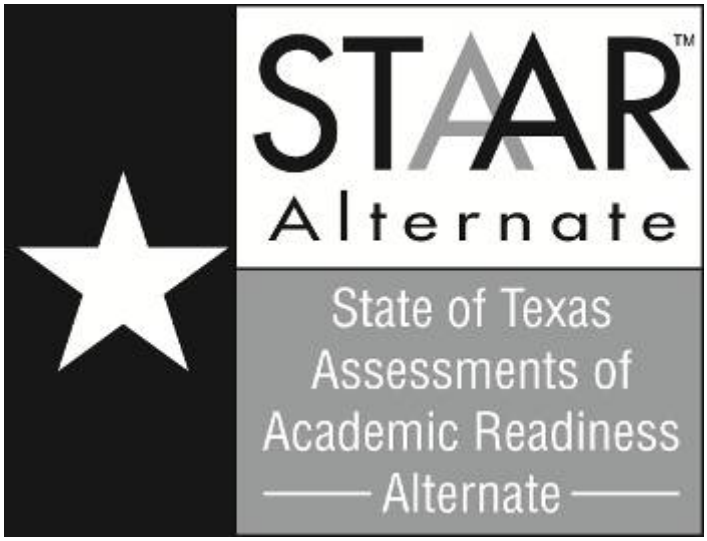


Standardized Assessment Tasks for
STAAR Alternate

Grade 8 Mathematics

STAAR Reporting Category 1 – Numbers, Operations, and Quantitative Reasoning: The student will demonstrate an understanding of numbers, operations, and quantitative reasoning.	
TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectations	**Essence of TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectations**
(8.1) Number, operation, and quantitative reasoning. The student understands that different forms of numbers are appropriate for different situations. The student is expected to (A) compare and order rational numbers in various forms including integers, percents, and positive and negative fractions and decimals; Readiness Standard (B) select and use appropriate forms of rational numbers to solve real-life problems including those involving proportional relationships; Supporting Standard (C) approximate (mentally [and with calculators]) the value of irrational numbers as they arise from problem situations (such as $\pi, \sqrt{2}$); Supporting Standard (D) express numbers in scientific notation, including negative exponents, in appropriate problem situations. Supporting Standard	**Essence Statement A:** Recognizes that numbers can be represented differently depending on the situation.

Level 3

Prerequisite skill: use place value to read, write, compare, and order decimals involving tenths and hundredths, including money, using concrete objects and pictorial models

The student will be presented three sets of bills and coins. Each set should have a different total value. The student will determine the value of each set. The student will record the values using dollar signs and decimal points. The student will organize the values from greatest to least.

Predetermined Criteria
1. The student will determine the value of each set.
2. The student will record the values using dollar signs and decimal points.
3. The student will organize the values from greatest to least.

Process skill: relate informal language to mathematical language and symbols
Transition

Mathematics Grade 8; Reporting Category 1 (8.1); Essence Statement: A

Level 2

Prerequisite skill: determine the value of a collection of coins up to one dollar

The student will be presented a collection of coins of at least two different denominations. The collection must total less than one dollar. The student will sort the collection by denomination. The student will identify the total value of the collection of coins. The student will be presented four differently priced items with the prices displayed. One of the items will cost over one dollar, but the remaining three items will each cost less than one dollar. The student will identify which items he or she can purchase.

Predetermined Criteria
1. The student will sort the collection by denomination.
2. The student will identify the total value of the collection of coins.
3. The student will identify which items he or she can purchase.

Process skill: relate informal language to mathematical language and symbols
Transition

Level 1

Prerequisite skill: identify individual coins by name and value and describe relationships among them

The student will be presented three identical items each costing ten cents. The student will explore the items. The student will be presented a collection of ten pennies, two nickels, and one dime and three cards each labeled with 10¢. The student will participate in sorting the coins by their denomination. The student will participate in pairing a card to each set of coins. The student will participate in purchasing each item with the different combinations for ten cents.

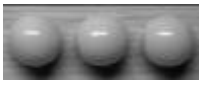
Predetermined Criteria
1. The student will participate in sorting the coins by their denomination.
2. The student will participate in pairing a card to each set of coins.
3. The student will participate in purchasing each item with the different combinations for ten cents.

Definitions/Examples for STAAR Reporting Category 2 (8.4)
Essence Statement B

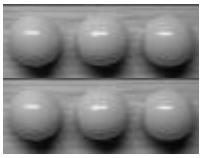
The following definitions clarify terms used in the grade 8 mathematics assessment tasks to ensure that the content of the tasks is understood. When appropriate, examples and nonexamples have been provided for further clarification. These are just examples and do not represent all the appropriate ways to test the skills in the STAAR Alternate assessment tasks.

Level 3: page 6

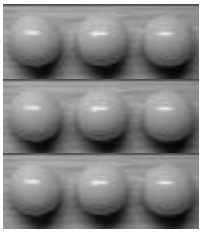
In this Level 3 task, a student generates multiplication equations that correspond to rows of objects. The multiplication equations change as more rows of objects are added. Example of completed rows and equations:



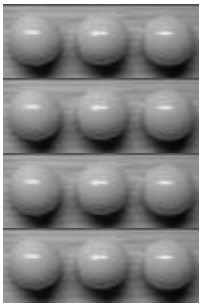
1x3=3



2x3=6



3x3=9

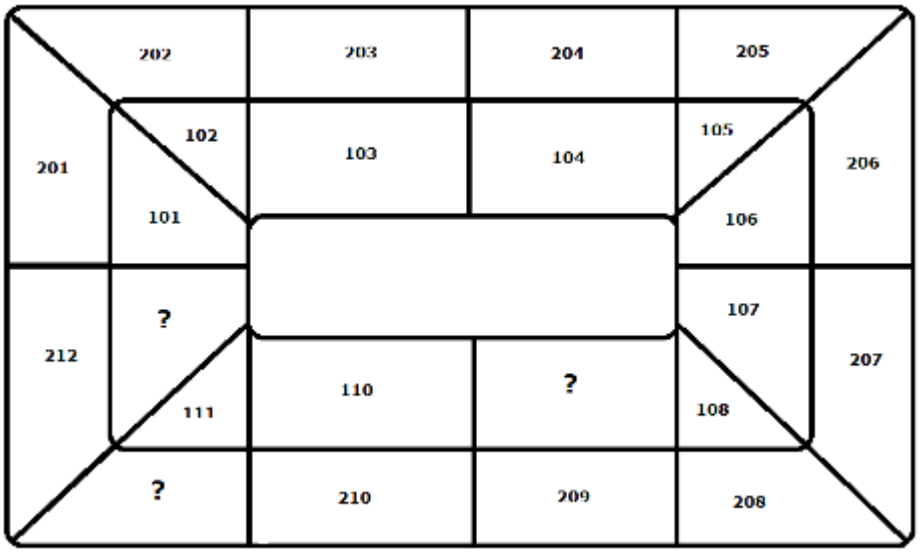


4x3=12

Level 2: page 7

In this Level 2 task, a student is presented an arena seating chart with numbered sections and no rows or individual seats. Some of the sections will not be labeled with numbers. The student is expected to identify a pattern using the numbered sections in the seating chart. Then, the student is expected to supply the missing section numbers.

- The seating chart could be presented like the example below:



- Arena seating charts can be obtained from the Internet, but might need to be modified by the teacher to reflect the 100s chart concept assessed in this task.
- For this example, the patterns could include: a pattern that increases by ones on the first level, a pattern that increases by ones on the second level, or a pattern that increases by 100 between the levels.

STAAR Reporting Category 2 – Patterns, Relationships, and Algebraic Reasoning: The student will demonstrate an understanding of patterns, relationships, and algebraic reasoning.	
TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectation	**Essence of TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectation**
(8.4) Patterns, relationships, and algebraic thinking. The student makes connections among various representations of a numerical relationship. The student is expected to (A) generate a different representation of data given another representation of data (such as a table, graph, equation, or verbal description). Readiness Standard	**Essence Statement B:** Uses various forms to represent a mathematical relationship.

Level 3

Prerequisite skill: identify patterns in multiplication facts using concrete objects, pictorial models, or technology

The student will be presented one row of objects. The student will generate a multiplication equation that corresponds to the one row of objects. Another row of objects identical in number to the original row will be added. The student will generate a multiplication equation for the two rows of objects. The process will be repeated for a third and fourth row. The student will compare the equations to determine the pattern.

Predetermined Criteria
1. The student will generate a multiplication equation that corresponds to the one row of objects.
2. The student will generate multiplication equations for the second, third, and fourth rows.
3. The student will compare the equations to determine the pattern.

Process skill: explain and record observations using objects, words, pictures, numbers, and technology

Level 2

Prerequisite skill: find patterns in numbers such as in a 100s chart

The student will be presented an arena seating chart with numbered sections and no rows or individual seats. Some of the sections will not be labeled with numbers. The student will identify a pattern using the numbered sections in the seating chart. The student will supply the missing section numbers. The student will be presented a ticket with a specific section number. The student will match the ticket to the corresponding section on the seating chart.

Predetermined Criteria
1. The student will identify a pattern using the numbered sections in the seating chart.
2. The student will supply the missing section numbers.
3. The student will match the ticket to the corresponding section on the seating chart.

Process skill: justify his or her thinking using objects, words, pictures, numbers, and technology
Transition

Level 1

Prerequisite skill: compare and order whole numbers using place value

The student will be presented a container. The student will participate in labeling the outside of the container with the number "1." The student will participate in placing one item in the container. The item will be removed. The student will participate in adding a "0" to the "1" to display the number "10" as the new label. The student will participate in placing ten items in the container. The student will acknowledge the increased number of items. The items will be removed. The student will participate in adding a "0" to the "10" to display the number "100" as the new label. The student will participate in placing 100 items in the container. The student will acknowledge the increased number of items.

Predetermined Criteria
1. The student will participate in labeling the container with "1," "10," and "100."
2. The student will participate in adding one, 10, and 100 items to the container.
3. The student will acknowledge the increased number of items after 10 and 100 items have been placed in the container.

Definitions/Examples for STAAR Reporting Category 3 (8.6)
Essence Statement C

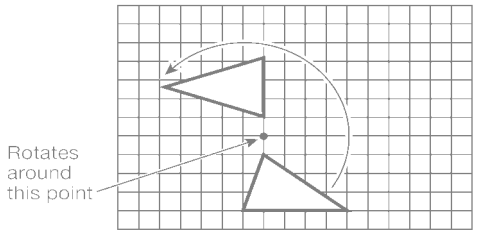
The following definitions clarify terms used in the grade 8 mathematics assessment tasks to ensure that the content of the tasks is understood. When appropriate, examples and nonexamples have been provided for further clarification. These are just examples and do not represent all the appropriate ways to test the skills in the STAAR Alternate assessment tasks.

Level 3: page 11

transformations – ways of moving a figure or object. Three kinds of transformations are rotations, translations, and reflections. The resulting image of a translation, reflection, or rotation is a figure or object that is congruent (same size, same shape) to the original figure or object.

- For this Level 3 task, the real-life objects used must be identical. Examples are: classroom chairs or soup cans.
- Shoes or gloves are NOT identical and are not appropriate for this task.

In a **rotation**, a figure or object moves in a circular path around a point. Example of a rotation or turning movement:

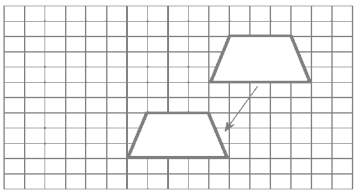


- In this Level 3 task, meaningful rotations could be: turning chairs so that they are lined up under a table, turning books so the spines face the same way, turning coffee cups so all their handles are aligned on a shelf, or rotating a soup can to line up with another can on a shelf. Example of a meaningful rotation:

- A rotation of a random object like a tissue box for no purpose is NOT considered meaningful for a transitional task.

Level 3: page 11

A figure can be translated up, down, left, right, or diagonally by sliding it. Example of a **translation**, a sliding movement:

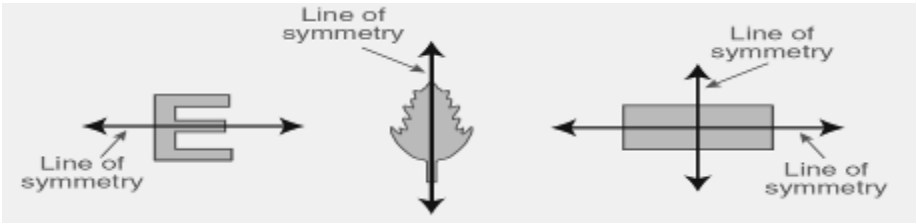


- In this Level 3 task, meaningful translations could be: sliding a chair so that it is lined up under a table, sliding lunch trays to be together in a stack, sliding books on a shelf to be aligned, or sliding a soup can to line up with another can on a shelf. Example of a meaningful translation:

Level 2: page 12

symmetrical – If a figure can be folded in half to make two congruent halves, then the figure is symmetrical. The line at which a figure can be folded so that its two halves match exactly is called a line of symmetry. Some figures have more than one line of symmetry. Some figures are nonsymmetrical and have no line of symmetry.

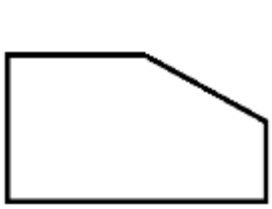
- Examples of symmetrical figures:



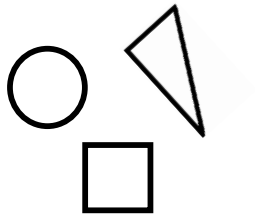
- The letters "R," "L," and "F" do NOT have lines of symmetry.

reflection – a mirror image of a figure across a line.

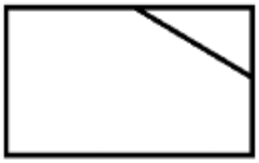
- For this Level 2 task, the examples below provide more detail about predetermined criterion three:



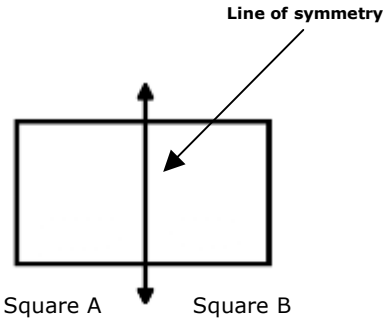
Asymmetrical figure



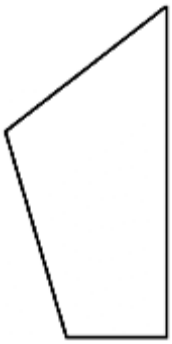
Choices of figures to add to asymmetrical figure



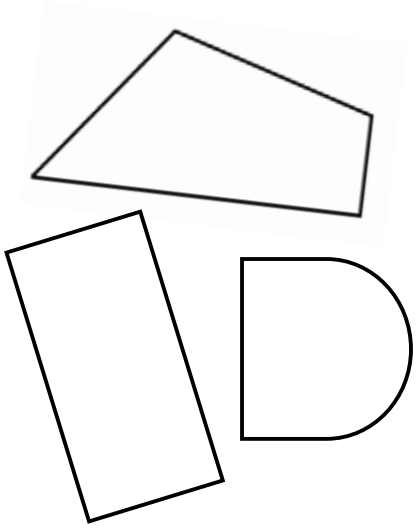
Triangle makes figure symmetrical



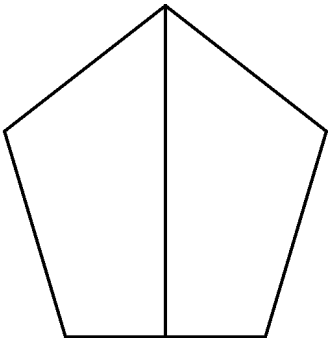
Square A is a reflection of Square B across the line of symmetry.



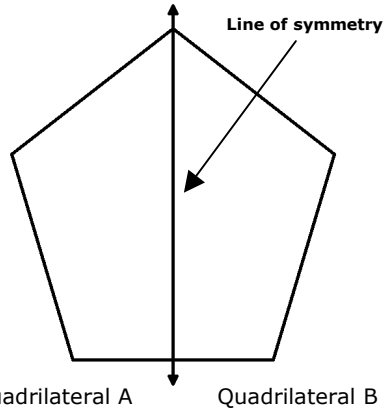
Asymmetrical figure



Choices of figures to add to asymmetrical figure



Quadrilateral makes figure symmetrical



STAAR Reporting Category 3 – Geometry and Spatial Reasoning: The student will demonstrate an understanding of geometry and spatial reasoning.	
TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectations	**Essence of TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectations**
(8.6) Geometry and spatial reasoning. The student uses transformational geometry to develop spatial sense. The student is expected to (A) generate similar figures using dilations including enlargements and reductions; Readiness Standard (B) graph dilations, reflections, and translations on a coordinate plane. Supporting Standard	**Essence Statement C:** Uses transformational geometry

Level 3

Prerequisite skill: demonstrate translations, reflections, and rotations using concrete models

The student will be presented one real-life object placed in a position by the teacher. The student will be presented other objects that will require a translation or rotation in order to be oriented like the first object. The student will generate a rotation for each object that requires a rotation. The student will generate a translation for each object that requires a translation. After each transformation, the student will determine if a rotation or translation was performed.

Predetermined Criteria
1. The student will generate a rotation for each object that requires a rotation.
2. The student will generate a translation for each object that requires a translation.
3. The student will determine if a rotation or translation was performed.

Process skill: identify mathematics in everyday situations

Transition

Level 2

Prerequisite skill: create two-dimensional figures with lines of symmetry using concrete models and technology

The student will be presented three two-dimensional figures, one that is symmetrical and two that are not symmetrical. The student will assist in folding each figure to find a line of symmetry. The student will identify the figure that is symmetrical. The student will identify a part that can be added to one of the nonsymmetrical figures to make a reflection.

Predetermined Criteria
1. The student will assist in folding each figure to try to find a line of symmetry.
2. The student will identify the figure that is symmetrical.
3. The student will identify a part that can be added to one of the nonsymmetrical figures to make a reflection.

Process skill: identify mathematics in everyday situations

Level 1

Prerequisite skill: place an object in a specified position

The student will be presented with an object to be placed with other like objects already positioned on a shelf. The student will explore the part of the object that should be placed outward. The student will participate in turning and placing the object properly on the shelf. The student will participate in sliding the object next to the like objects.

Predetermined Criteria
1. The student will explore the part of the object that should be placed outward.
2. The student will participate in turning and placing the object properly on the shelf.
3. The student will participate in sliding the object next to the like objects.

Transition

Definitions/Examples for STAAR Reporting Category 4 (8.8)
Essence Statement D

The following definitions clarify terms used in the grade 8 mathematics assessment tasks to ensure that the content of the tasks is understood. When appropriate, examples and nonexamples have been provided for further clarification. These are just examples and do not represent all the appropriate ways to test the skills in the STAAR Alternate assessment tasks.

Level 3 and Level 2: pages 14 and 15

area – the measure of how many square units a figure covers. The area of a rectangle can be found by multiplying the figure's length by its width.

STAAR Reporting Category 4 – Measurement: The student will demonstrate an understanding of the concepts and uses of measurement.	
TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectations	**Essence of TEKS Knowledge & Skills Statement / STAAR-Tested Student Expectations**
(8.8) Measurement. The student uses procedures to determine measures of three-dimensional figures. The student is expected to (A) find lateral and total surface area of prisms, pyramids, and cylinders using [concrete] models and nets (two-dimensional models); Supporting Standard (B) connect models of prisms, cylinders, pyramids, spheres, and cones to formulas for volume of these objects; Supporting Standard (C) estimate measurements and use formulas to solve application problems involving lateral and total surface area and volume. Readiness Standard	**Essence Statement D:** Finds measurements of geometric figures.

Level 3

Prerequisite skill: select and use appropriate units and formulas to measure length, perimeter, area, and volume

The student will be presented a rectangular figure. The student will select tools needed to measure the area of the figure. The student will measure the length and width of the figure. The student will determine the area of the figure.

Predetermined Criteria
1. The student will select tools needed to measure the area of the figure.
2. The student will measure the length and width of the figure.
3. The student will determine the area of the figure.

Process skill: use tools such as real objects, manipulatives, and technology to solve problems

Level 2

Prerequisite skill: use concrete and pictorial models of square units to determine the area of two-dimensional surfaces

The student will be presented a square or rectangular figure containing gridlines that will allow square units to be placed within the individual cells. The student will identify the number of square units needed to fill all of the cells of the figure. The formula for area will be presented. The student will count the number of square units that make up the length and width of the figure. The student will complete the formula using the length and width to confirm the area.

Predetermined Criteria
1. The student will identify the number of square units needed to fill all of the cells of the figure.
2. The student will count the number of square units that make up the length and width of the figure.
3. The student will complete the formula using the length and width to confirm the area.

Process skill: use tools such as real objects, manipulatives, and technology to solve problems

Level 1

Prerequisite skill: compare the areas of two flat surfaces of two-dimensional figures (covers more, covers less, or covers the same)

The student will be presented a square or rectangular figure containing gridlines that will allow square units to be placed within the cells. The student will explore the width and length of the grid. The student will be presented one small square unit to explore. The student will participate in placing additional small square units into the individual cells to completely fill the rectangular figure. The student will participate in counting the total square units.

Predetermined Criteria
1. The student will explore the width and length of the grid.
2. The student will participate in placing additional small square units into the individual cells to completely fill the rectangular figure.
3. The student will participate in counting the total square units.