TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 8

Open-Ended Skills and Concepts

Organized by TEKS Categories

OVERVIEW

This document was created with all students in mind and provides teachers with sets of 5 open-ended questions to assess student mastery of TEKS assessed on STAAR. Each set of questions in this document is correlated to a specific Category and TEKS. These materials can be utilized for guided practice, independent practice, or homework. These materials can be utilized with a whole class, small groups, and/or tutorial settings.

NOTE: There is no answer key provided for the Skills and Concepts problems as the authors' philosophy is that each teacher create a personalized Solutions Manual so the teacher becomes more familiar with the Revised TEKS and assessment of the Revised TEKS, as well as formulates various solution strategies for each question.

AUTHORS' VISION FOR IMPLEMENTATION

SKILLS AND CONCEPTS

- Skills and Concepts are open-ended questions that are organized by individual TEKS. Each Skills and Concepts includes 5 open-ended questions.
- The teacher sets the time limit prior to the students' beginning the Skills and Concepts, if the material is being utilized for independent practice.
- Students work on Skills and Concepts in partner pairs even during independent practice. Partner pairs are given specific "share questions" on the Skills and Concepts. The process that should be followed by all partner pairs is to complete the question(s) they are assigned to share, then work on the other questions until time is called.
- The teacher calls time and the partner pairs guide class discussion on their "share questions" assignments. Students who did not complete the Skills and Concepts prior to the time limit may record on their individual papers during the discussion time but must record in a different color.
- A Skills and Concepts should NOT be sent home for homework until the majority of the class has demonstrated mastery of the TEKS addressed.

TEKSING TOWARD STAAR
GRADE 8 OPEN-ENDED SKILLS AND CONCEPTS
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
8.1(A)	apply mathematics to problems arising in everyday life, society, and the workplace
8.1(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
8.1(C)	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
8.1(D)	communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate
8.1(E)	create and use representations to organize, record, and communicate mathematical ideas
8.1(F)	analyze mathematical relationships to connect and communicate mathematical ideas
8.1(G)	display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication

Category 1: 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.

STAAR Standard	TEKS	STUDENT EXPECTATION
Supporting	**8.2(A)**	extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers
Supporting	**8.2(B)**	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
Supporting	**8.2(C)**	convert between standard decimal notation and scientific notation
Readiness	**8.2(D)**	order a set of real numbers arising from mathematical and real-world contexts

Category 2: 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

Category 2: 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(F)**	distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form of $y = kx$ or $y = mx + b$, where $b \neq 0$
Readiness	**8.5(G)**	identify functions using sets of ordered pairs, tables, mappings, and graphs
Supporting	**8.5(H)**	identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems
Readiness	**8.5(I)**	write an equation in the form $y = mx + b$ to model a linear relationship between verbal, numerical, tabular, and graphical representations

Category 3: 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

Category 3: 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.

STAAR Standard	TEKS	STUDENT EXPECTATION
Supporting	**8.9(A)**	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

Category 4: Two-Dimensional Shapes

8.(10) Two-Dimensional Shapes
The student applies mathematical process standards to develop transformational geometry concepts.

STAAR Standard	TEKS	STUDENT EXPECTATION
Supporting	**8.10(A)**	generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane
Supporting	**8.10(B)**	differentiate between transformations that preserve congruence and those that do not
Readiness	**8.10(C)**	explain the effects 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
Supporting	**8.10(D)**	model the effect on linear and area measurements of dilated two-dimensional shapes

Category 5: Measurement and Data

8.(11) Measurement and Data
The student applies mathematical process standards to use statistical procedures to describe data.

STAAR Standard	TEKS	STUDENT EXPECTATION
Supporting	**8.11(A)**	construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data
Supporting	**8.11(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
Not Tested	**8.11(C)**	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

Category 6: 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.

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

MATHEMATICS ®

GRADE 8

Open Ended Skills and Concepts

TEKS CATEGORY 1

Numbers and Operations

TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 8

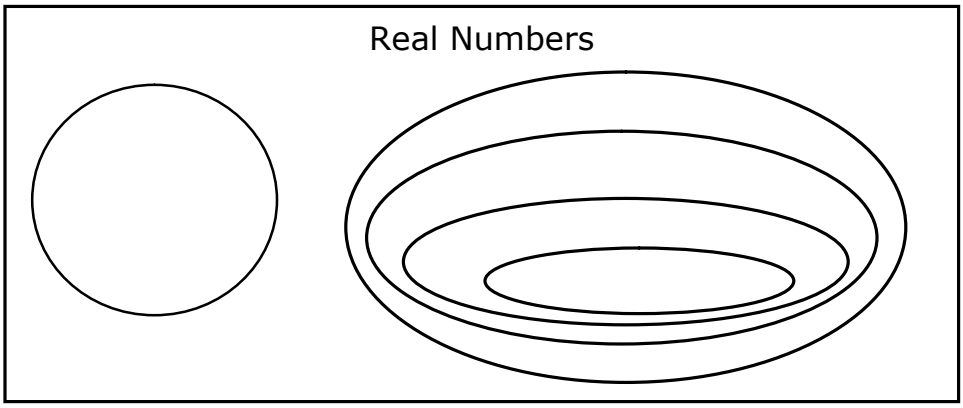
Open Ended Skills and Concepts

TEKS CATEGORY 1

8.2A

8.2A Skills and Concepts 1

1. Fill in the Venn diagram below showing the subsets of the real numbers.



2. Place a √ in each column that the given number belongs to.

	Irrational Number	Rational Number	Integer	Whole Number	Natural Number
-2.5					
π					
113					
1.161161116…					
$0.\overline{4}$					

3. Name 3 rational numbers that are NOT integers.

4. Name 3 rational numbers that are NOT positive.

5. Name an irrational number that is located between 2.5 and 2.6 on a number line. How do you know it is irrational?

8.2A Skills and Concepts 2

1. In your own words, describe a rational number.

2. A Venn diagram for real numbers shows the rational numbers have 3 subsets. Name these three subsets.

3. Label each statement as true or false.

   _____1. 14 is an integer.

   _____2. $\sqrt{7}$ is an irrational number.

   _____3. -14 is a natural number.

   _____4. $\sqrt{36}$ is an irrational number.

   _____5. If two irrational numbers are divided, the quotient is always an irrational number.

   _____6. If two non-zero rational numbers are divided, the quotient is always a rational number.

4. Name 3 rational numbers that are between 3 and 3.2 on a number line.

5. Name an irrational number that is located between 36 and 37 on a number line. How do you know it is irrational?

TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 8

Open Ended Skills and Concepts

TEKS CATEGORY 2

Proportionality

TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 8

Open Ended Skills and Concepts

TEKS CATEGORY 2

8.5E

8.5E Skills and Concepts 1

1. Ms. Carrie owns a large daycare center. She is required to have 1 supervisor for every 4 trainees. If she currently has 20 trainees, what is the number of supervisors she must have? Show your work.

2. Lloyd had a bag of 600 marbles. There were red, blue, and yellow marbles in the bag. His friend, Fred, took out 20 marbles, and 7 were red. Based on this information, what is the best prediction of the number of red marbles in Lloyd's bag? Show your work.

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 450 pretzels in 7.5 minutes of continuous running. How many pretzels would the machine process in 30 minutes of continuous running? Show your work.

4. The cost of a soft drink varies directly with the number of ounces you buy. If 12 ounces cost \$0.90, how many ounces could you buy for \$7.20? Show your work.

5. If y varies directly with x and $y = 20$ when $x = 2.5$, what is the value of y when $x = 8$? Show your work.

8.5E Skills and Concepts 2

1. Ramona can type 200 words in 4 minutes. How many words can Ramona type in 32 minutes? Show your work.

2. The table below shows values of *x* and *y* in a direct proportional relationship.

x	***y***
4	14
9	31.5
14	49

   What will be the value of *y* when *x* is 20?

3. A skater can cover 6 miles in 12 minutes. How many minutes will it take him to cover a distance of 18 miles? Show your work.

4. A gardener knows that the number of potatoes harvested varies directly with the number of potato plants grown. Last year the gardener harvested 189 potatoes from 9 potato plants. If the gardener plants 14 potato plants this year, how many potatoes can he expect to harvest? Show your work.

5. At a candy store selling gourmet jelly beans, the amount you pay varies directly with the weight of the beans. The cost of 5 pounds of jelly beans is $12. During the past month $7,200 worth of jelly beans has been purchased. How many pounds of jelly beans were purchased during the past month? Show your work.

TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 8

Open Ended Skills and Concepts

TEKS CATEGORY 2

8.5G

8.5G Skills and Concepts 1

1. In your own words, describe a function.

2. Create a set of five ordered pairs that describe a function.

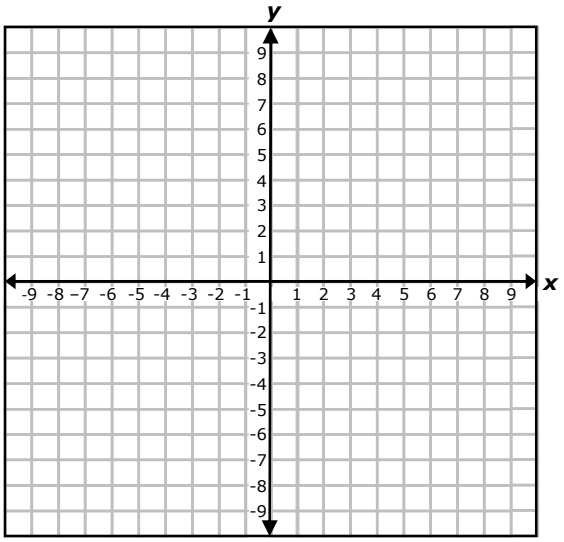
3. Complete the table so that it describes a function.

x	2						
y	5	6	9	6	4	13	9

4. Complete the table so that it does NOT describe a function.

x	2						
y	5	6	9	6	4	13	9

5. Plot 6 ordered pairs that do NOT describe a function. List your ordered pairs.



(,)

(,)

(,)

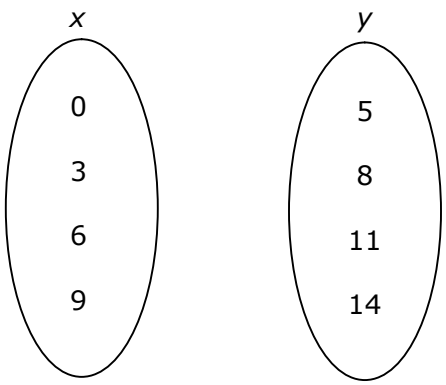
(,)

(,)

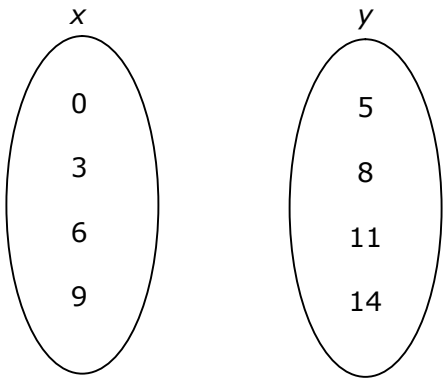
(,)

8.5G Skills and Concepts 2

1. Create a mapping for the values below that does NOT describe a function.



2. Create a mapping for the values below that describe a function.



3. Circle the sets of ordered pairs below that represent a function.

{(1, 2), (3, 5), (6, 7), (8, 9)} {(11, 12), (11, 5), (16, 7), (0, 9)}

{(0, 2), (3, 3), (0, 7), (8, 8)} {(7, 12), (11, 12), (16, 12), (0, 12)}

4. The following sets of ordered pairs do NOT represent a function. Strike out one ordered pair in each set so that a function will be represented.

{(1, 0), (3, 4), (1, 7), (8, 8)} {(8, 1), (11, 15), (8, 7), (0, 1)}

5. The following tables do NOT represent a function. Strike out one row in each table so that a function will be represented.

x	*y*
0	−2
1	3
4	18
5	23
6	30
7	14
0	3

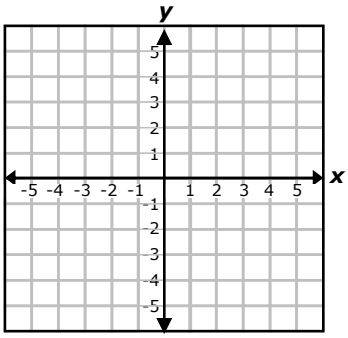
x	*y*
1	1
3	2
5	3
7	4
9	5
8	6
3	7

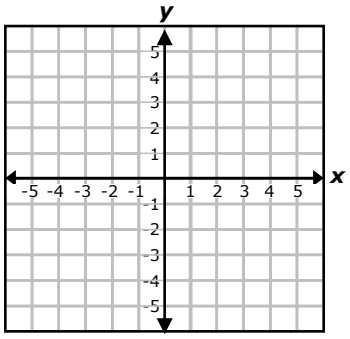
x	*y*
1	6
3	7
4	8
5	9
6	10
3	11
2	12

8.5G Skills and Concepts 3

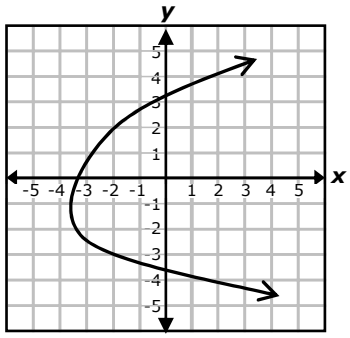
1. In your own words, explain what must be true about a graph that represents a function.

2. On the grid on the left, draw a graph that is NOT a function. On the grid on the right, draw a graph that is a function.





3. Describe why the following graph is NOT a function.



4. Explain why the table does NOT describe a function.

x	2	3	4	2	5	6	8
y	5	6	9	6	4	13	9

5. Name 6 ordered pairs that do NOT represent a function.

(,)(,)(,)(,)(,)(,)

Explain why your ordered pairs do NOT represent a function.

Name 6 ordered pairs that represent a function.

(,)(,)(,)(,)(,)(,)

Explain why your ordered pairs represent a function.

TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 8

Open Ended Skills and Concepts

TEKS CATEGORY 3

Expressions, Equations, and Relationships

TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 8

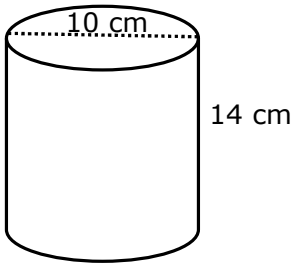
Open Ended Skills and Concepts

TEKS CATEGORY 3

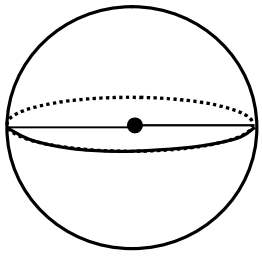
8.7A

8.7A Skills and Concepts 1

1. What is the volume of the cylinder represented below? Show your work.

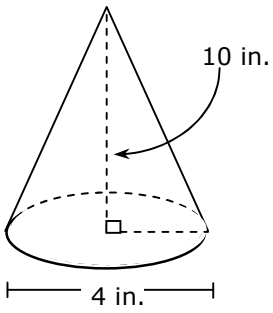


2. A sphere has a diameter of 4 meters. What is the volume of the sphere? Show your work.



Diameter: 4 meters

3. Find the volume of the cone.



4. Which has the greater volume: a cylinder with a 6-inch radius and a height of 8 inches OR a cone with a radius of 8 inches and a height of 6 inches?

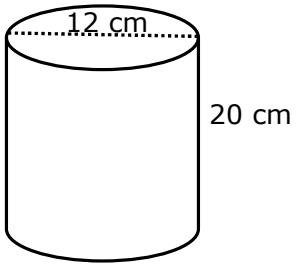
   How much larger is the larger volume?

5. What is the volume of a hemisphere (half a sphere) if the diameter is 6 feet? Show your work.

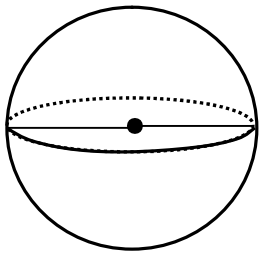
   Draw and label a sketch of the figure.

8.7A Skills and Concepts 2

1. What is the volume of the cylinder represented below? Show your work.

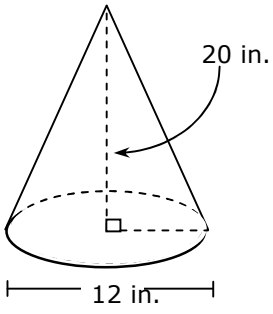


2. A sphere has a diameter of 8 meters. What is the volume of the sphere? Show your work.



Diameter: 8 meters

3. Find the volume of the cone.



4. Which has the greater volume: a cylinder with a radius of 6 inches and a height of 8 inches OR a cylinder with a radius of 8 inches and a height of 6 inches?

   How much larger is the larger volume?

5. What is the volume of a hemisphere (half a sphere) if the diameter is 12 feet? Show your work.

   Draw and label a sketch of the figure.

TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 8

Open Ended Skills and Concepts

TEKS CATEGORY 3

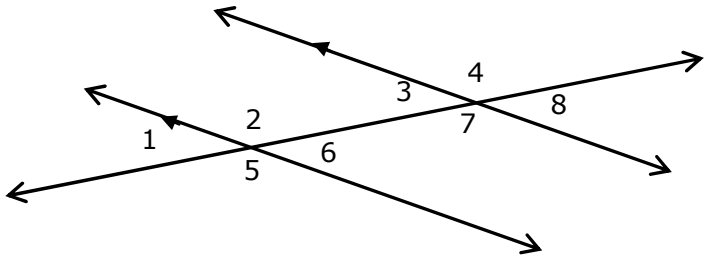
8.8D

8.8D Skills and Concepts 1

1. What is the sum of the measures of the angles of any triangle?

2. Give an example of the measures of the three angles of a triangle if one angle is obtuse.

3. When two parallel lines are cut by a transversal, 8 angles are created.



Which angles will be congruent to $\angle 1$?

Which angle will be supplements of $\angle 1$?

4. The measures of the three angles of a triangle are $78°$, $60°$ and $42°$. What will be the measures of the three exterior angles of the triangle? Show your work to support your answer.

5. ΔABC is similar to ΔDEF . $m\angle B = 57°$ and $m\angle C = 73°$. If $m\angle D = (4x + 4)°$, what is the value of x? Show your work.

8.8D Skills and Concepts 2

1. If the measures of two alternate interior angles of parallel lines cut by a transversal are $(10x+18)°$ and $(15x+3)°$, what is the value of x? Show your work.

   What would be the measures of the two alternate interior angles?

2. If an exterior angle of a triangle has a measure of $88°$, give an informal argument that the angles of the triangle can NOT be $88°$, $42°$, and $50°$.

3. If triangle 1 has angles with measures of $88°$ and $34°$ and triangle 2 has angles with measures of $58°$ and $34°$, are the triangles similar? Give an informal argument to support your answer.

4. If the measures of two same side interior angles of parallel lines cut by a transversal are $(8x+12)°$ and $(3x-8)°$, what is the value of x? Show your work.

   What would be the measures the two same side interior angles?

5. ΔABC is similar to ΔMNO. $m\angle A = 107°$ and $m\angle C = 43°$. If $m\angle M = (4x+7)°$, what is the value of x? Show your work.

   What are the measures of the three angles of ΔMNO?

TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 8

Open Ended Skills and Concepts

TEKS CATEGORY 4

Two-Dimensional Shapes

TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 8

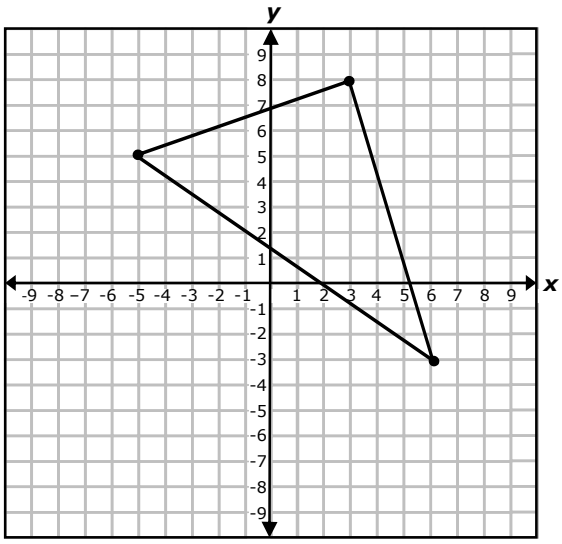
Open-Ended Skills and Concepts

TEKS CATEGORY 4

8.10C

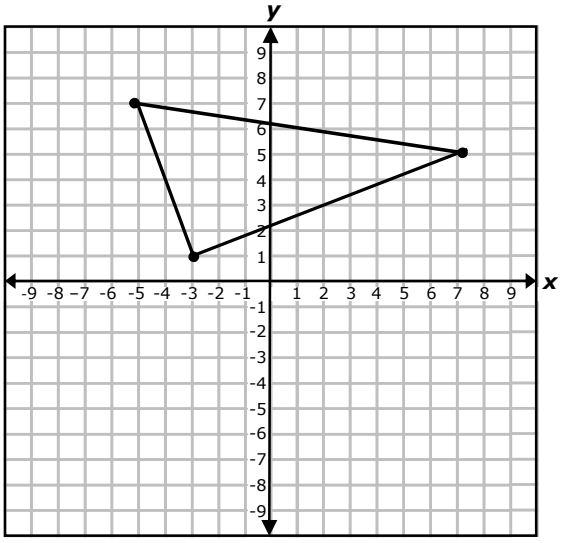
8.10C Skills and Concepts 1

1. Transform the triangle on the grid below using $(x,\ y) \rightarrow (x-1,\ y+3)$. Label the coordinates on the image.



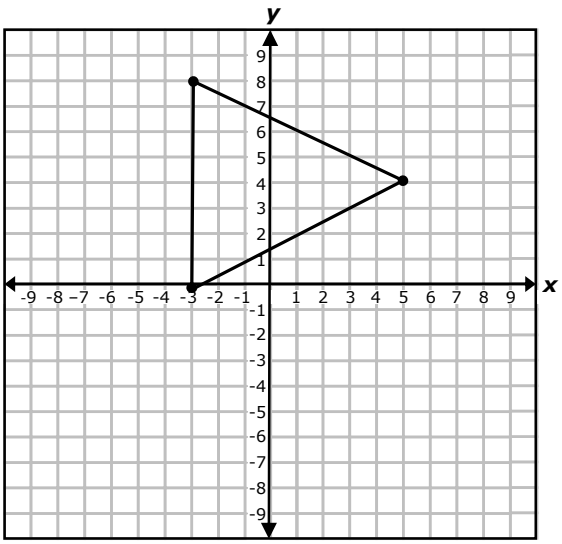
What type of transformation is this? _____

2. Transform the triangle below using $(x,\ y) \rightarrow (-x,\ y)$. Label the coordinates of the image.



What type of transformation is this? _____

3. Transform the triangle below using $(x,\ y) \rightarrow (-y,\ x)$. Name the coordinates of the given triangle and then label the vertices of the image.

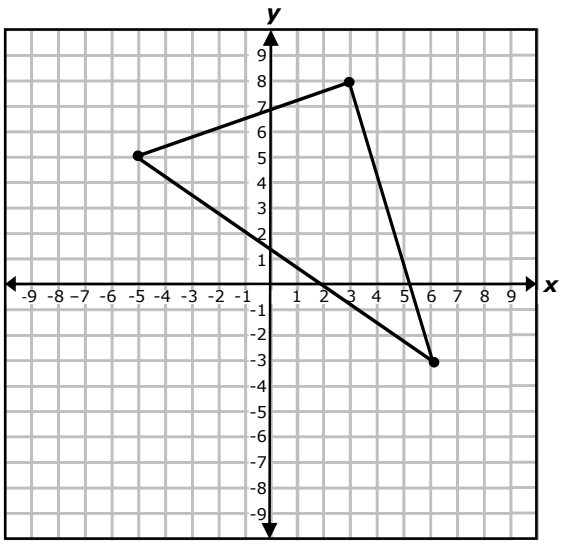


4. What transformation is described by $(x,\ y) \rightarrow (-x,\ -y)$?

5. What transformation is described by $(x,\ y) \rightarrow (3x,\ 3y)$?

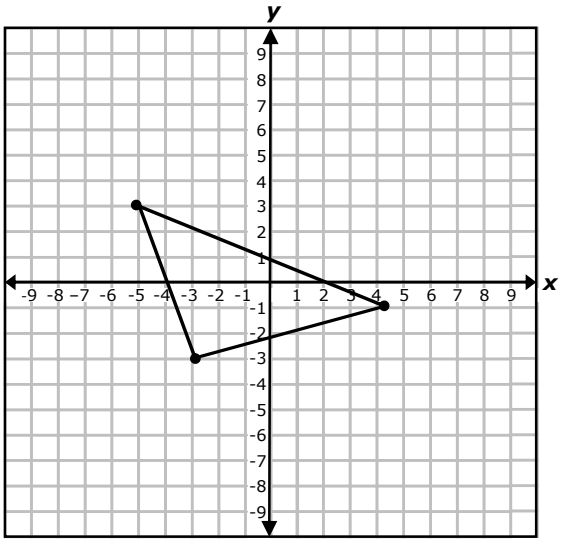
8.10C Skills and Concepts 2

1. Transform the triangle on the grid below using $(x,\ y) \rightarrow (y,\ -x)$. Label the coordinates on the image.



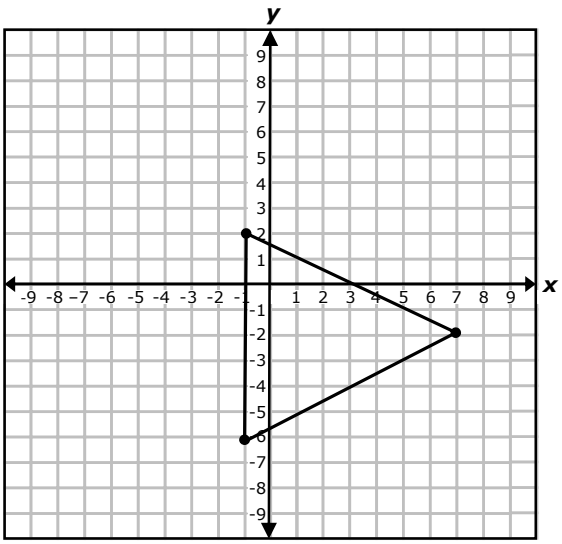
What type of transformation is this? _____

2. Transform the triangle below using $(x,\ y) \rightarrow (2x,\ 2y)$. Label the coordinates of the image.



What type of transformation is this? _____

3. Transform the triangle below using $(x,\ y) \rightarrow (x,\ -y)$. Name the coordinates of the given triangle and then label the vertices of the image.



4. What transformation is described by $(x,\ y) \rightarrow (x-2,\ y-3)$?

5. What transformation is described by $(x,\ y) \rightarrow (y,\ -x)$?

TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 8

Open Ended Skills and Concepts

TEKS CATEGORY 5

Measurement and Data

TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 8

Open Ended Skills and Concepts

TEKS CATEGORY 5

8.11B

8.11B Skills and Concepts 1

1. Describe how the mean absolute deviation is found for a set of data points.

2. What is the mean of this data set? {24, 39, 20, 32, 40}

   How far is 24 from the mean? _____ units
   How far is 39 from the mean? _____units
   How far is 20 from the mean? _____ units
   How far is 32 from the mean? _____units
   How far is 40 from the mean? _____ units

   What is the average of these distances? _____ ÷5 = _____ This is called the mean _____ deviation.

3. What does a small mean absolute deviation indicate about the data points in a set?

4. What does a large mean absolute deviation indicate about the data points in a set?

5. Find the mean absolute deviation for the following data. Show your work.

Number of Siblings

Joan	Mel	Juan	Chen	Larry	Hema
2	1	3	0	2	2
Anne	Monica	Doris	Gerry	Lourdes	Hank
3	3	1	0	1	2

What does the mean absolute deviation mean?

8.11B Skills and Concepts 2

1. Describe the mean absolute deviation for a set of data.

2. What is the mean of this data set? {150, 148, 162, 90, 130}

   How far is 150 from the mean? _____ units
   How far is 148 from the mean? _____units
   How far is 162 from the mean? _____ units
   How far is 90 from the mean? _____units
   How far is 130 from the mean? _____ units

   What is the average of these distances? _____ ÷5 = _____ This is called the mean _____ deviation.

3. If a set of data points has a mean of 70 and a mean absolute deviation of 0.75, what can you conclude about the data points in the set?

4. If a set of data points has a mean of 70 and a mean absolute deviation of 12.5, what can you conclude about the data points in the set?

5. Find the mean absolute deviation for the following data. Show your work.

High Temperatures Each Day Last Week (°F)						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
92	90	85	89	94	98	103

   What does the mean absolute deviation mean?

   Would you consider this a small or large mean absolute deviation?

   Are the data points clustered around the mean?

TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 8

Open Ended Skills and Concepts

TEKS CATEGORY 6

Personal Financial Literacy

TEKSING TOWARD STAAR

MATHEMATICS ®

GRADE 8

Open Ended Skills and Concepts

TEKS CATEGORY 6

8.12D

8.12D Skills and Concepts 1

1. Explain the difference between simple and compound interest.

2. Calculate the interest you would earn on a $750 deposit at 6% simple interest if you make no withdrawals or deposits for 10 years.

3. Compare the interest you would earn on a $500 deposit at 6% interest compounded annually if you make no withdrawals or deposits for 10 years and a $500 at 6% simple interest that earns interest for 10 years.

4. If you have $1,000 to earn simple interest and you want it to grow to $1,500 in 8 years, what is the minimum annual rate you would need? Show your work.

5. Joan invests $300 on her birthday. She gets 5% interest compounded annually. Each year on her birthday she deposits $300 more in the account. How much will she have in the account after 8 years? (Use a calculator if you wish.)

8.12D Skills and Concepts 2

1. If you have a choice of depositing some money at simple interest or compound interest which would you choose and why?

   If the simple interest was at a 1% higher than the compound interest, would you make the same decision? Explain.

2. Calculate the interest you would earn on a $9000 deposit at 3.5% simple interest if you make no withdrawals or deposits for 10 years.

3. Calculate the interest you would earn on a $2000 deposit at 4% interest compounded annually if you make no withdrawals or deposits for 10 years. Use a calculator for this is you want.

4. If you have $2,000 to earn simple interest and you want it to grow to $2,800 in 8 years, what is the minimum annual rate you would need? Show your work.

5. Sam invests $500 on his birthday. He gets 3% interest compounded annually. Each year on his birthday he deposits $500 in the account. How much will he have in the account after 8 years? (Use a calculator if you wish.)