MATH STAAR END GAME PLANNING

5TH GRADE

REPORTING CATEGORY 3

GEOMETRY & MEASUREMENT

5.4 **Algebraic Reasoning**. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:

H) Represent and solve problems related to perimeter and/or area and related to volume

4 A rectangular prism has a length of 20 inches, a width of 11 inches, and a height of 13 inches. What is the volume in cubic inches of this rectangular prism?

F 233 cubic inches

G 2,860 cubic inches

H 160 cubic inches

J 88 cubic inches

Readiness Standard

Answer	State	Region	District		
A/F	12%	18%			
B/G*	71%	53%			
C/H	9%	15%			
D/J	9%	14%			

Vocabulary	Perimter, area. volume

Vertical Alignment	4.5D Solve problems related to perimeter and area of rectangles where dimensions are whole numbers. *Readiness Standard*

Supporting Information	Students are expected to determine perimeter of polygons, area of rectangles and composite figures formed by rectangles, and volume of rectangular prisms. “Use appropriate . . . formulas” is stated more appropriately as “represent and solve.” Students may still be expected to measure lengths to determine perimeter, area, and volume if the

	problem requires it. Because fluency with the addition and subtraction of positive rational numbers is expected within the TEKS, lengths may reflect fractional measures, including decimals with perimeter, to reinforce rational number operations.

Allowable supports	

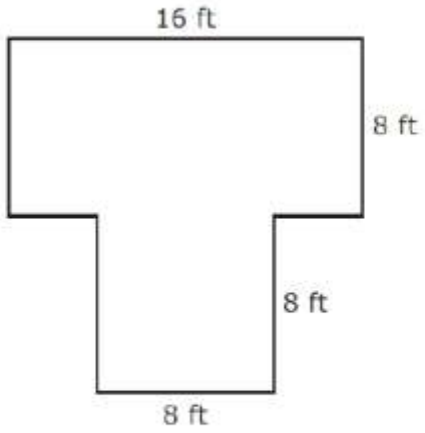
Misconceptions	

NOTES:

5.4 **Algebraic Reasoning**. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:

H) Represent and solve problems related to perimeter and/or area and related to volume

22 Edgar built a deck in his backyard with a section in the shape of a rectangle and a section in the shape of a square. The model shows the dimensions of his deck in feet.



What is the area in square feet of the deck Edgar built?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

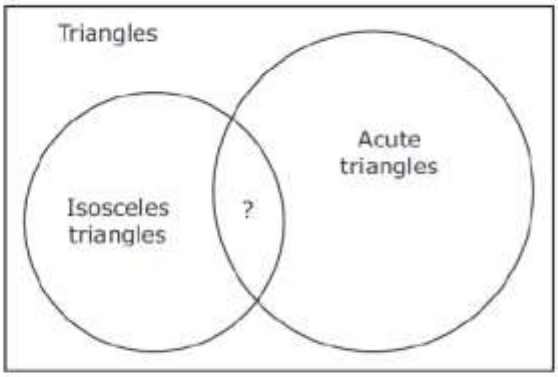
Readiness Standard

Answer	State	Region	District		
A/F	25%	16%			
B/G	84%	84%			
C/H	0%	0%			
D/J	0%	0%			
Grid:192	25%	16%			

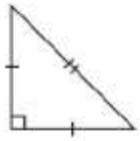
5.5 **Geometry & Measurement**. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to

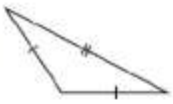
A) Classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

8 This Venn diagram shows the relationship between some types of triangles.



Which triangle belongs in the intersection of "Acute triangles" and "Isosceles triangles"?

F 

H 

G 

J 

Readiness Standard

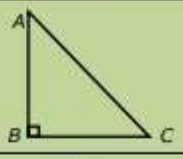
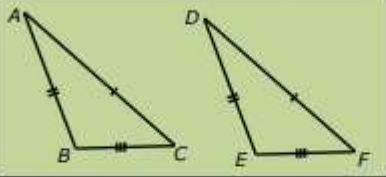
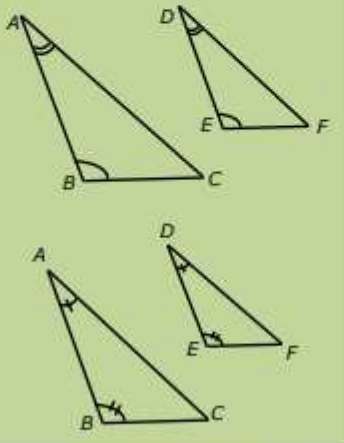
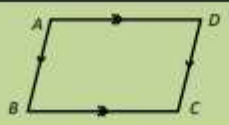
Answer	State	Region	District		
A/F	23%	27%			
B/G	12%	13%			
C/H	14%	15%			
D/J*	51%	45%			

Vocabulary	Two dimensional figures, hierarchy, sets, subsets, graphic organizer, attributes, properties

Vertical Alignment	4.6D Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size. *Readiness Standard*

Supporting Information	The SE focuses on classification by attributes and properties. An attribute is a characteristic or component of a geometric figure. The attributes of a square include side lengths and angle measures. The attributes combine to form the properties of a square: 4 right angles, 4 congruent sides, 2 sets of parallel sides. The SE clarifies the purpose of identifying essential attributes: classification within a hierarchy of set and subsets. For example, all rectangles have the property that opposite sides are parallel; therefore, every rectangle is a parallelogram. The SE specifies the use of graphic organizers as a classification tool. Isosceles is an adjective that indicates that at least two sides of a polygon have the same measure. Examples include isosceles triangles and isosceles trapezoids.

Supporting Information	

Geometric Idea	Notation	Meaning
Right Angle		$m\angle ABC = 90°$
Congruent Sides		$\overline{AB} \cong \overline{DE}$ $\overline{BC} \cong \overline{EF}$ $\overline{AC} \cong \overline{DF}$
Congruent Angles		In both pairs of triangles: $\angle A \cong \angle D$ $\angle B \cong \angle E$ $\angle C \cong \angle F$
Parallel lines		$\overline{AB} \parallel \overline{DC}$ $\overline{AD} \parallel \overline{BC}$

Allowable supports	

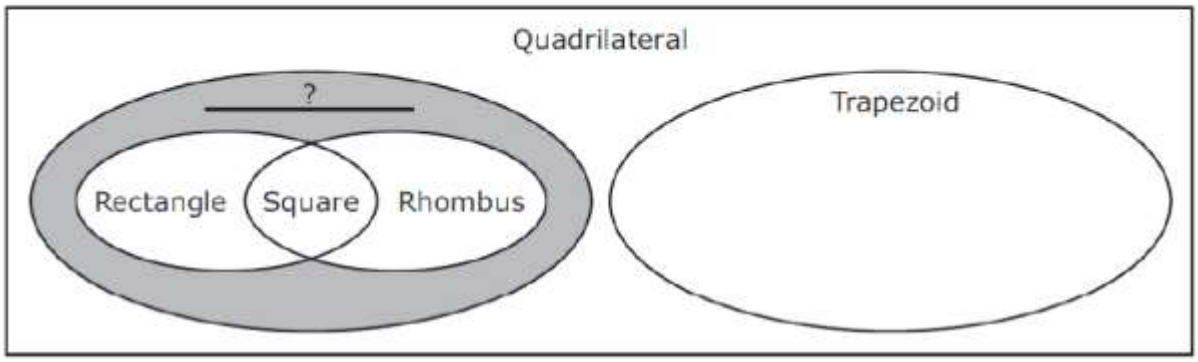
Misconceptions	

NOTES:

5.5 **Geometry & Measurement**. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected

A) Classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

29 Quadrilaterals can be classified using the graphic organizer shown.



Which term best classifies the shapes that belong in the shaded section of the organizer?

A Parallelogram

B Polygon

C Pentagon

D None of these

Readiness Standard

Answer	State	Region	District		
A/F*	70%	65%			
B/G	15%	16%			
C/H	5%	7%			
D/J	10%	12%			

5.6 **Geometry & Measurement**. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

A) Recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (*n* cubic units) needed to fill it with no gaps or overlaps if possible.

20 The four figures shown are rectangular prisms made of unit cubes.

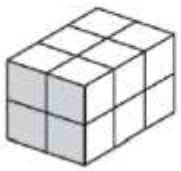


Figure I

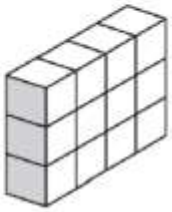


Figure II

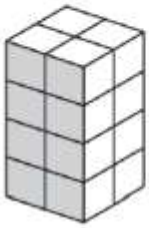


Figure III

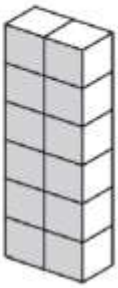


Figure IV

Which figures have a volume of 12 cubic units?

F Figures II and IV only

G Figures I and III only

H Figures I, II, and IV only

J Figures I, II, III, and IV

Supporting Standard

Answer	State	Region	District		
A/F	23%	27%			
B/G	9%	11%			
C/H*	64%	57%			
D/J	4%	4%			

Vocabulary	Cube, side length, unit, unit cube, volume, three dimensional figure

Vertical Alignment	No Vertical Aligmment

Supporting Information	The SE specifies how to use concrete objects and pictorial models and develops formulas as described in 5.4G.

Allowable supports	

Misconceptions	

NOTES:

5.6 **Geometry & Measurement**. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

B) Determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base.

ITEM NOT TESTED IN 2021

5.7 **Geometry & Measurement**. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to

A) Solve problems by calculating conversions within a measurement system, customary or metric.

13 Fabio drinks 2 quarts of water each day. How many cups of water does Fabio drink each day?

A 4 cups

B 16 cups

C 64 cups

D 8 cups

Supporting Standard

Answer	State	Region	District		
A/F	32%	40%			
B/G	13%	14%			
C/H	3%	3%			
D/J*	51%	43%			

Vocabulary	Conversions, measurement system, customary, metric

Vertical Alignment	4.8A Identify relative sizes of measurement units within the customary and metric systems. *Supporting Standard* 4.8B Convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table. *Supporting Standard*

	4.8C Solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate. *Readiness Standard*

Supporting Information	Specificity provides the purpose for performing conversions. The conversions should serve the purpose of solving a problem. Performing conversions will still be required to solve problems. These conversions may include decimal values with metric units or fractional values with customary units that align to the Number and Operations strand. Conversions may be multi-step within a measurement system such as yards to feet to inches.

Allowable supports	

Misconceptions	

NOTES:

5.8 **Geometry & Measurement**. The student applies mathematical process standards to identify locations on a coordinate plane. The student is expected to:

A) Describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the *x*-coordinate, the first number in an ordered pair, indicates movement parallel to the *x*-axis starting at the origin; and the *y*-coordinate, the second number, indicates movement parallel to the *y*-axis starting at the origin.

11 Which statement is NOT true about a coordinate grid?

A The vertical number line is the *y*-axis.

B In a coordinate grid, the *x*-axis and the *y*-axis are perpendicular to each other.

C The *x*-coordinate is the second number in an ordered pair.

D The origin is the intersection of the *x*-axis and the *y*-axis.

Supporting Standard

Answer	State	Region	District		
A/F	10%	11%			
B/G	16%	19%			
C/H*	64%	55%			
D/J	11%	15%			

Vocabulary	Attributes, coordinate plane, perpendicular number lines (axes), intersection (origin), x-coordinate, ordered pair, parallel, perpendicular, x-axis, y-coordinate,

Vertical Alignment	No Vertical Alignment

Supporting Information	The SE adds specificity for what students are expected to understand regarding the structure of the coordinate plane. Students are expected to graph ordered pairs only in the first quadrant.

Allowable supports	

Misconceptions	

NOTES:

5.8 **Geometry & Measurement**. The student applies mathematical process standards to identify locations on a coordinate plane. The student is expected to:

B) The student is expected to describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

ITEM NOT TESTED IN 2021

5.8 **Geometry & Measurement**. The student applies mathematical process standards to identify locations on a coordinate plane. The student is expected to:

C) Graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input

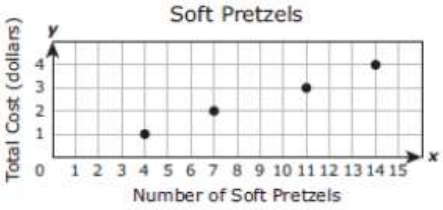
2 The table shows the relationship between the numbers of soft pretzels customers bought at a store and the total cost of the pretzels in dollars.

Soft Pretzels

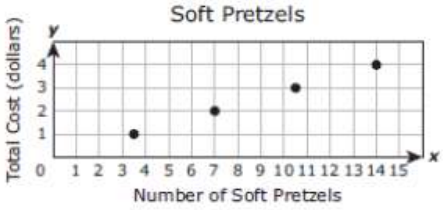
Number of Soft Pretzels, x	Total Cost, y (dollars)
1	3.50
2	7.00
3	10.50
4	14.00

Which graph best represents the data from the table?

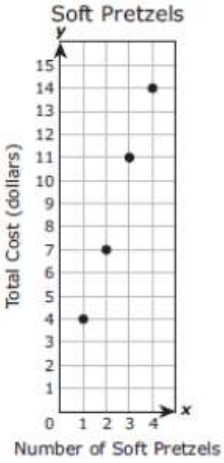
F



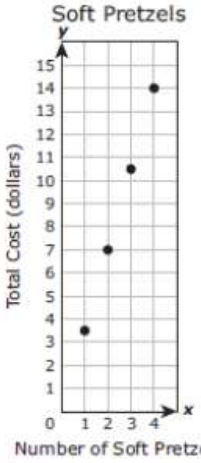
H



G



J



Readiness Standard

Answer	State	Region	District		
A/F	4%	5%			
B/G	5%	6%			
C/H	19%	23%			
D/J*	71%	66%			

Vocabulary	Graph (verb), first quadrant, coordinate plane, ordered pair, number patterns, input

Vertical Alignment	No Vertical Alignment

Supporting Information	The SE condenses “locate and name points on a coordinate plane using ordered pairs of whole numbers” to “graph ordered pairs.” Students may be expected to graph points with fractional values because of work in grade 4 on the number line with 4(3)(G): Represent fractions and decimals to the tenths or hundredths as distances from zero on a number line. The fractional values may be between grid lines or represented by grid lines. The graphing in this SE is related to 5(4)(C) and 5(4)(D) which is the reason for including “realworld problems” and “including those generated by number patterns or found in an input-output table.

Allowable supports	

Misconceptions	

NOTES:

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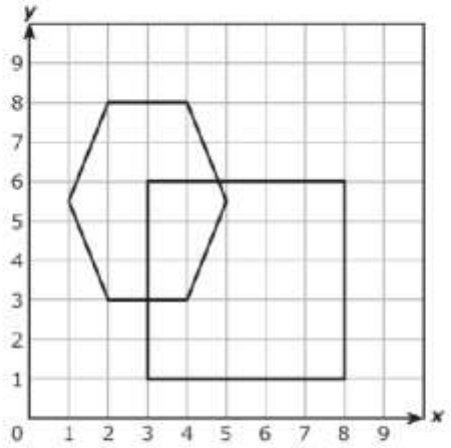
5.8 **Geometry & Measurement**. The student applies mathematical process standards to identify locations on a coordinate plane. The student is expected to:

C) Graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input

25 There are two shapes drawn on the coordinate grid, as shown.



Which ordered pair represents a point that is inside both shapes?

A (3.5, 5.5)

B (5.5, 3.5)

C (4.5, 2.5)

D (2.5, 4.5)

Readiness Standard

Answer	State	Region	District		
A/F*	50%	44%			
B/G	16%	20%			
C/H	22%	23%			
D/J	12%	13%			