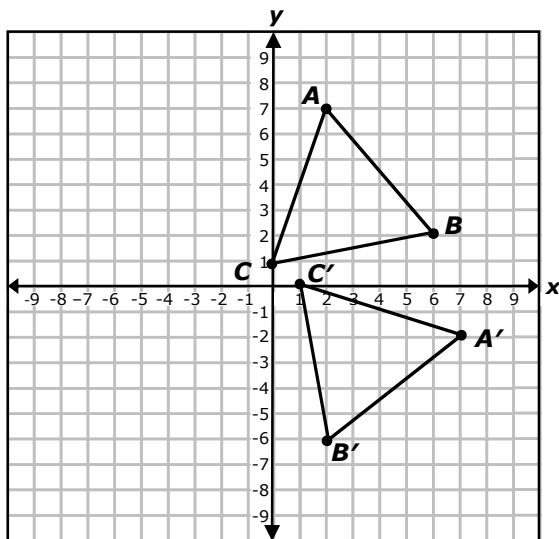
4. Triangle  $ABC$  with coordinates  $A(3, 6)$ ,  $B(-4, 2)$ , and  $C(2, -4)$  is to be reflected across the  $x$ -axis and then translated 2 units down. What will be the coordinates of  $C''$ ?

**F**  $(-2, -6)$   
**G**  $(2, 2)$   
**H**  $(2, 6)$   
**J**  $(4, -4)$

5. Quadrilateral  $ABCD$  has vertices  $A(3, 2)$ ,  $B(5, 7)$ ,  $C(8, -2)$ , and  $D(6, -5)$ . Quadrilateral  $ABCD$  will be translated to create quadrilateral  $A'B'C'D'$ . If  $A$  is translated to  $A'(-1, 5)$ , which of the following describes the translation?

**A**  $(x, y) \rightarrow \left(-\frac{1}{3}x, \frac{5}{2}y\right)$   
**B**  $(x, y) \rightarrow (x - 4, y + 3)$   
**C**  $(x, y) \rightarrow (x - 3, y + 4)$   
**D**  $(x, y) \rightarrow (x - 2, y + 5)$

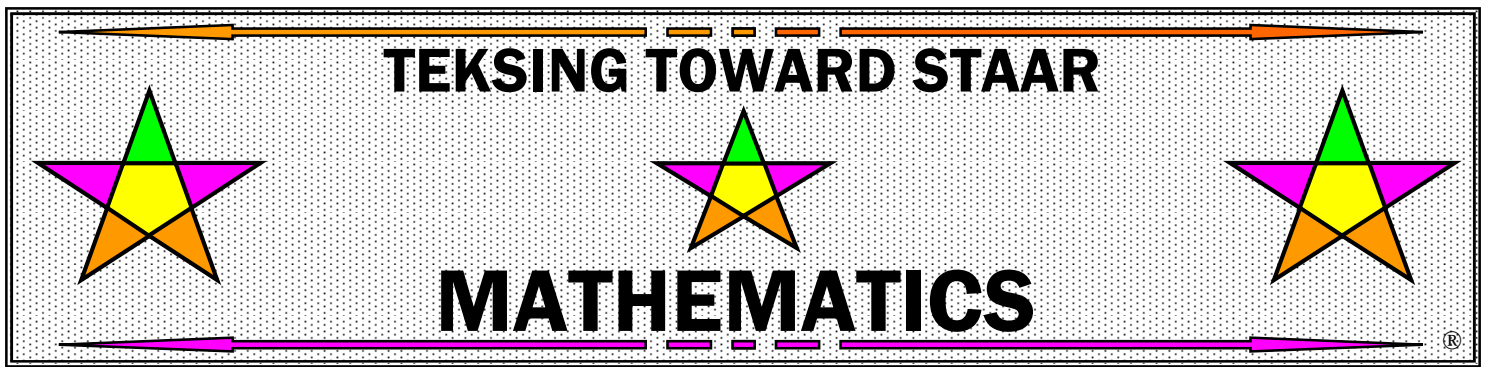
6. The coordinate grid below shows triangle  $ABC$  and its image triangle  $A'B'C'$ .



Which best describes the transformation used to create triangle  $A'B'C'$ ?

**F** reflection over the  $x$ -axis  
**G** translated 1 unit right and 1 unit down  
**H** rotated  $90^\circ$  clockwise  
**J** rotated  $180^\circ$  clockwise

7. If  $(3, 2) \rightarrow (2, -3)$  represents a counterclockwise rotation of the point on a coordinate plane, how many degrees is the rotation?
- A**  $90^\circ$
  - B**  $180^\circ$
  - C**  $270^\circ$
  - D**  $360^\circ$
- 
8. If  $(4, -2) \rightarrow (-4, 2)$  represents a counterclockwise rotation of the point on a coordinate plane, how many degrees is the rotation?
- F**  $90^\circ$
  - G**  $180^\circ$
  - H**  $270^\circ$
  - J**  $360^\circ$
- 
9. A triangle has vertices  $(-4, 1)$ ,  $(6, 9)$ , and  $(2, -3)$ . The triangle is translated 3 units up and then rotated  $90^\circ$  clockwise. Which of the following will NOT be the coordinates of a vertex of the image after both transformations?
- A**  $(4, 4)$
  - B**  $(12, -6)$
  - C**  $(3, 4)$
  - D**  $(0, -2)$
- 
10. A triangle has vertices  $(-4, 3)$ ,  $(6, 9)$  and  $(2, -3)$ . The triangle is reflected across the  $y$ -axis and then translated 1 unit up and 4 units right. Which of the following will be the coordinates of a vertex of the image after both transformations?
- F**  $(4, 7)$
  - G**  $(-2, 2)$
  - H**  $(-2, 9)$
  - J**  $(2, -2)$



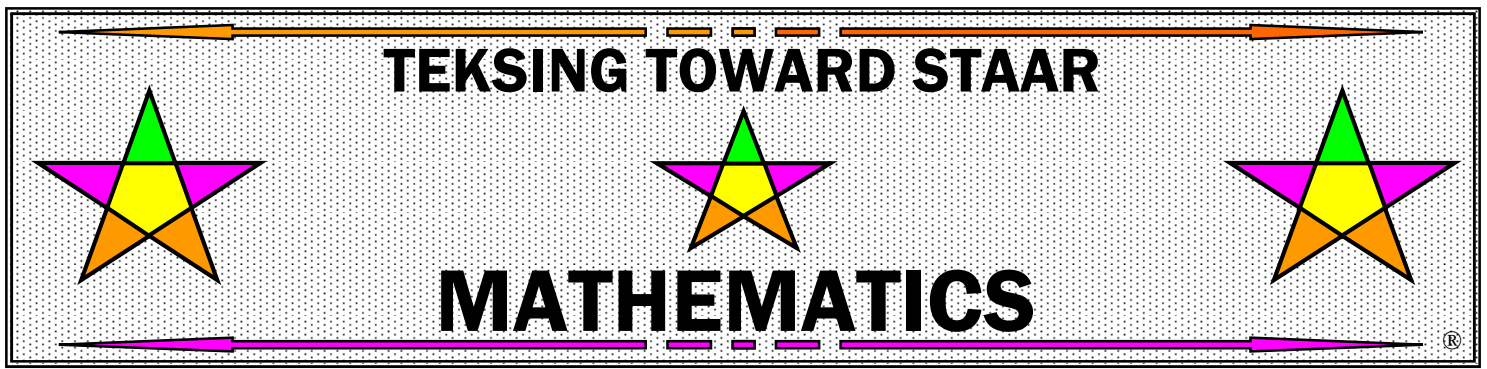
# **GRADE 8**

## Mini-Assessments

## STAAR Format

# **TEKS CATEGORY 5**

## Measurement and Data



# **GRADE 8**

## Mini-Assessments

## STAAR Format

# **TEKS CATEGORY 5**

## **8.11B**



## Mini-Assessment 8.11B

1. The chart below shows the perimeters of six triangles the class created for a class project.

| Perimeters of Triangles |           |           |
|-------------------------|-----------|-----------|
| 40 inches               | 38 inches | 36 inches |
| 56 inches               | 52 inches | 42 inches |

Which of the following best describes the mean absolute deviation of this data?

- A** Less than 6 in.
  - B** Between 6 in. and 7 in.
  - C** Between 7 in. and 8 in.
  - D** Larger than 8 in.
- 

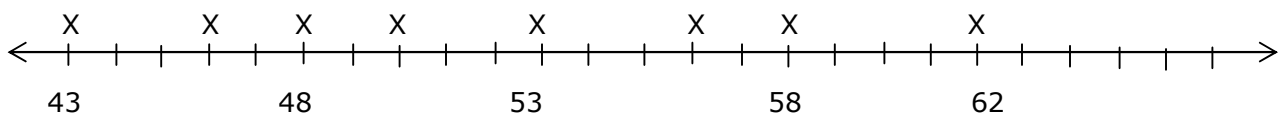
2. Look at the set of data below.

21, 14, 30, 38, 42

What is the mean absolute deviation of the data?

- F** 29
  - G** 10.1
  - H** 9.2
  - J** Not Here
- 

3. Look at the data plotted on the line below.



Which describes the mean absolute deviation of the data?

- A** 6
- B** 5.25
- C** 4.75
- D** 4

4. Linda was asked to create two sets so that the following would be true.

- Set A has a mean larger than Set B.
- The mean absolute deviation of Set A is smaller than the mean absolute deviation of Set B.
- Each set must contain at least 5 data points.

The sets she created were:

| Set A |    |    |    |    | Set B |    |    |    |    |
|-------|----|----|----|----|-------|----|----|----|----|
| 42    | 14 | 34 | 60 | 32 | 20    | 12 | 60 | 43 | 36 |

Which statement is true about the sets Linda created?

- F** The two sets meet all the criteria given to her.
- G** The two sets are not correct because Set B has a smaller mean than Set A.
- H** The two sets are not correct because they do not contain enough data points.
- J** The two sets are not correct because the mean absolute deviation of Set A is larger than the mean absolute deviation of Set B.
- 

5. Which statement is true in describing the mean absolute deviation for a data set?

- A** The mean absolute deviation is the absolute value of the mean of the data set.
- B** The mean absolute deviation is the average distance each data point is from the median of the data set.
- C** The mean absolute deviation is the average distance each data point is from the mode of the data set.
- D** The mean absolute deviation is the average distance each data point is from the mean of the data set.
- 

6. The data set below lists the number of friends five different eighth graders have on a social media website.

$\{75, 68, 74, 73, 85\}$

Which data point is more than two mean absolute deviations from the mean of the data?

- F** 85
- G** 68
- H** 74
- J** 73

7. During geography class students listed the number of states they had visited. The responses were:

12, 9, 17, 7, 5, 4, 2, 1, 8, 5

What is the mean for the data set?

- A** 3.2 states
  - B** 2.8 states
  - C** 7 states
  - D** Not Here
- 

8. If a data set has a mean of 38 and a mean absolute deviation of 1.2, which statement must be true?

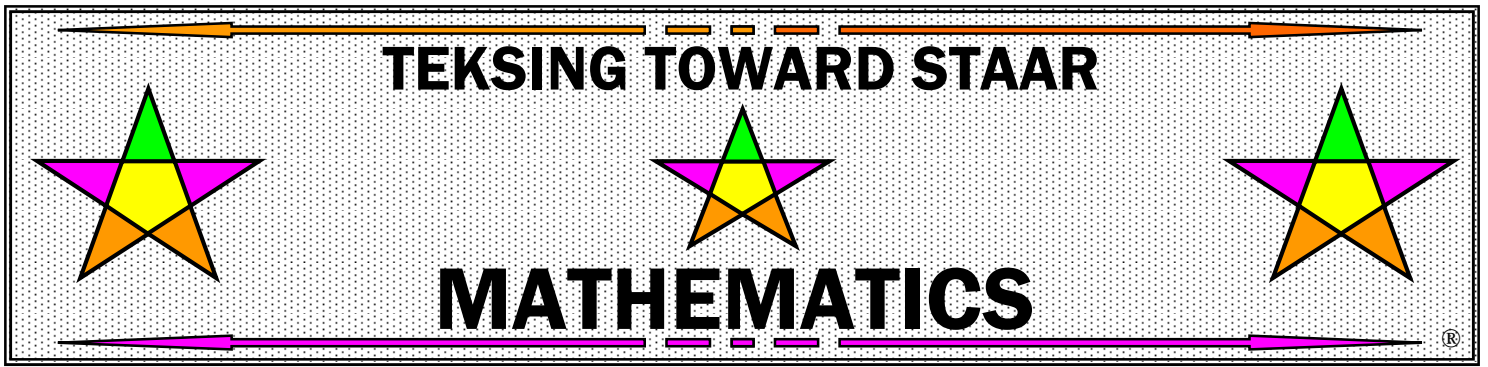
- F** Half of the data points must be less than 38 and half of the data points must be greater than 38.
  - G** One data point must be 38.
  - H** The average distance between 38 and each data point is 1.2 units.
  - J** There must be an odd number of data points and 38 is the middle data point.
- 

9. If a data set has a mean absolute deviation that is less than 0.5, what do you know about the data set?

- A** The data set must have data points close to 0.5.
  - B** The data set must have data points that are widely spread.
  - C** The data set must have data points that are close to the mean.
  - D** The data set must have data points that are equivalent to the mean.
- 

10. Which data set has a mean of 12 and a mean absolute deviation of 1?

- F** {10, 14, 12}
- G** {9, 10, 17, 12}
- H** {6, 10, 12, 20}
- J** {11, 11, 13, 13}



# **GRADE 8**

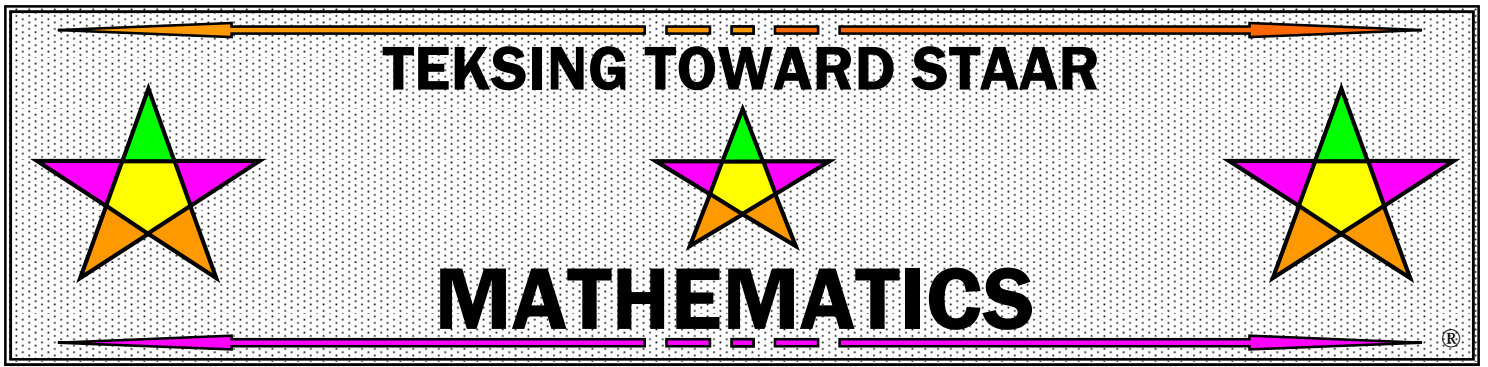
## Mini-Assessments

## STAAR Format

# **TEKS CATEGORY 6**

## Personal Financial

## Literacy



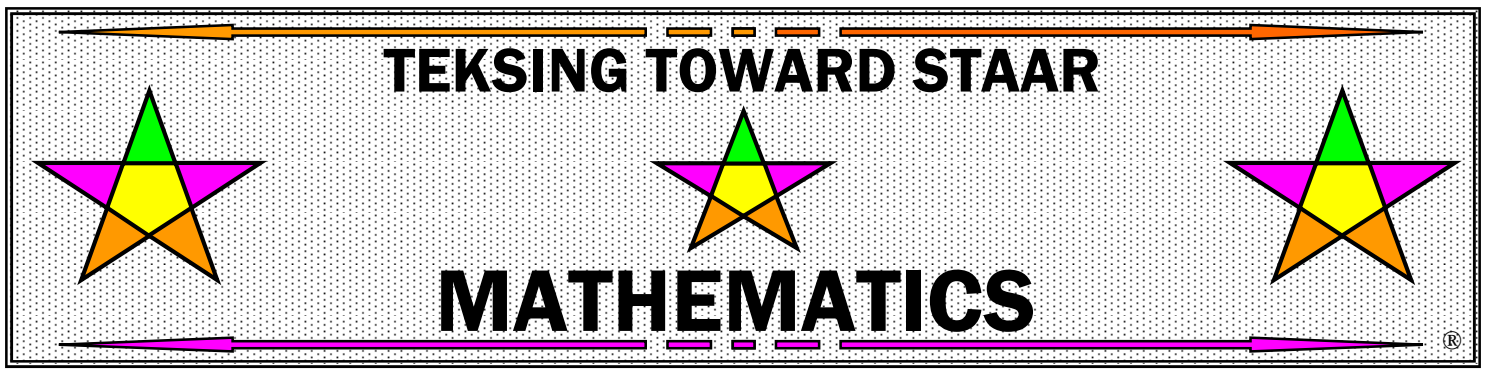
# **GRADE 8**

## Mini-Assessments

## STAAR Format

# **TEKS CATEGORY 6**

# **8.12D**



# **GRADE 8**

## Mini-Assessments

## STAAR Format

# **TEKS CATEGORY 6**

## **8.12D**

## Mini-Assessment 8.12D

1. Anne deposited \$500 in an account that earns 6% simple interest. Shelly deposited \$500 in an account that earns 6% interest compounded annually. They leave the money in the account for 4 years. Which statement is true about the two investments after 4 years?
  - A Shelly will have \$131.24 more in her account than Anne has in her account.
  - B They will have the same amount in their accounts.
  - C Shelly will have \$11.24 more in her account than Anne has in her account.
  - D Anne will have \$11.24 more in her account than Shelly has in her account.

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2. David invests \$10,000 in a savings account that pays 3.5% simple interest. If David makes no withdrawals or deposits to the account, how much will be in the account after 7 years?
  - F \$2,450
  - G \$11,750
  - H \$12,450
  - J Not Here

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3. Garrison deposited \$500 in an account that earns 3% interest compounded annually. How much interest will the account earn after 6 years?
  - A \$90.00
  - B \$100.00
  - C \$97.03
  - D \$109.20

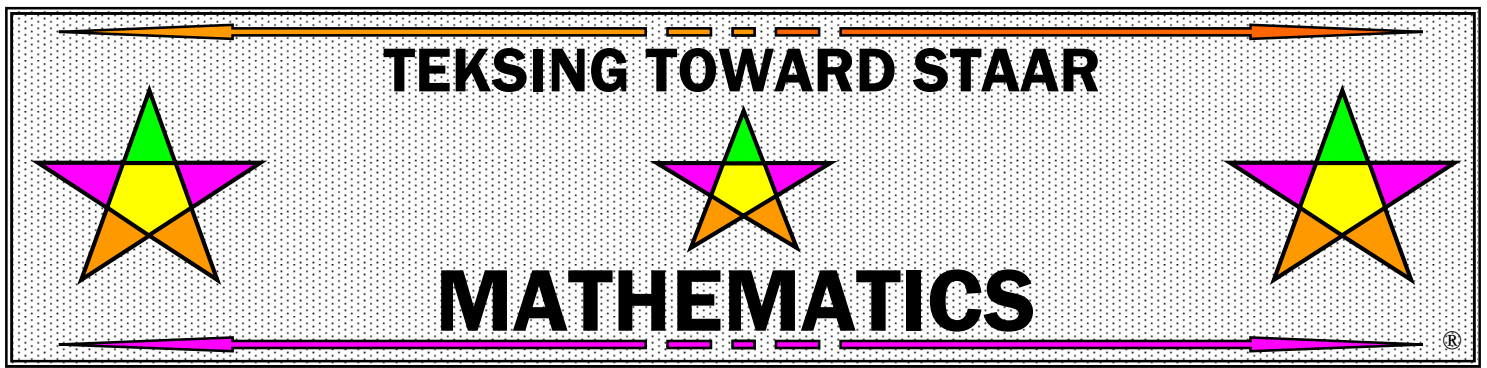
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4. Jared invests \$10,000 in a savings account that pays 3% simple interest. How many years will it take for the account to grow to \$12,700, if he makes no withdrawals or deposits?
  - F 7 years
  - G 12 years
  - H 9 years
  - J 22 years

5. An investment of \$4,000 earns 2% interest compounded annually. What will be the value of the investment in 7 years?
- A** \$4594.74
  - B** \$594.74
  - C** \$4560.00
  - D** Not Here
- 
6. Gilberto invests \$10,000 in a savings account that pays 4.75% simple interest. If Gilberto makes no withdrawals or deposits to the account, how much will be in the account after 7 years?
- F** \$3,325
  - G** \$13,325
  - H** \$13,838.16
  - J** \$13,000
- 
7. Carly deposited \$800 in an account that earns 2% annual compounded annually. Lara deposited \$800 in an account that earns 2% simple interest. How much will each girl have in their account at the end of 8 years if they make so withdrawals or deposits?
- A** Carly: \$937.33      Lara: \$928
  - B** Carly: \$927.33      Lara: \$918
  - C** Carly: \$939.33      Lara: \$938
  - D** Carly: \$928      Lara: \$937.33
- 
8. Tran invests \$15,000 in a savings account that pays 4% simple interest. About how many years will it take for the account to double at this interest rate?
- F** 7 years
  - G** 60 years
  - H** 25 years
  - J** 27 years



9. Willa deposited \$5,000 in an account that pays 6% interest compounded annually. Which expression can be used to find the value of her investment after 5 years?
- A**  $5000(1.06)^5$
  - B**  $5000(0.06)^4$
  - C**  $5000 + 5000(0.06)(5)$
  - D**  $5000(1.06)(5)$
- 
10. Travis invests \$25,000 in a savings account that pays 2.75% simple interest. How much interest does he earn each year?
- F** \$787.50
  - G** \$625.00
  - H** \$657.50
  - J** \$687.50



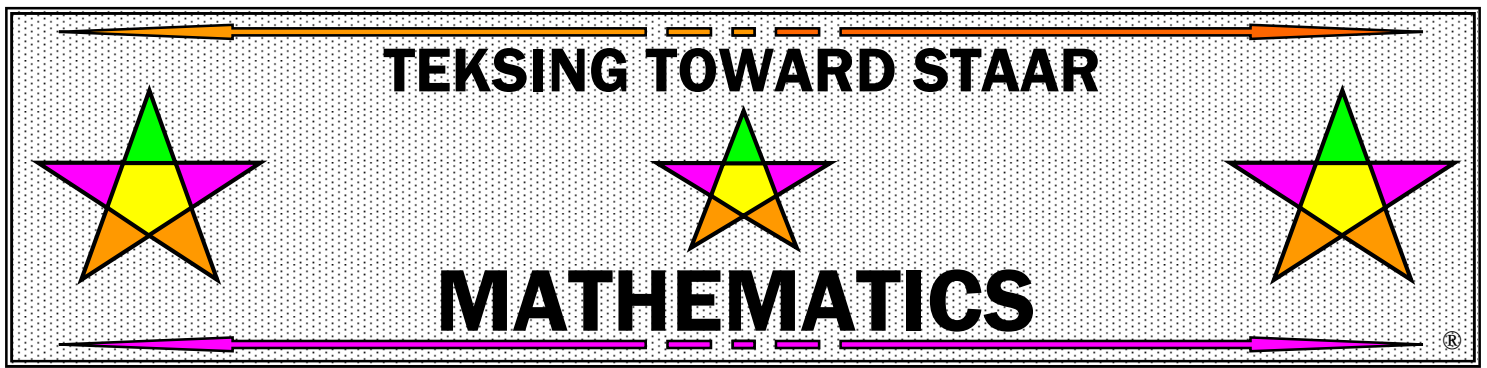
# **GRADE 8**

## **STAAR Format**

### **Periodic**

### **Assessments**

## **Containing Multi-TEKS**



# **GRADE 8**

## **STAAR Format**

### **Periodic**

### **Assessment**

## GRADE 8 MATHEMATICS

### TEKS/STAAR Periodic Assessment 1

Make 1 copy of the Six Weeks Assessment for each student. Students answer these questions individually. Record class performance on the Class Profile Sheet and individual student performance on the Individual Student Profile Sheet.

| <b>Answer Key:</b> | <b>STAAR Category/TEKS</b> |
|--------------------|----------------------------|
|--------------------|----------------------------|

|             |                  |
|-------------|------------------|
| 1. C        | Category 2/8.8C  |
| 2. J        | Category 1/8.2B  |
| 3. C        | Category 1/8.2D  |
| 4. J        | Category 3/8.8D  |
| 5. C        | Category 3/8.3A  |
| 6. F        | Category 2/8.8C  |
| 7. C        | Category 3/8.7A  |
| 8. H        | Category 3/8.10A |
| 9. D        | Category 1/8.2C  |
| 10. F       | Category 3/8.8D  |
| 11. D       | Category 2/8.5A  |
| 12. 2348.52 | Category 4/8.12A |
| 13. B       | Category 2/8.5E  |
| 14. G       | Category 3/8.7A  |
| 15. C       | Category 1/8.2D  |
| 16. F       | Category 1/8.6B  |
| 17. C       | Category 2/8.5E  |
| 18. J       | Category 1/8.2C  |
| 19. C       | Category 1/8.2A  |
| 20. G       | Category 2/8.8A  |

**TEKS/STAAR Periodic Assessment 1**

1. A square and a rectangle have the same perimeter. The square has a side length of  $8x$  units. The rectangle has a length of  $(5x + 8)$  units and a width of 10 units. What will be the perimeter of both the rectangle and the square?

**A** 34 units  
**B** 60 units  
**C** 64 units  
**D** 2 units

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2. Which of the following is the best approximation for  $\sqrt{48}$  ?

**F** 19  
**G** 5.9  
**H** 6.2  
**J** 6.9

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3. Which rational number is between  $7\frac{2}{3}$  and  $\sqrt{60}$  ?

**A** 7.3  
**B** 7.5  
**C** 6.9  
**D** 7.7

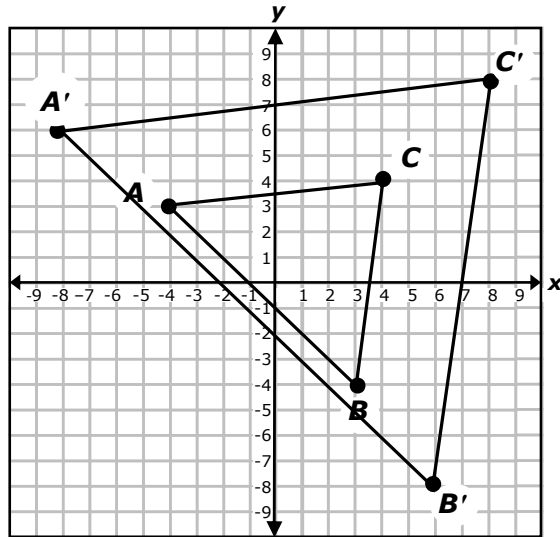
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4. The following pairs of angle measures are the measures of two angles of two triangles. Which pair of triangles would be similar because they have two pair of congruent angles?

|                                                                 |                                                                |
|-----------------------------------------------------------------|----------------------------------------------------------------|
| <b>F</b> $51^\circ$ and $30^\circ$ ; $109^\circ$ and $30^\circ$ | <b>H</b> $58^\circ$ and $30^\circ$ ; $90^\circ$ and $58^\circ$ |
| <b>G</b> $92^\circ$ and $70^\circ$ ; $28^\circ$ and $70^\circ$  | <b>J</b> $35^\circ$ and $82^\circ$ ; $82^\circ$ and $63^\circ$ |

## GRADE 8 MATHEMATICS

5. Look at the triangles on the grid below.  $\triangle A'B'C'$  is a dilation of  $\triangle ABC$  with the origin as the center of dilation.



Which statement is NOT true?

- A** The ratios of corresponding sides will be equal.
  - B** The measure of  $\angle A$  will be the same as the measure of  $\angle A'$ .
  - C**  $\frac{A'B'}{AB} = \frac{2}{1}$
  - D**  $\triangle A'B'C'$  is similar to  $\triangle ABC$ .
- 
6. Jules has \$1,200 and is spending \$40 per week. Kelsey has \$400 and is saving \$50 a week. In how many weeks, will Jules and Kelsey have the same amount of money?
- F** 10
  - G** 12
  - H** 20
  - J** 15
- 
7. A sphere has a radius that is 9 inches long. What is the volume of the sphere?
- A**  $324\pi$  cubic inches
  - B**  $480\pi$  cubic inches
  - C**  $972\pi$  cubic inches
  - D** 972 cubic inches

## GRADE 8 MATHEMATICS

8. David is listing the properties of orientation and congruence about a figure and its dilation in a coordinate plane with the origin as the center of dilation. His list is:
- a. The preimage and image will be congruent.
  - b. The preimage and image will have the same orientation in the plane.
  - c. The preimage will always be smaller than the image.
  - d. The preimage and the image will have corresponding angles congruent.

Which of David's statements are correct?

- F** b, c and d only
- G** a, b, and d only
- H** b and d only
- J** All of the above

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9. Which expression does NOT represent a number that is larger than 7,000 but smaller than 70,000?

- A**  $6.4 \times 10^4$
- B**  $7.4 \times 10^3$
- C**  $5.8 \times 10^4$
- D**  $5.8 \times 10^2$

- 
10. Triangle  $ABC$  has two interior angles with measures of  $102^\circ$  and  $43^\circ$ . Which of the following could be the measure of an exterior angle of triangle  $ABC$ ?

- F**  $78^\circ$
- G**  $127^\circ$
- H**  $88^\circ$
- J**  $135^\circ$

- 
11. The table below shows the relationship between the number of hours worked and the amount earned by Mr. Johnson.

|                      |      |      |      |      |
|----------------------|------|------|------|------|
| Number of Hours, $h$ | 1    | 3    | 6    | 8    |
| Amount earned, $e$   | \$12 | \$36 | \$72 | \$96 |

Which statement is NOT true about the proportional relationship represented in the table?

- A** Mr. Johnson earns \$12 per hour.
- B** The constant of proportionality is 12.
- C**  $e = 12h$
- D** Mr. Johnson will earn \$140 for 12 hours of work.

## GRADE 8 MATHEMATICS

12. Mr. James is going to buy a car for \$12,000. He can finance with the car dealer for 3 years at 12% or he can borrow the money at the bank for 3 years at 8%.

| Loan Calculations |      |               |                 |
|-------------------|------|---------------|-----------------|
| Amount            | Term | Interest Rate | Monthly Payment |
| \$12,000          | 3 yr | 12%           | \$398.57        |
| \$12,000          | 3 yr | 8%            | \$376.04        |

How much interest he will pay at 12% for 3 years?

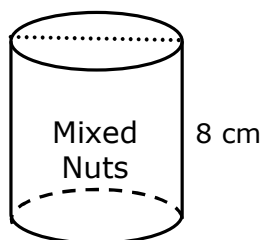
Record your answer on the grid below. Be sure to use the correct place value.

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
|   |   |   |   | • |   |   |
| 0 | 0 | 0 | 0 |   | 0 | 0 |
| 1 | 1 | 1 | 1 |   | 1 | 1 |
| 2 | 2 | 2 | 2 |   | 2 | 2 |
| 3 | 3 | 3 | 3 |   | 3 | 3 |
| 4 | 4 | 4 | 4 |   | 4 | 4 |
| 5 | 5 | 5 | 5 |   | 5 | 5 |
| 6 | 6 | 6 | 6 |   | 6 | 6 |
| 7 | 7 | 7 | 7 |   | 7 | 7 |
| 8 | 8 | 8 | 8 |   | 8 | 8 |
| 9 | 9 | 9 | 9 |   | 9 | 9 |

13. The cost of a soft drink varies directly with the number of ounces you buy. If 12 ounces cost \$0.80, how many ounces of the soft drink could you buy for \$2.40?

- A** 30
- B** 36
- C** 96
- D** 120

14. A can of mixed nuts is shown below. The volume of the can of nuts is  $128\pi$  cubic centimeters.



What is the diameter of the mixed nuts can?

- F** 4 centimeters
- G** 8 centimeters
- H** 16 centimeters
- J** Not Here



15. Which of the following statements is true?

- A**  $\sqrt{50} + 1 < 7$
- B**  $\sqrt{99} + 2 < 10$
- C**  $-3 + \sqrt{15} > 0$
- D**  $\sqrt{103} + 2 < 12$

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16. A cone and a cylinder have congruent bases and heights. The volume of the cone is approximately 20 cubic inches. What is the approximate volume of the cylinder?

- F** 60 cubic inches
- G** 6.6 cubic inches
- H** 23 cubic inches
- J** Not Here

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17. If  $y$  varies directly with  $x$  and  $y = 8$  when  $x = 12$ , what will be the value of  $y$  when  $x = 15$ ?

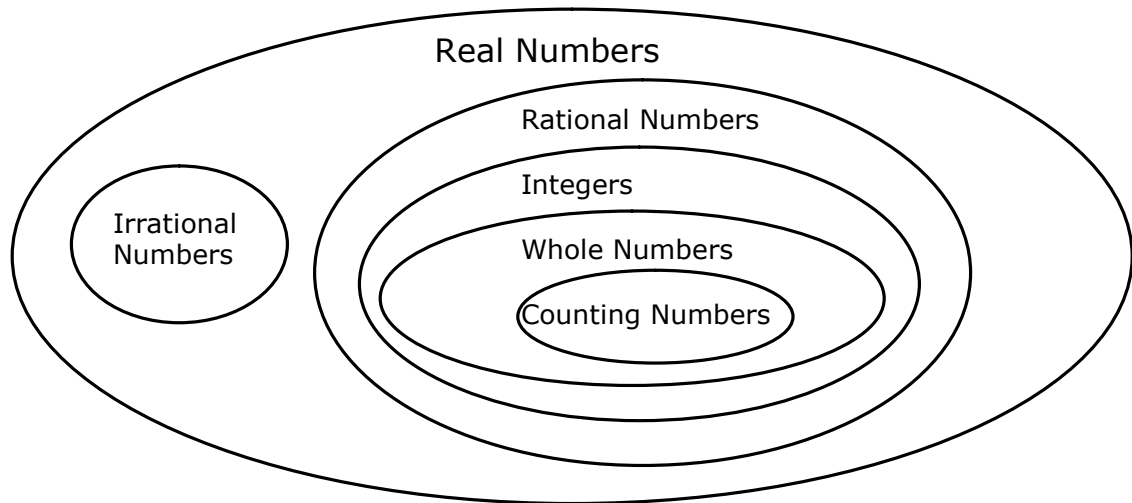
- A** 12
- B** 22.5
- C** 10
- D** 6.4

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18. In Canada in 1998 the estimated number of households that owned 2 or more vehicles was  $3.939 \times 10^6$ . How is this number written in standard decimal notation?

- F** 3,939,000,000
- G** 393,900
- H** 39,390,000
- J** 3,939,000

19. This Venn diagram shows the relationship of the subsets of the real number system.



Which of the following sets contain only irrational numbers?

- A**  $\{\sqrt{7}, -3, 17\}$
- B**  $\{4.1121314..., \sqrt{3}, 0.\bar{6}\}$
- C**  $\{-5\sqrt{2}, 14.3456..., \pi, \sqrt{125}\}$
- D**  $\{\frac{24}{8}, 3\pi, 17.616116111..., \sqrt{29}\}$

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20. Eight less than four times a number is the same as three times the number,  $x$ , increased by 24. Which equation describes this situation?

- F**  $8x - 4 = 24x + 3$
- G**  $4x - 8 = 3x + 24$
- H**  $8 - 4x = 3x + 24$
- J**  $4x + 8 = 3x - 24$