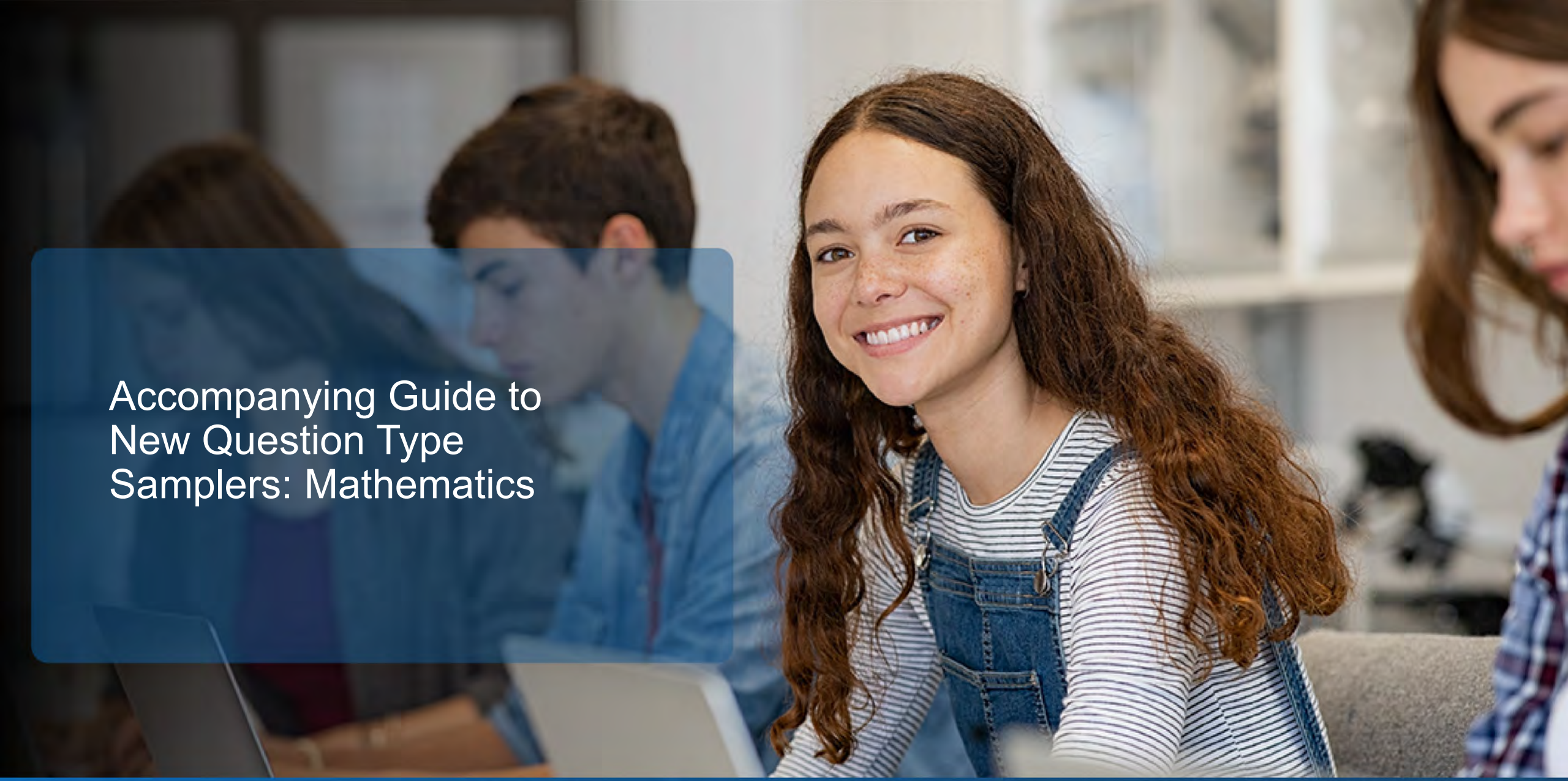


Accompanying Guide to New Question Type Samplers: Mathematics

Table of Contents

Section 1: Introduction and Overview

Section 2: Scoring and Reporting Guide Overview and Question Types

- Equation editor and Text entry
- Graphing
- Inline choice
- Hot spot
- Fraction model
- Drag and drop
- Match table grid
- Multiselect

Section 3: Additional Resources

This document provides a guide to navigating the new question type samplers, including scoring and reporting information

All example questions in this guide are from the new question type samplers, which are available here: new question type samplers

Information provided in this document is subject to change following results from the Spring 2022 field test.

Please note the following about the new question type samplers:

- Sampler results are not predictive of student performance on the STAAR assessment, and instructional interpretations should not be made from the question type sampler results.
- Constructed response questions in the samplers will not be scored because they are handscored.
- Not all new question types in the samplers will appear on every STAAR test every year.

Additional information and resources about the STAAR assessment are available here: STAAR Test

State and federal laws require a redesign of Texas's state summative assessment (STAAR), effective 2022–2023

Assessments provide educators and parents with helpful information to support strong teaching and guide students to their full potential.

STAAR is a summative assessment that serves several primary purposes, including determining student mastery of TEKS, determining effectiveness of curriculum and instruction programs, helping determine which individual students should receive additional holistic supports, and serving as a bar for rigor and standards alignment in planning.

State and federal laws require a redesign of Texas's state summative assessment (STAAR), effective 2022–2023, that will ensure STAAR is more aligned with how students are learning in the classroom.

One component of the redesign is the addition of new, non-multiple-choice questions to meet a 75% cap on multiple-choice questions.

Any new question type will need to be able to meet our existing rigorous requirements for STAAR questions AND provide additional benefits

New questions will need to meet our existing rigorous requirements for STAAR, including:

- Valid statistics from field tests
- Alignment with TEKS
- Grade-level appropriateness
- Lack of bias
- Accessibility for all students
- Review and approval from a group of Texas educators who teach the grade level and agree students should be able to answer these questions at the end of the year

TEA has worked closely with educators to determine which new question types best support students:

- **600** educators participated in focus groups on new question types
- **92%** of educators agree that the new question types allow students to better demonstrate their knowledge
- **89%** of educators believe that the new question types are more engaging for students
- **80%+** of educators agree that new question types will impact instructional planning

The following new question types may be included in the specified Mathematics tests starting in Spring 2023

*Question Type	Question Type Description	STAAR Math Test Titles
Equation editor	Student can write responses in the form of fractions, expressions, equations, or inequalities.	Grades 3-8 EOC
Text Entry	Student responds by typing a brief string of text such as a number, word, or phrase.	Grades 3-8 EOC
Graphing	Student selects, points, draws lines, drags bar graphs, and perform other functions to independently create different types of graphs.	Grades 3-8 EOC
Number line	Student selects a point, an open or closed circle, and a direction arrow to demonstrate a solution set on a number line.	Grades 6-8 EOC
Inline choice	Student selects the correct answer(s) from one or more drop-down menu(s).	Grades 3-8 EOC
Hot spot	Student responds by selecting one or more specific areas of a graphic.	Grades 3-8 EOC
Fraction model	Student represents a fraction by dividing an object into the correct number of sections to indicate the denominator and clicking to shade the appropriate number of sections to indicate the numerator.	Grades 3-5
Drag and drop	Student evaluates a given number of options (words, numbers, symbols, etc.) and chooses which response(s) to drag to a given area (a diagram, map, chart, etc.).	Grades 3-8 EOC
Match table grid	Student matches statements or objects to different categories presented in a table grid.	Grades 6-8 EOC
Multiselect	Student can select more than one correct answer from a set of possible answers.	Grades 3-8 EOC

*Not all new question types will appear on every test every year

Max possible points per question

2 points

1 or 2 points dependent upon question

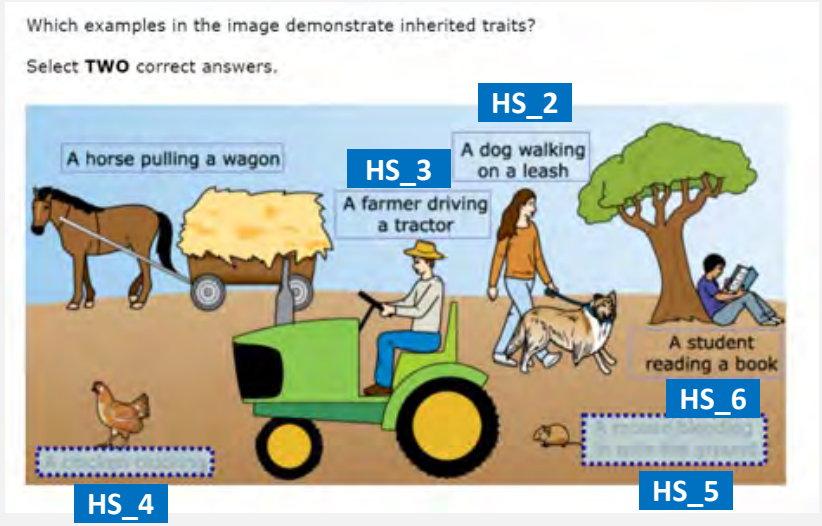
How new question types are reported in the data file

Districts are provided a data file that details student's answers at an aggregate level:

- Actual value or texts will appear in the data file for items such as inline choice or multiple select items.
- For new question types such as match table grid or hot spot items, answer choices will be given identifiers.
- Student responses will not be transformed into a data file for some items such as graphing or number line.
- Data files will be delivered to district users' TIDE secure inbox.

Sample data file output: Identifiers

- **For this hot spot item, each answer choice is given a corresponding identifier. In a data file, it will appear that the student selected HS_4, HS_5 (hot spot answer choice 4 and hot spot answer choice 5) for this item.**



Scoring and Reporting Information for Each New Question Type

Overview of the scoring and reporting guide

The remainder of this resource includes information about scoring and reporting for each new question type on Mathematics tests.

The first slide for each new question type is an overview that includes a definition, the possible points for the question type, and the grades which may include the question type.

Then, one or more examples of the new question type are given. Each example includes a set of slides:

- Student view slides: Student view that includes the question prompt and what the student will see when they select their answer. Example student responses for each possible credit will also be given.
- Teacher view slide: Teacher view in the reporting system that includes the scoring model for the question type, the correct answer to the example question, and the score of the student answering the example question.

Question Type: Equation Editor and Text Entry

Question Type Overview

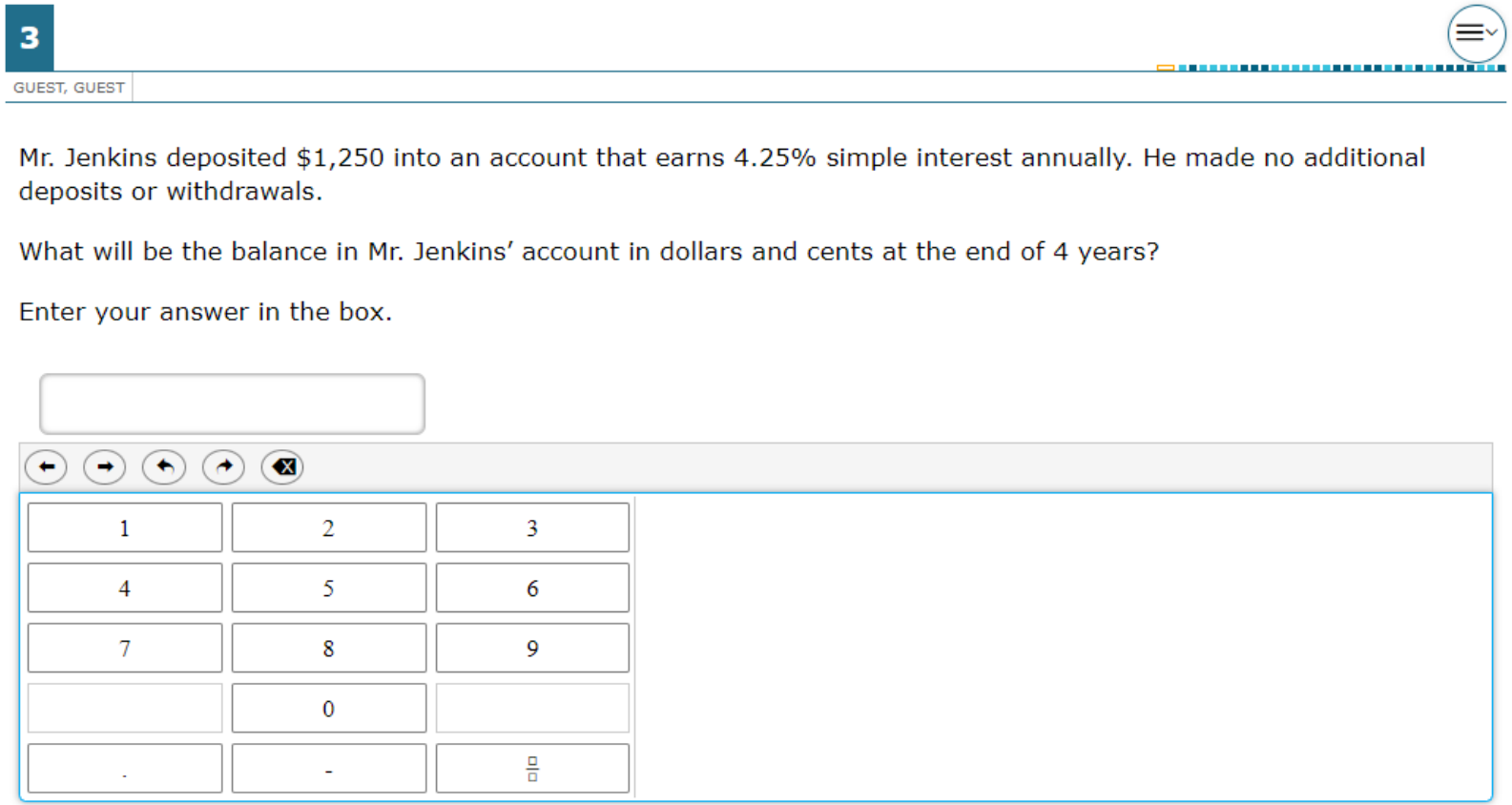
Description: Student can write responses in the form of fractions, expressions, equations, or inequalities, or by typing a brief string of text such as a number, word, or phrase.

Point value: These questions can be worth a maximum of 2 points with the possibility of receiving 1 point for a partially correct response.

Math tests that may include these questions: Grades 3-8, Spanish Grades 3-5, and EOC

Question Type: Equation Editor and Text Entry
Example #1: Student view

This example is question #3 in the Grade 8 sampler.



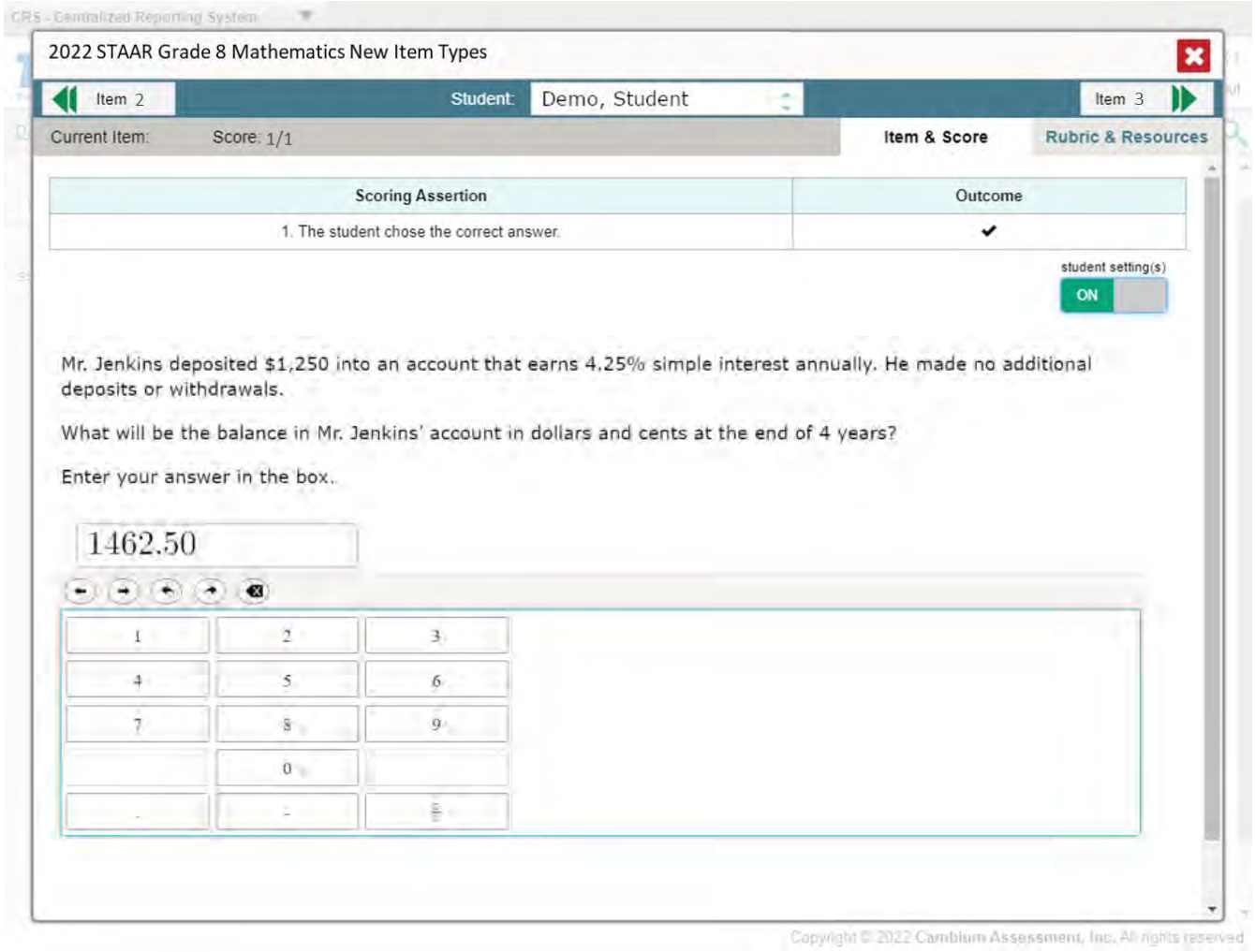
Question Type: Equation Editor and Text Entry
Example #1: Student view

This student entered the correct answer (1 point).

This student did not enter the correct answer (0 points).

Question Type: Equation Editor and Text Entry

Example #1: Teacher view



The scoring model for **equation editor** questions is:

- To obtain full credit (1 point), the student will enter the correct answer in the box.
- Students will receive 0 points if the answer is missing or incorrect.

In this example, this student entered the correct answer, so they received full credit (1 point).

Question Type: Graphing

Question Type Overview

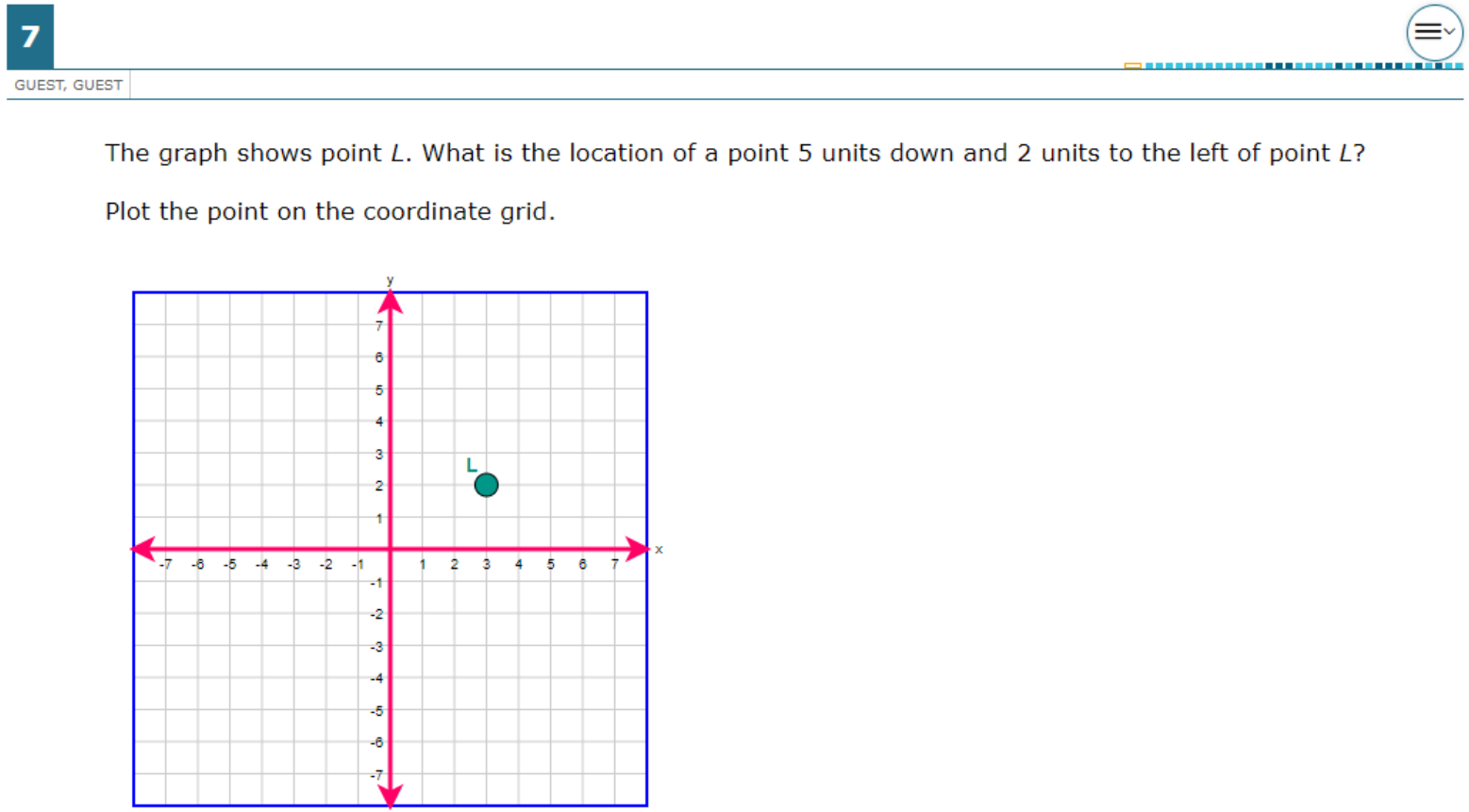
Description: Student selects, points, draws lines, drags bar graphs, and performs other functions to independently create different types of graphs.

Point value: These questions can be worth a maximum of 2 points with the possibility of receiving 1 point for a partially correct response.

Math tests that may include these questions: Grades 3-8, Spanish Grades 3-5, and EOC

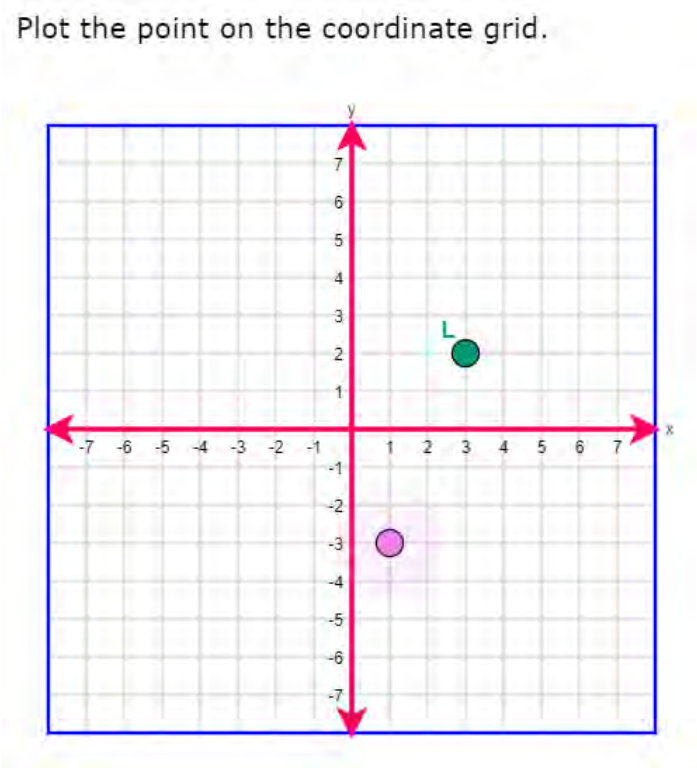
Question Type: Graphing
Example #1: Student view

This example is question #7 in the Grade 6 sampler.

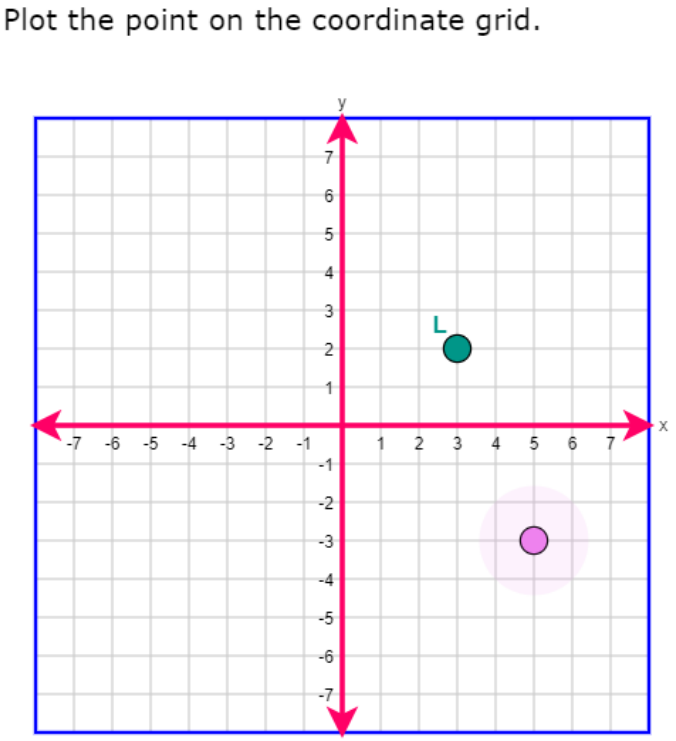


Question Type: Graphing
Example #1: Student view

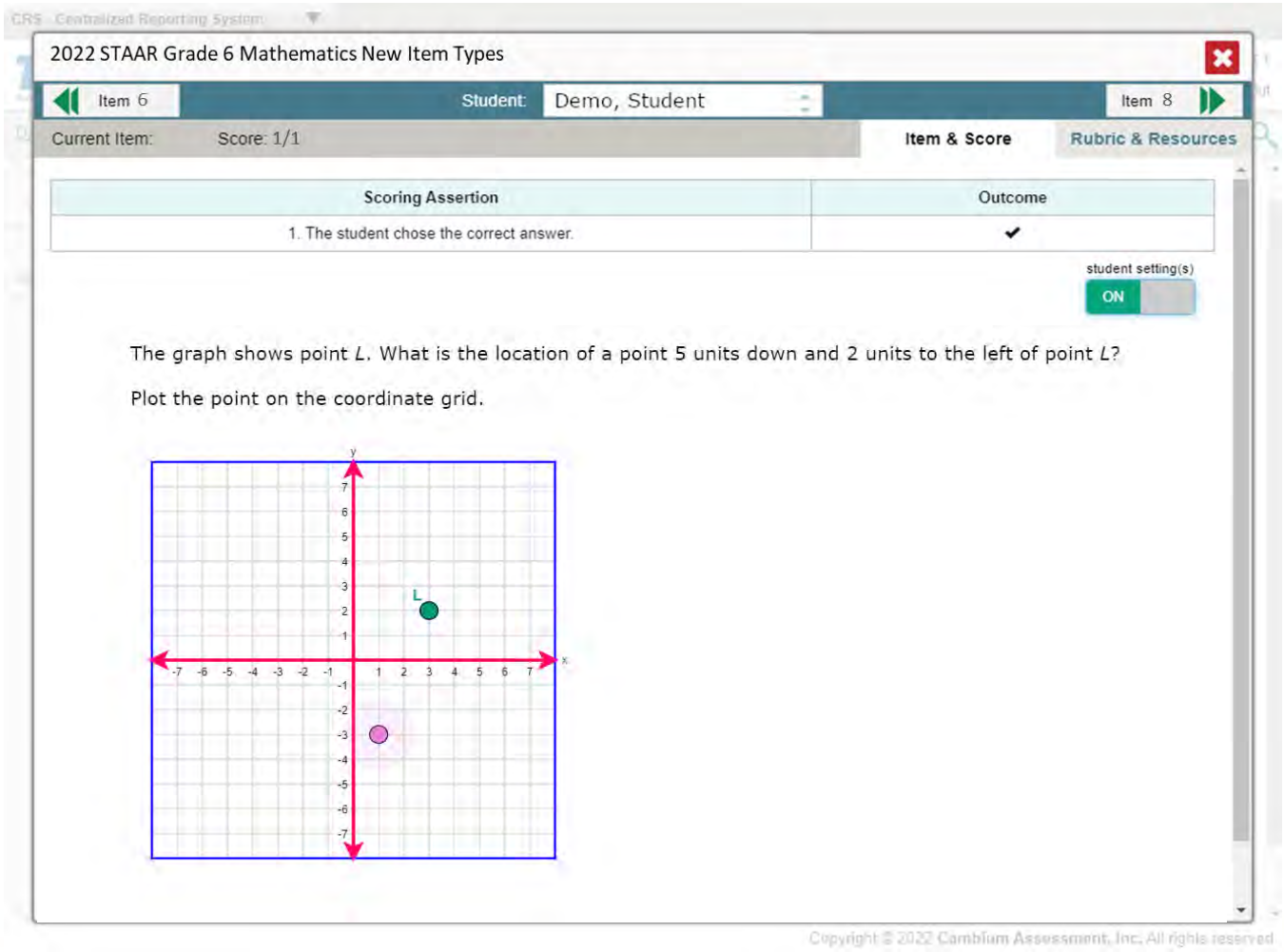
This is what the student will see when they select the correct answer (1 point).



This student did not answer select the correct answer (0 points).



Question Type: Graphing
Example #1: Teacher view



The scoring model for **graphing** questions is:

- To obtain full credit (1 point), the student will correctly plot the point on the coordinate grid.
- Students will receive 0 points if the point is missing or plotted incorrectly.

In this example, this student chose the correct answer, so they received full credit (1 point).

Question Type: Graphing
Example #2: Student view

This example is question #7 in the Grade 5 sampler.

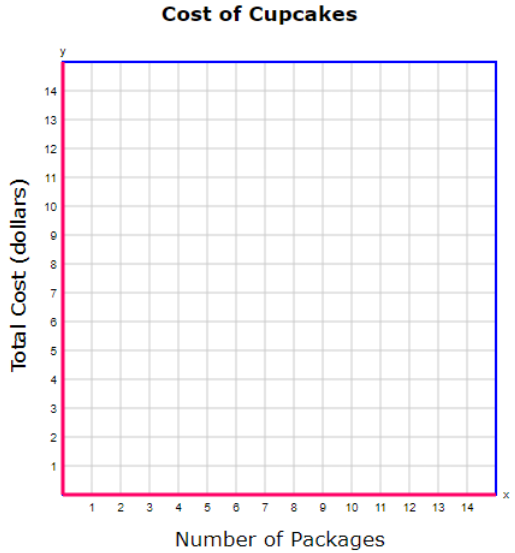
7

GUEST, GUEST

A store sells packages of cupcakes for $3 each. The relationship between the number of packages, x, and the total cost in dollars, y, can be represented by the equation $y = 3x$.

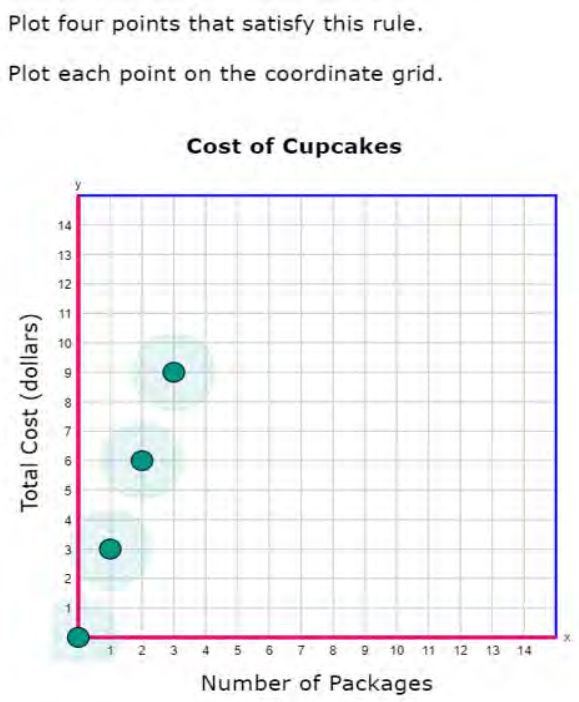
Plot four points that satisfy this rule.

Plot each point on the coordinate grid.

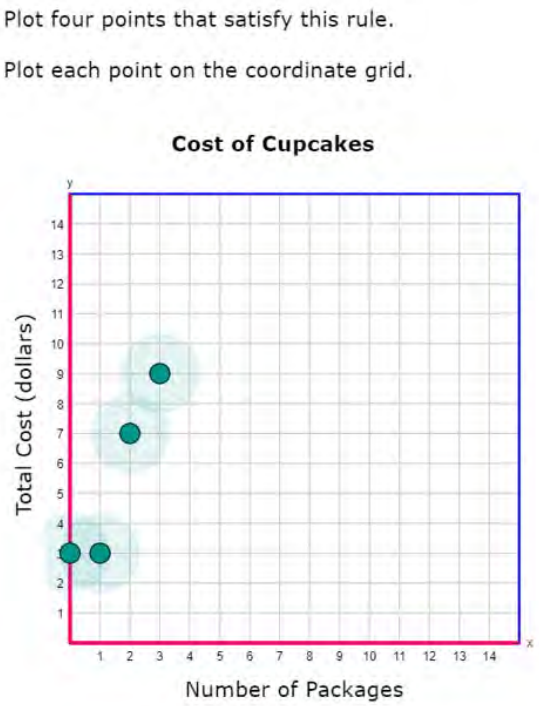


Question Type: Graphing
Example #2: Student view

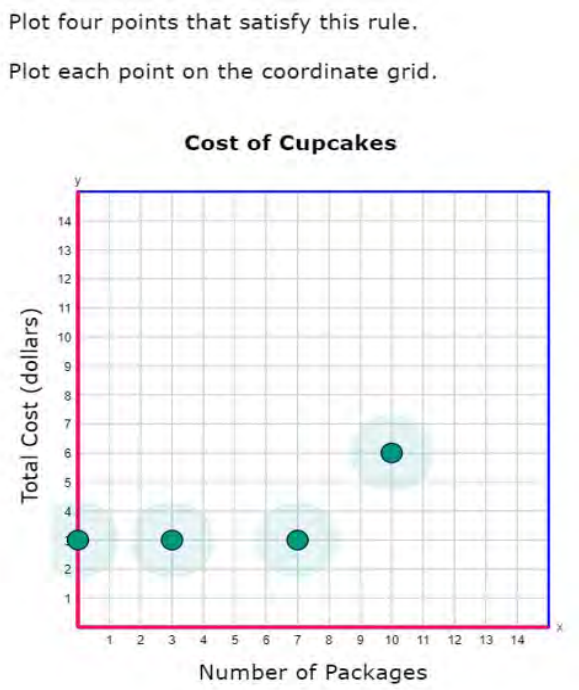
This is what the student will see when they correctly plot their answers (2 points).



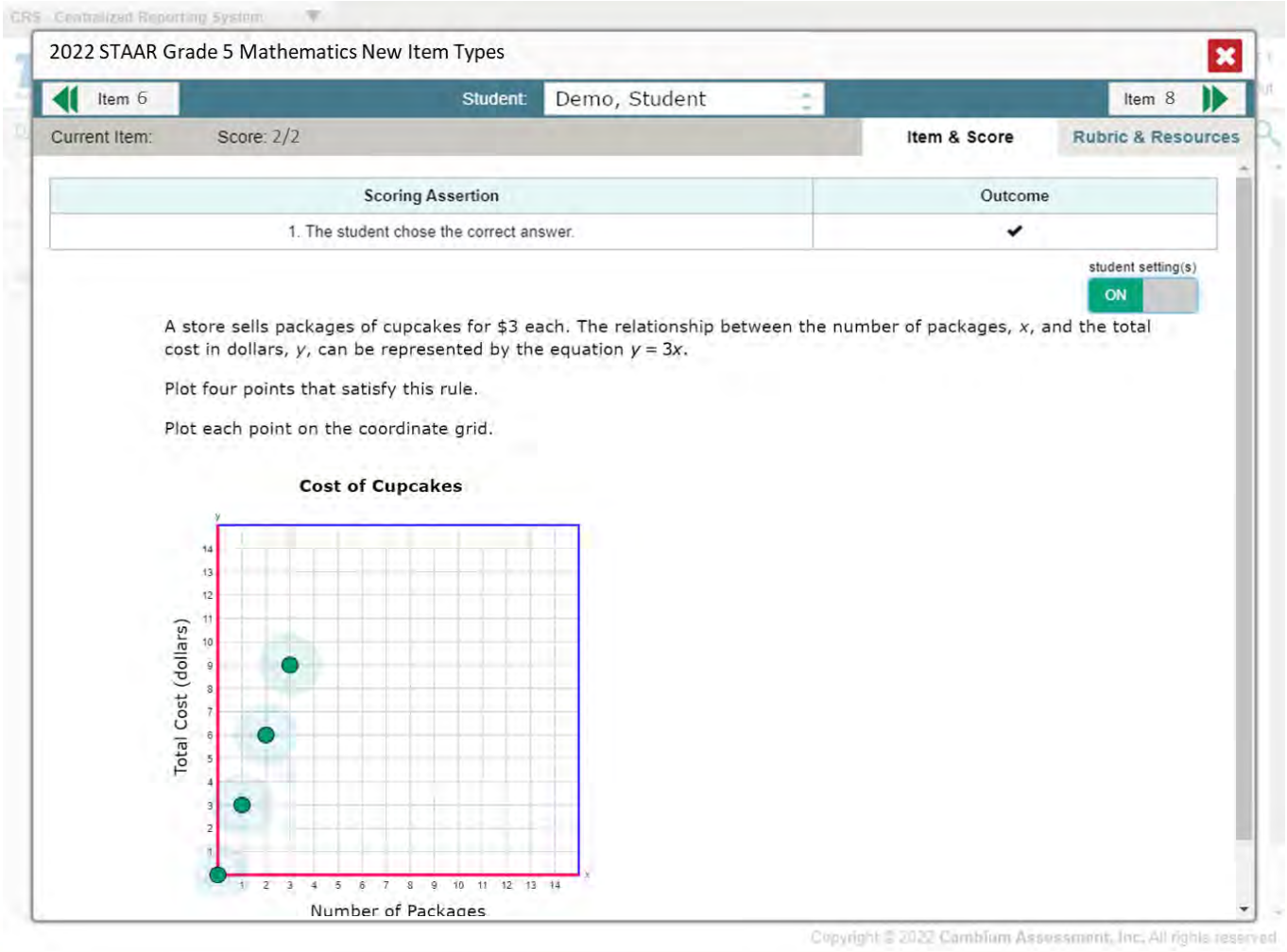
This student plotted two points correctly (1 point).



This student plotted all four points incorrectly (0 points).



Question Type: Graphing
Example #2: Teacher view



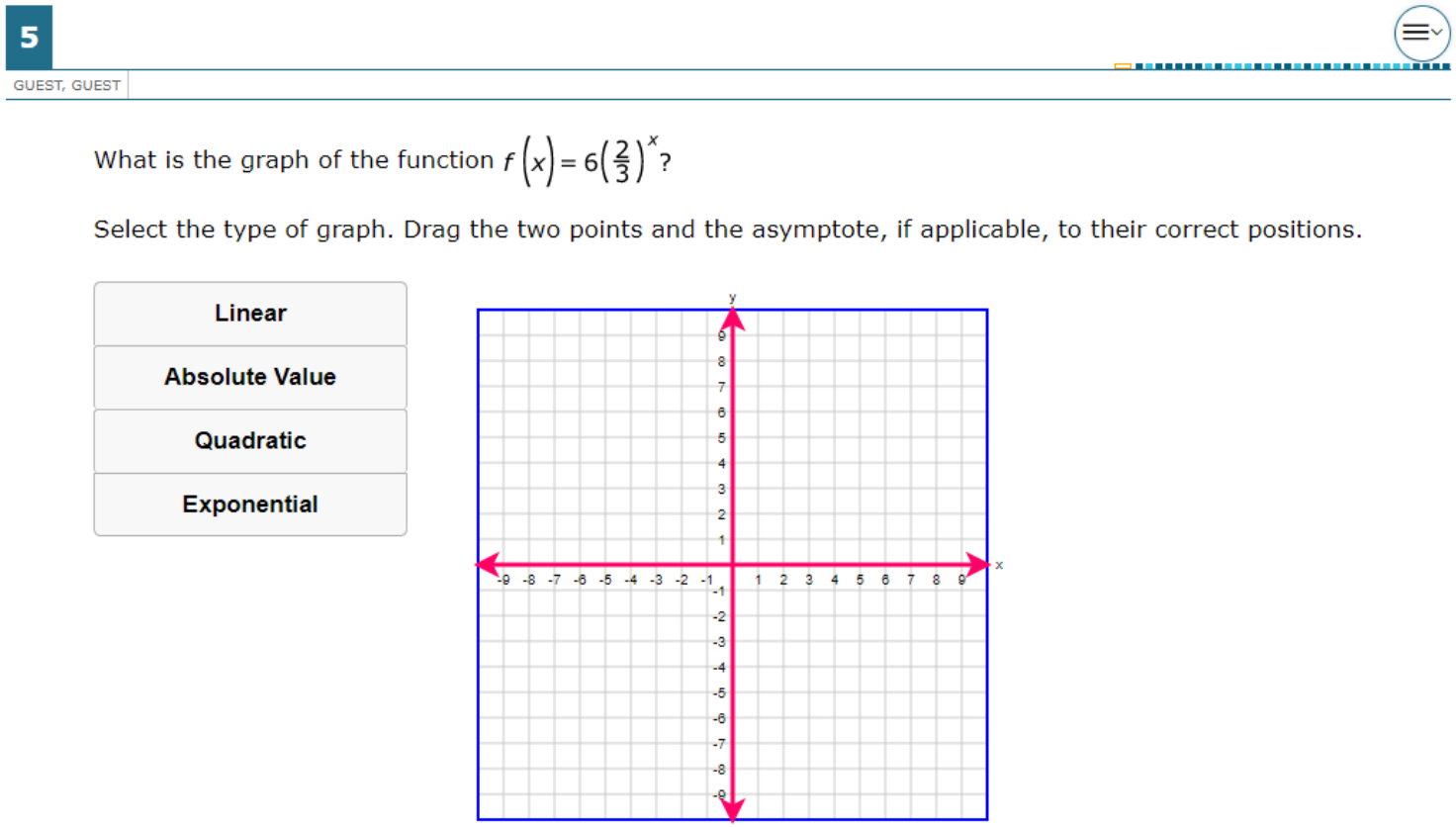
The scoring model for **graphing** questions is:

- To obtain full credit (2 points), the student will correctly plot four points on the coordinate grid.
- To obtain partial credit (1 point) the student will correctly plot two or three points on the coordinate grid.
- Students will receive 0 points if three or more points are missing or plotted incorrectly.

This student plotted all four points correctly, so they received full credit (2 points).

Question Type: Graphing
Example #3: Student view

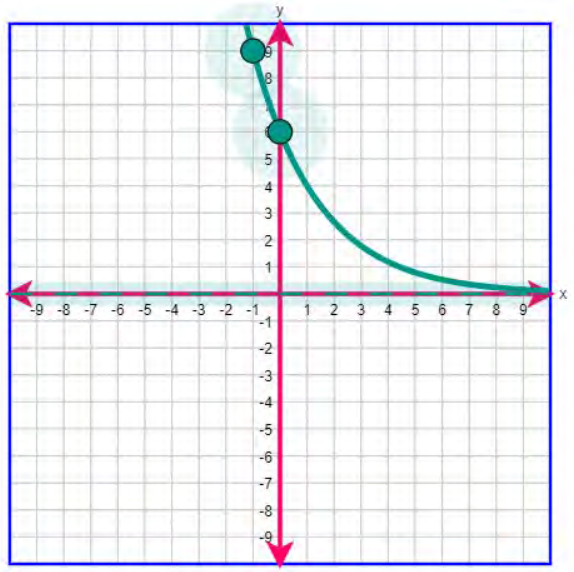
This example is question #5 in the Algebra I sampler.



Question Type: Graphing
Example #3: Student view

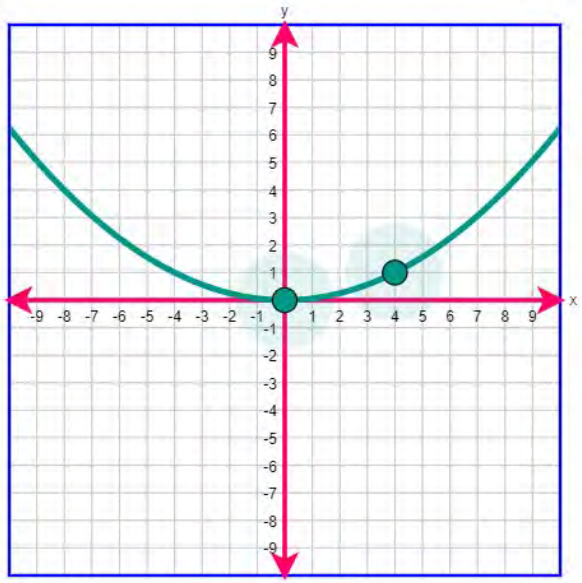
This is what the student will see when they select the correct answers (1 point).

- Linear
- Absolute Value
- Quadratic
- Exponential

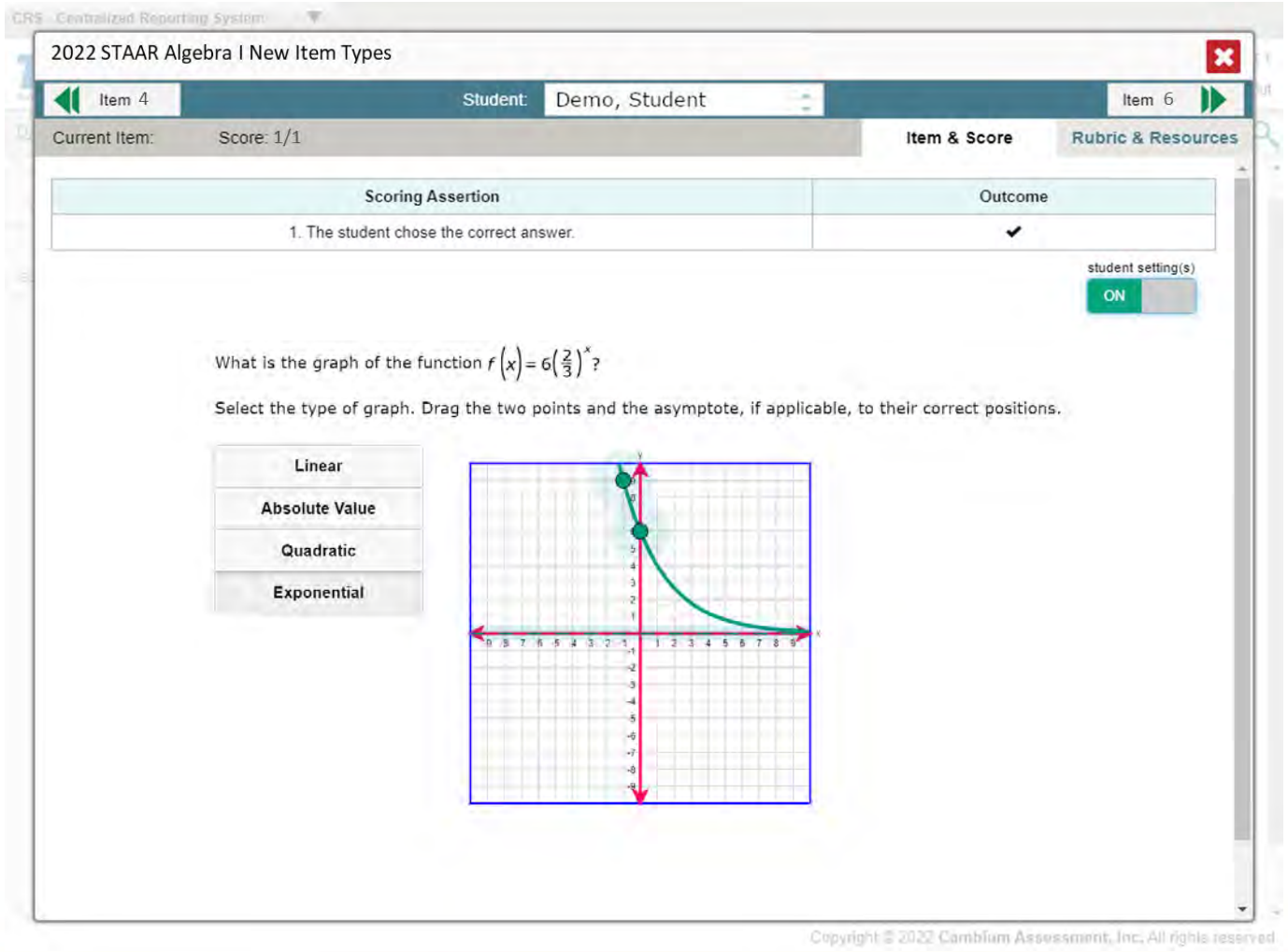


This student did not select the correct answers (0 points).

- Linear
- Absolute Value
- Quadratic
- Exponential



Question Type: Graphing
Example #3: Teacher view



The scoring model for **graphing** questions is:

- To obtain full credit (1 point), the student will correctly select the type of graph and drag the two points to their correct positions.
- Students will receive 0 points if the type selection is incorrect or if any point is in the incorrect position.

In this example, this student answered correctly, so they received full credit (1 point).

Question Type: Graphing
Example #4: Student view

This example is question #9 in the Algebra I sampler.

9

GUEST, GUEST

What is the solution set for the system of linear inequalities shown?

$$y > -\frac{3}{4}x + 4$$
$$y < \frac{3}{2}x - 5$$

Graph the solution set of the system of linear inequalities in the coordinate plane.

- First, select the Graph 1 button to graph the line and choose the line style. To graph a line, select two points in the coordinate plane. A line will connect the points.
- Then select the Graph 2 button to graph the line and choose the line style.
- Then select the Solution Set button to select the desired region.

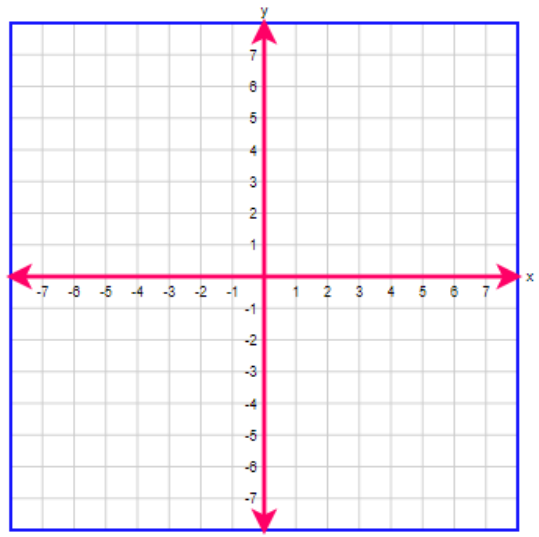
Graph 1

Line Type solid

Graph 2

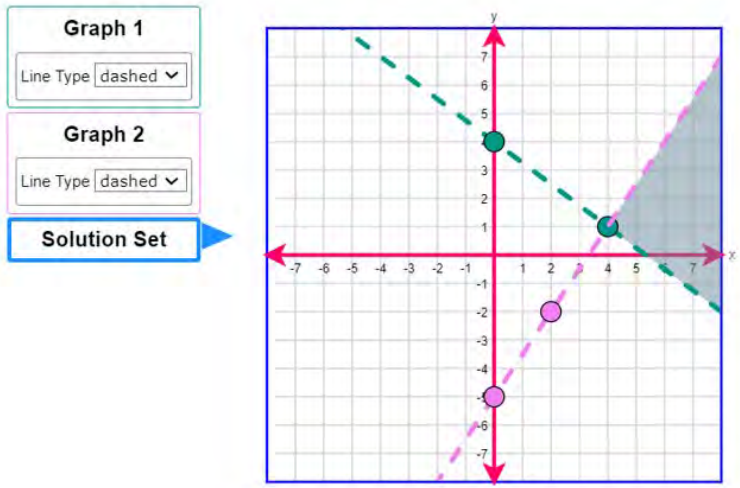
Line Type solid

Solution Set

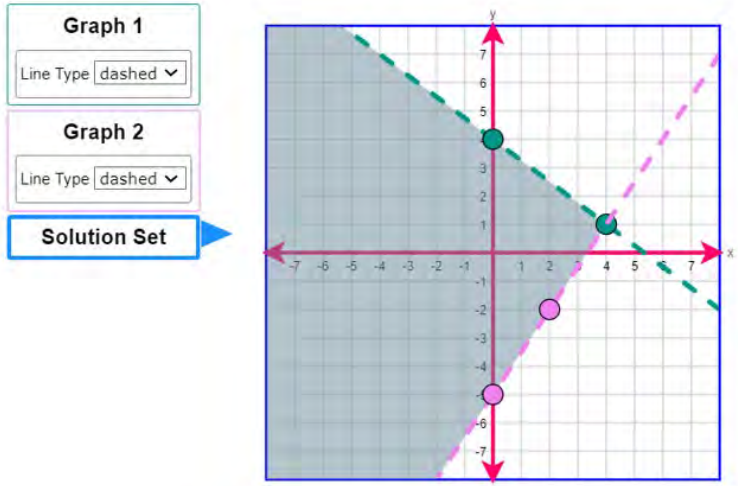


Question Type: Graphing
Example #4: Student view

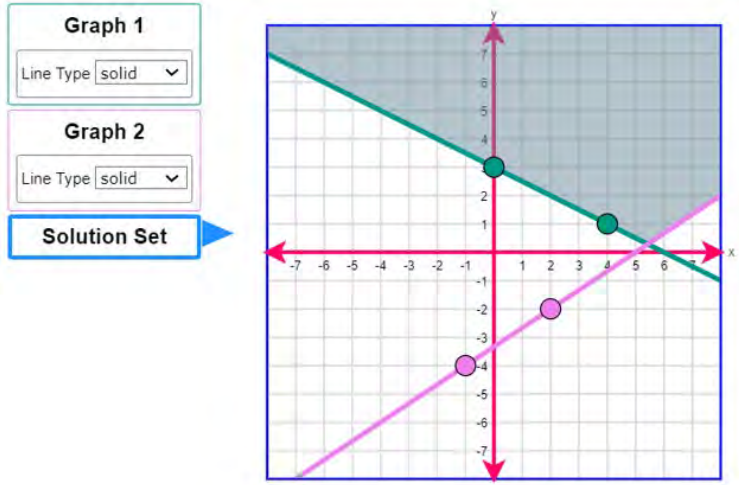
This is what the student will see when they select the correct answers (2 points).



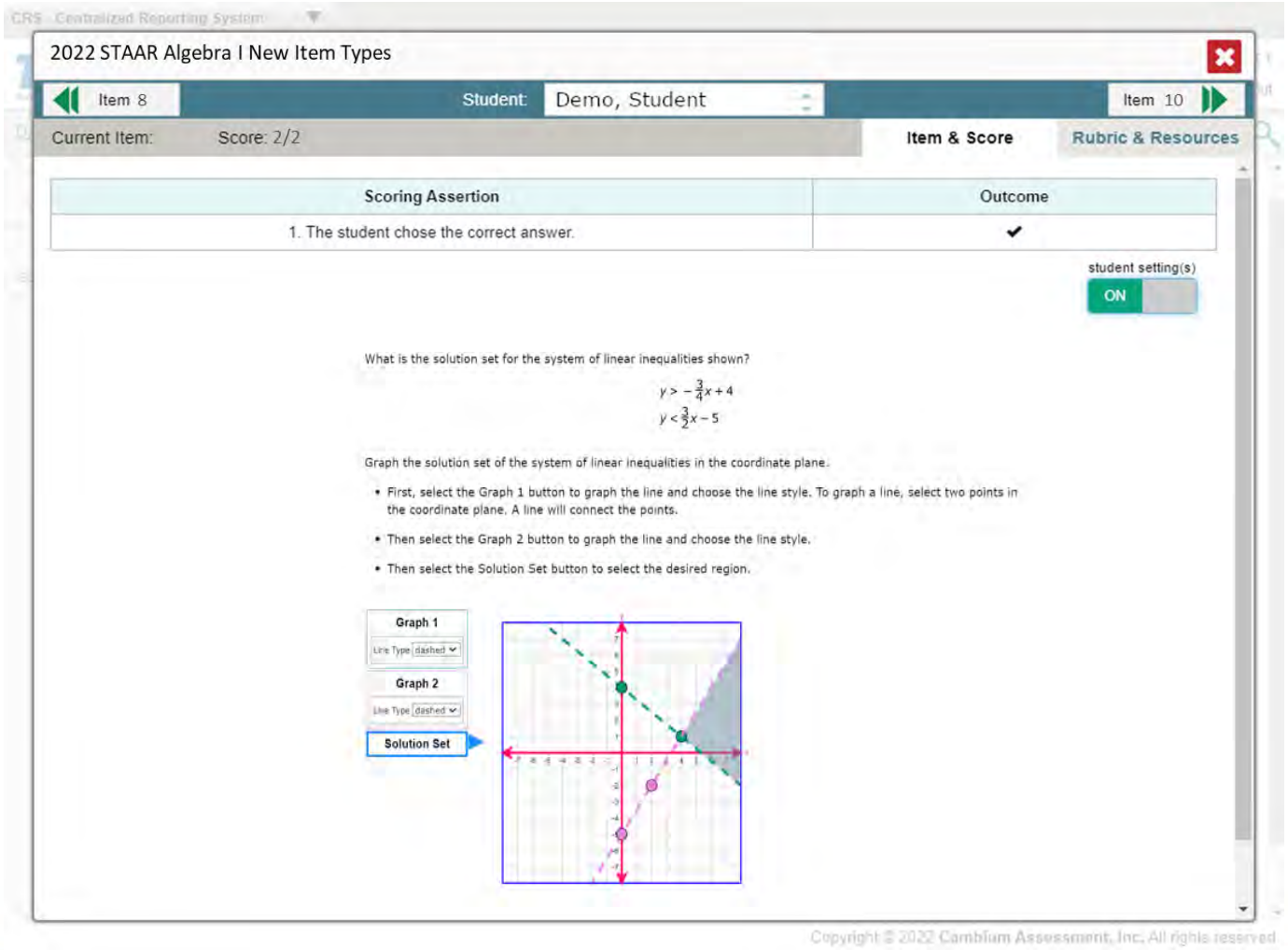
This student correctly graphed both lines but did not shade the correct solution set, so they received partial credit (1 point).



This student incorrectly graphed both lines (0 points).



Question Type: Graphing
Example #4: Teacher view



The scoring model for **graphing** questions is:

- To obtain full credit (2 points), the student will correctly graph both lines with the correct line style and shade the correct solution set.
- To obtain partial credit (1 point), the student will correctly graph both lines with the correct line style but not shade the correct solution set, or correctly graph both lines and shade the correct solution set but use an incorrect line style.
- Students will receive 0 points if both lines are not correctly graphed.

In this example, this student correctly answered this question, so they received full credit (2 points).

Question Type: Graphing
Example #5: Student view

This example is question #3 in the Grade 3 sampler.

3

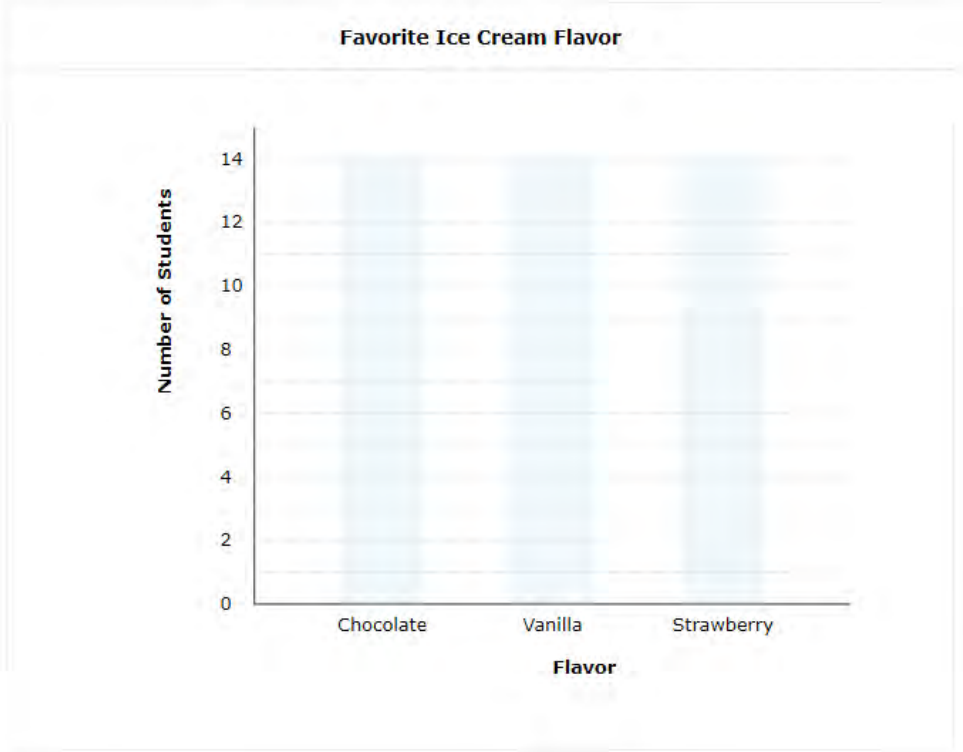
GUEST, GUEST

Each student in a group of 30 chose 1 favorite flavor of ice cream:

- Chocolate was chosen by 7 students.
- Vanilla was chosen by 12 students.
- Strawberry was chosen by 11 students.

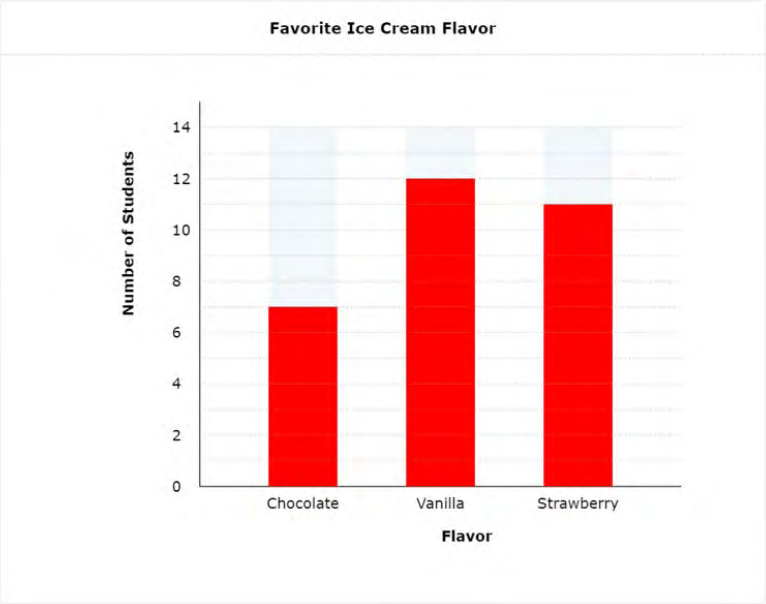
Complete the bar graph so that it shows the number of students who chose each flavor of ice cream.

Select the location on each bar to correctly represent the data.

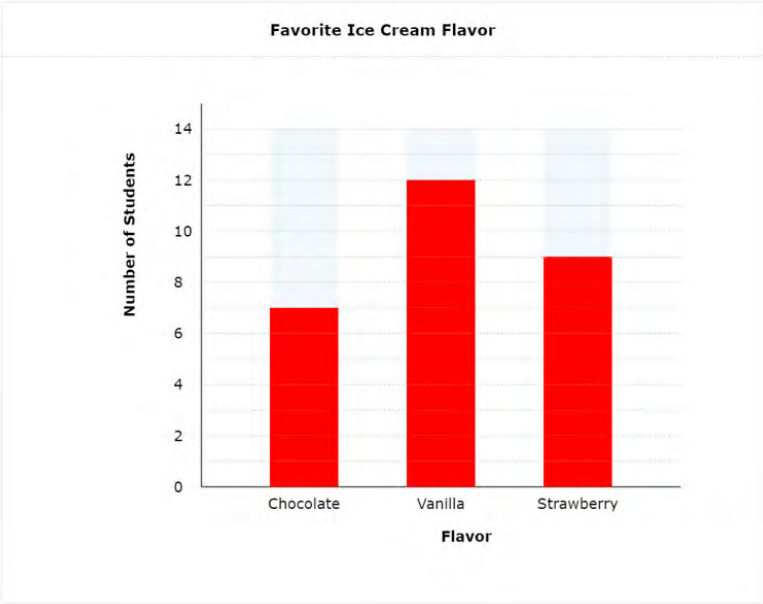


Question Type: Graphing
Example #5: Student view

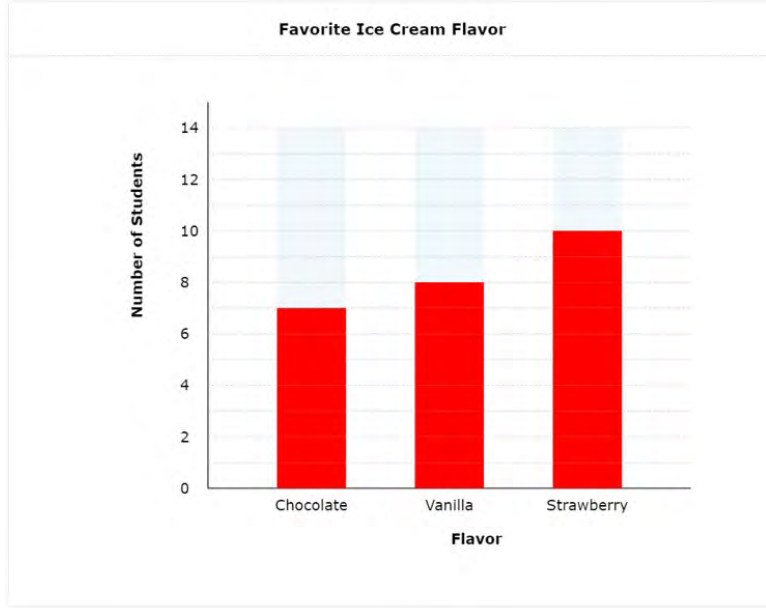
This is what the student will see when they select the correct answers (2 points).



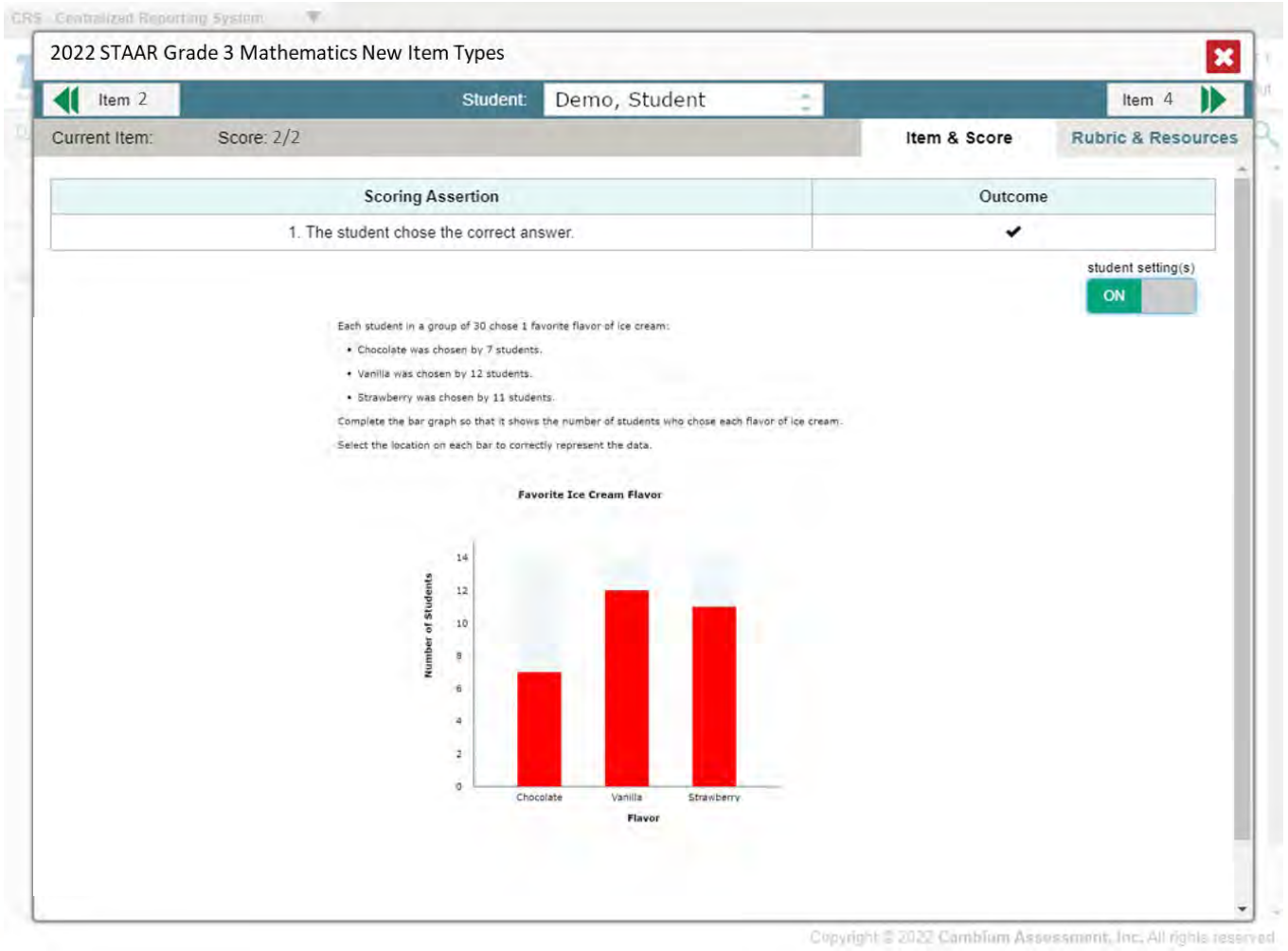
This student correctly selected the location of two bars (1 point).



This student incorrectly selected the location of two bars (0 points).



Question Type: Graphing
Example #5: Teacher view



The scoring model for **graphing** questions is:

- To obtain full credit (2 points), the student will correctly select the location of all three bars.
- To obtain partial credit (1 point), the student will correctly select the location of two bars.
- Students will receive 0 points if two or more bars are missing or incorrect

In this example, this student selected the correct location of all three bars, so they received full credit (2 points).

Question Type: Inline Choice

Question Type Overview

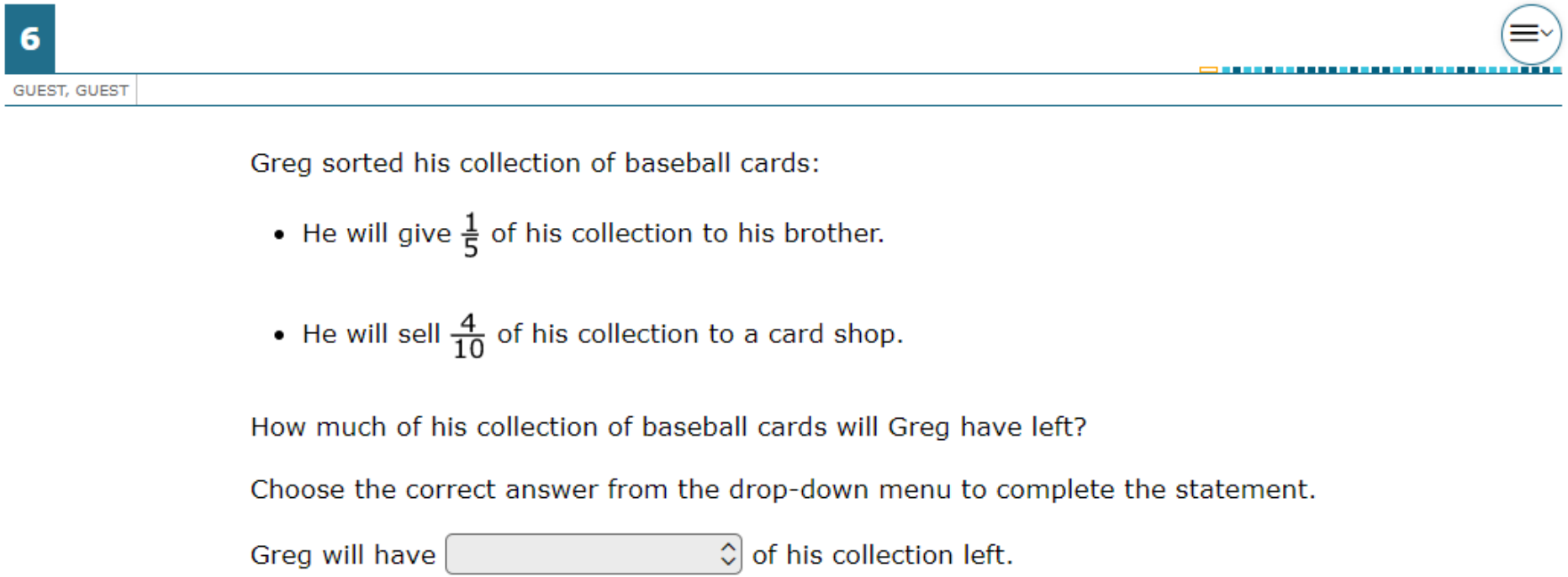
Description: Student selects the correct answer(s) from one or more drop-down menu(s).

Point value: These questions can be worth a maximum of 2 points with the possibility of receiving 1 point for a partially correct response.

Math tests that may include these questions: Grades 3-8, Spanish Grades 3-5, and EOC

Question Type: Inline Choice
Example #1: Student view

This example is question #6 in the Grade 4 sampler.



Question Type: Inline Choice
Example #1: Student view

This is what the student will see when they select the correct answer (1 point).

Greg sorted his collection of baseball cards:

- He will give $\frac{1}{5}$ of his collection to his brother.
- He will sell $\frac{4}{10}$ of his collection to a card shop.

How much of his collection of baseball cards will Greg have left?

Choose the correct answer from the drop-down menu to complete the statement.

Greg will have [less than half ⇕] of his collection left.

This student chose an incorrect answer (0 points).

Greg sorted his collection of baseball cards:

- He will give $\frac{1}{5}$ of his collection to his brother.
- He will sell $\frac{4}{10}$ of his collection to a card shop.

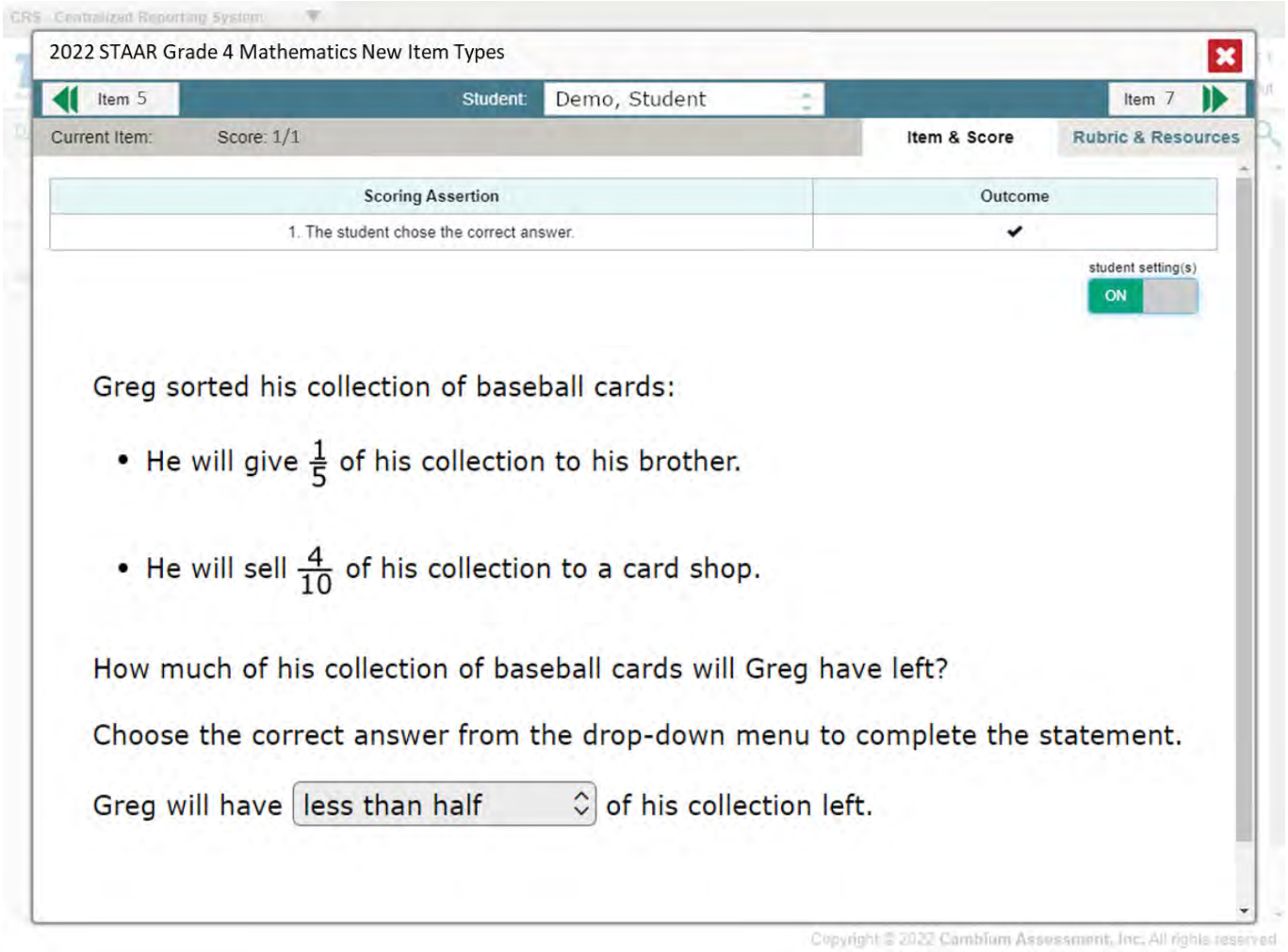
How much of his collection of baseball cards will Greg have left?

Choose the correct answer from the drop-down menu to complete the statement.

Greg will have [exactly half ⇕] of his collection left.

Question Type: Inline Choice

Example #1: Teacher view



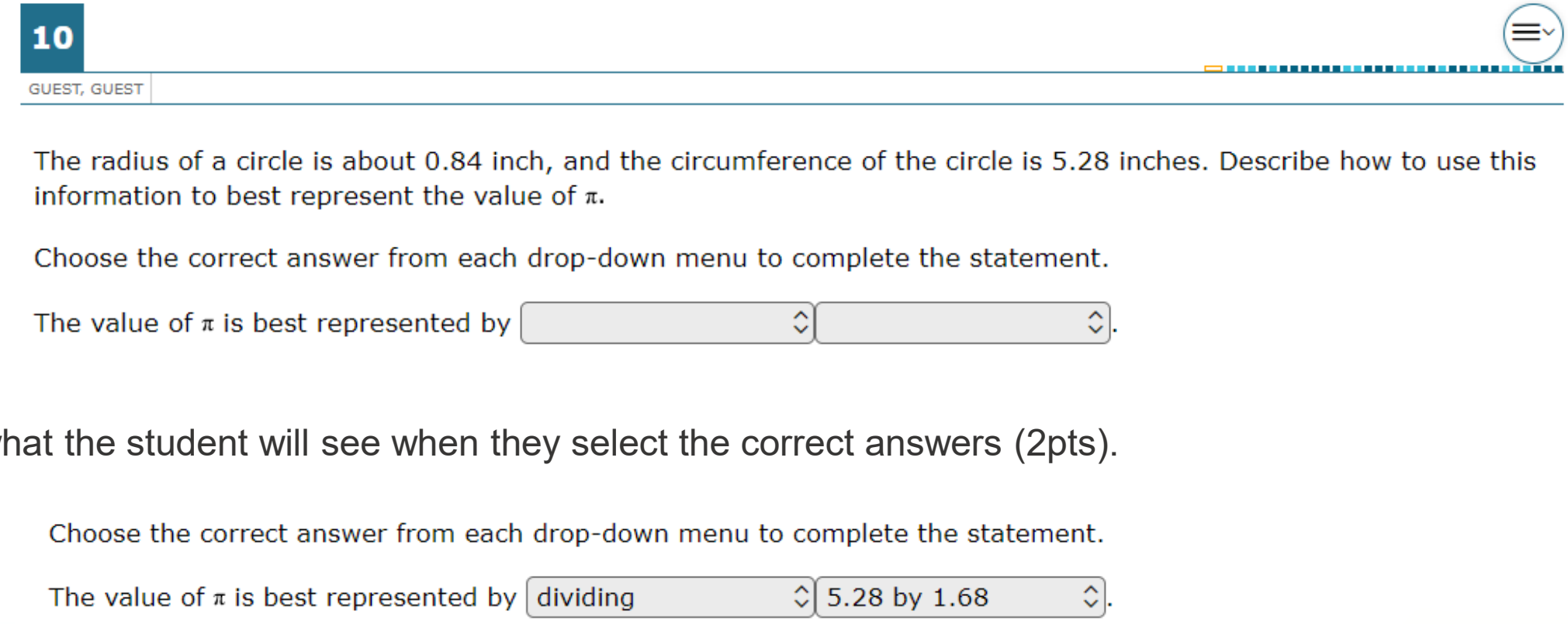
The scoring model for **inline choice** questions is:

- To obtain full credit (1 point), the student will choose the correct answer from the drop-down menu.
- Students will receive 0 points if the choice is missing or incorrect.

In this example, this student chose the correct answer, so they received full credit (1 point).

Question Type: Inline Choice
Example #2: Student view

This example is question #10 in the Grade 7 sampler.



This is what the student will see when they select the correct answers (2pts).

Question Type: Inline Choice
Example #2: Student view

This student chose one correct answer and one incorrect answer (1 point).

Choose the correct answer from each drop-down menu to complete the statement.

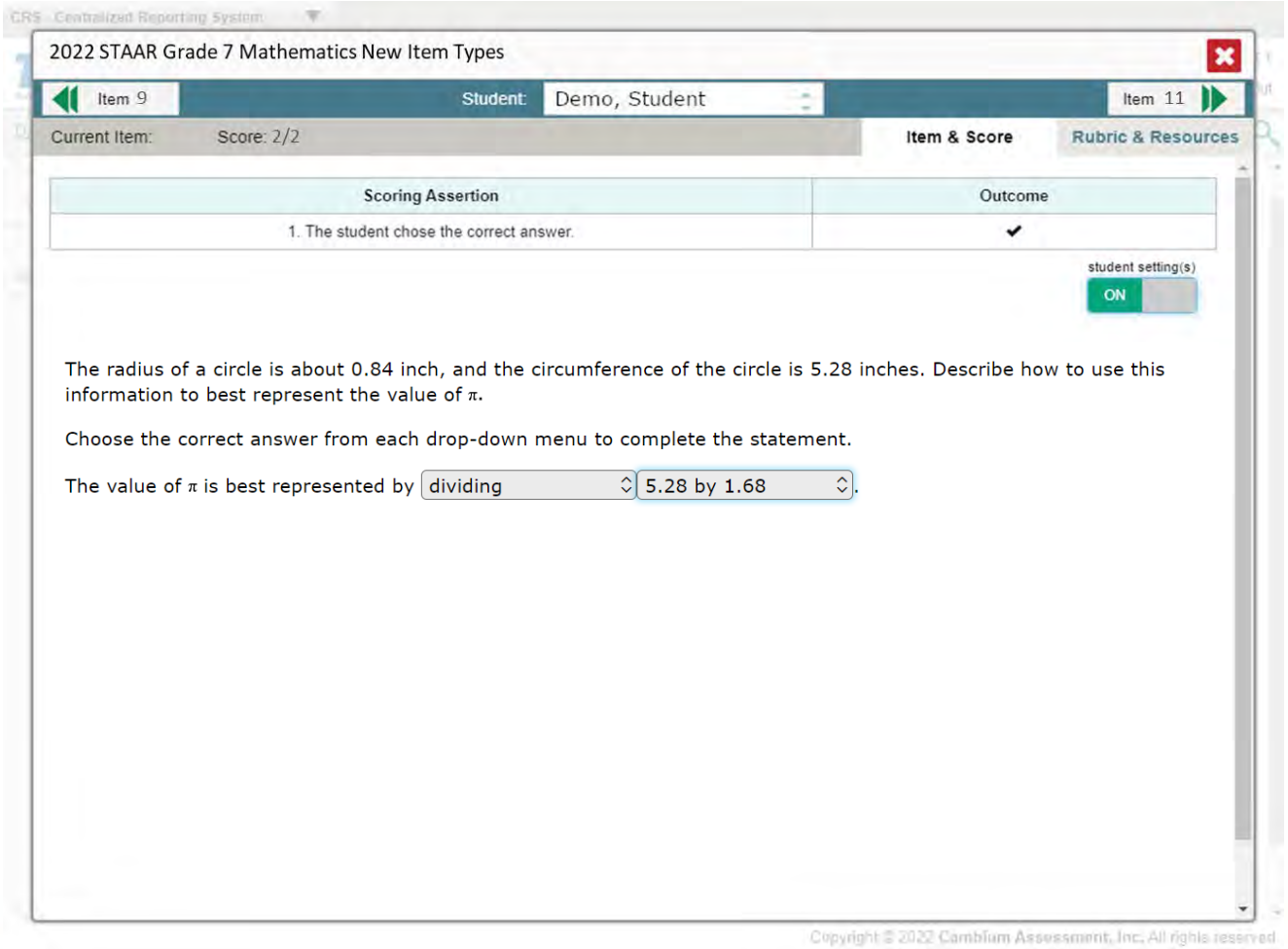
The value of π is best represented by dividing 5.28 by 0.84.

This student chose incorrect answers (0 points).

Choose the correct answer from each drop-down menu to complete the statement.

The value of π is best represented by multiplying 5.28 by 0.84.

Question Type: Inline Choice
Example #2: Teacher view



The scoring model for **inline choice** questions is:

- To obtain full credit (2 points), the student will choose both correct answers from the drop-down menus.
- To obtain partial credit (1 point), the student will choose one correct answer from one of the drop-down menus.
- Students will receive 0 points if both choices are missing or incorrect.

This student chose both answers correctly, so they received full credit (2 points).

Question Type: Hot Spot

Question Type Overview

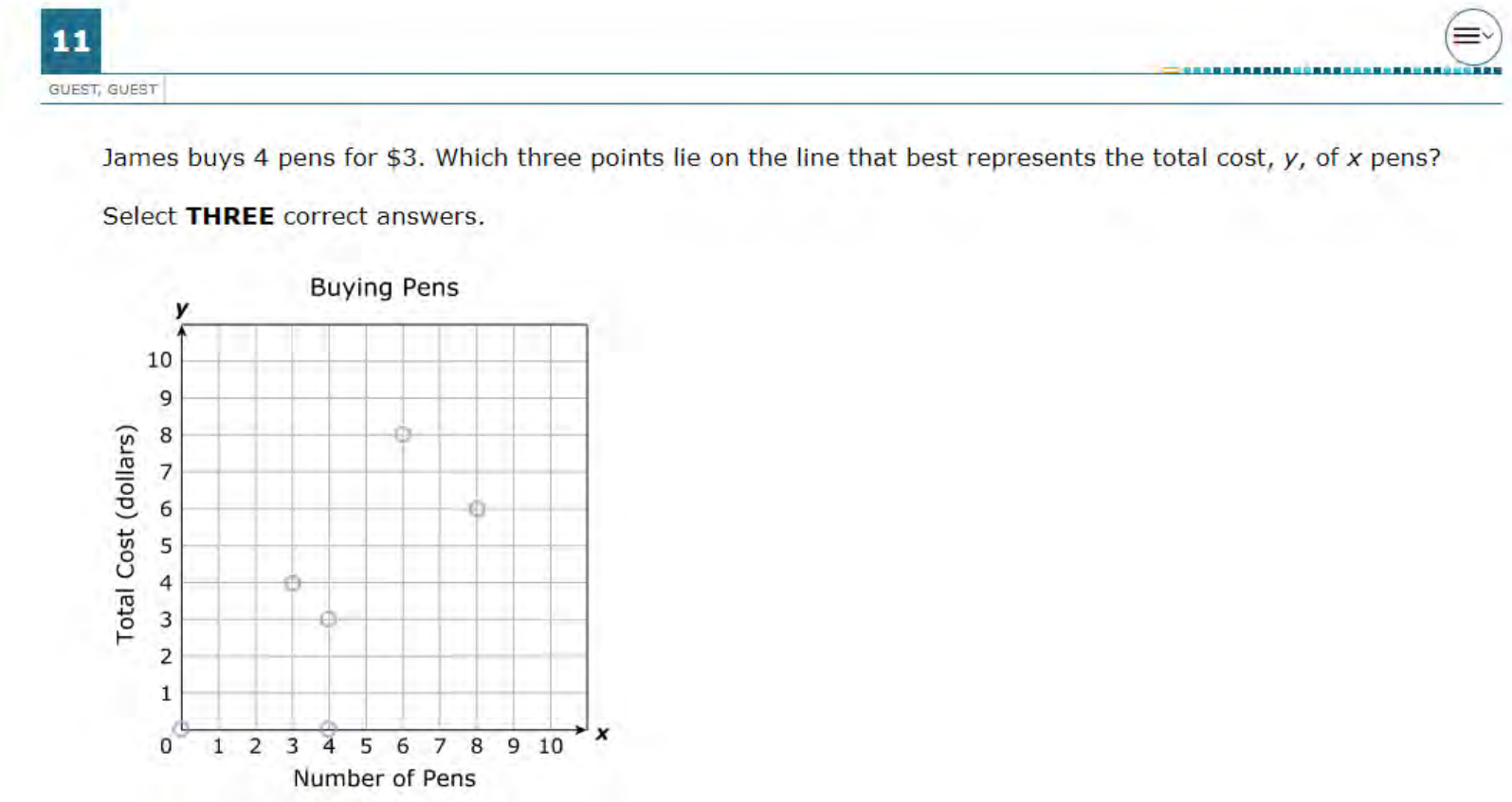
Description: Student responds by selecting one or more specific areas of a graphic.

Point value: These questions can be worth a maximum of 2 points with the possibility of receiving 1 point for a partially correct response.

Math tests that may include these questions: Grades 3-8, Spanish Grades 3-5, and EOC

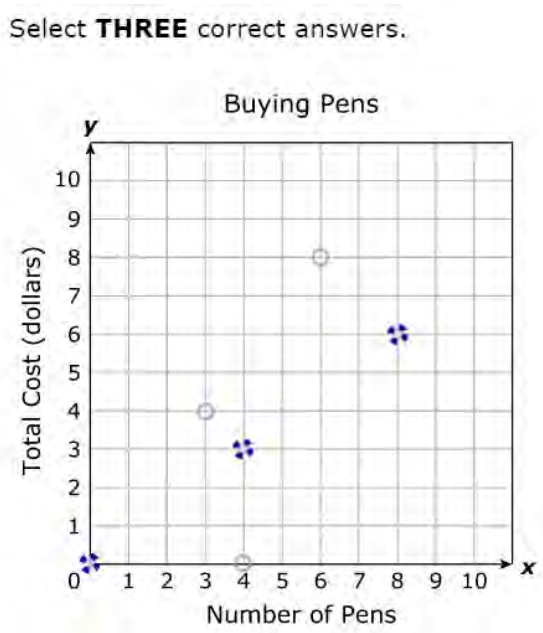
Question Type: Hot Spot
Example #1: Student view

This example is question #11 in the Grade 7 sampler.

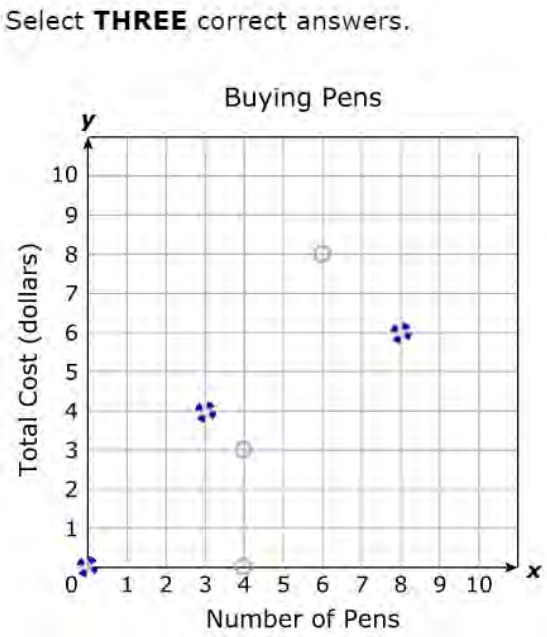


Question Type: Hot Spot
Example #1: Student view

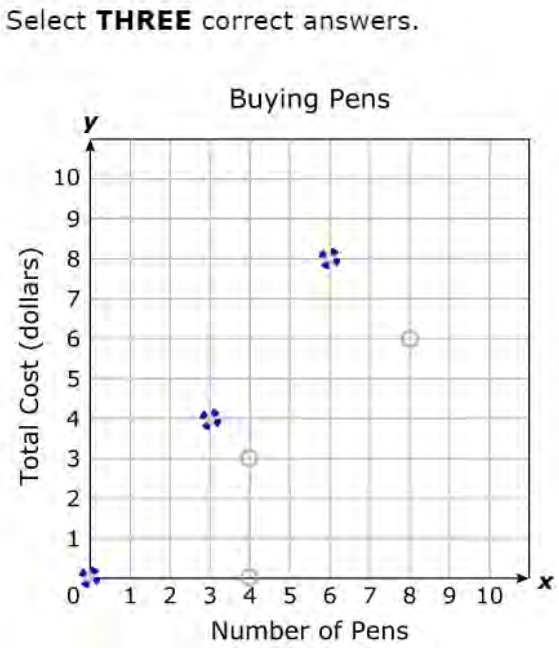
This is what the student will see when they select the correct answers (2 points).



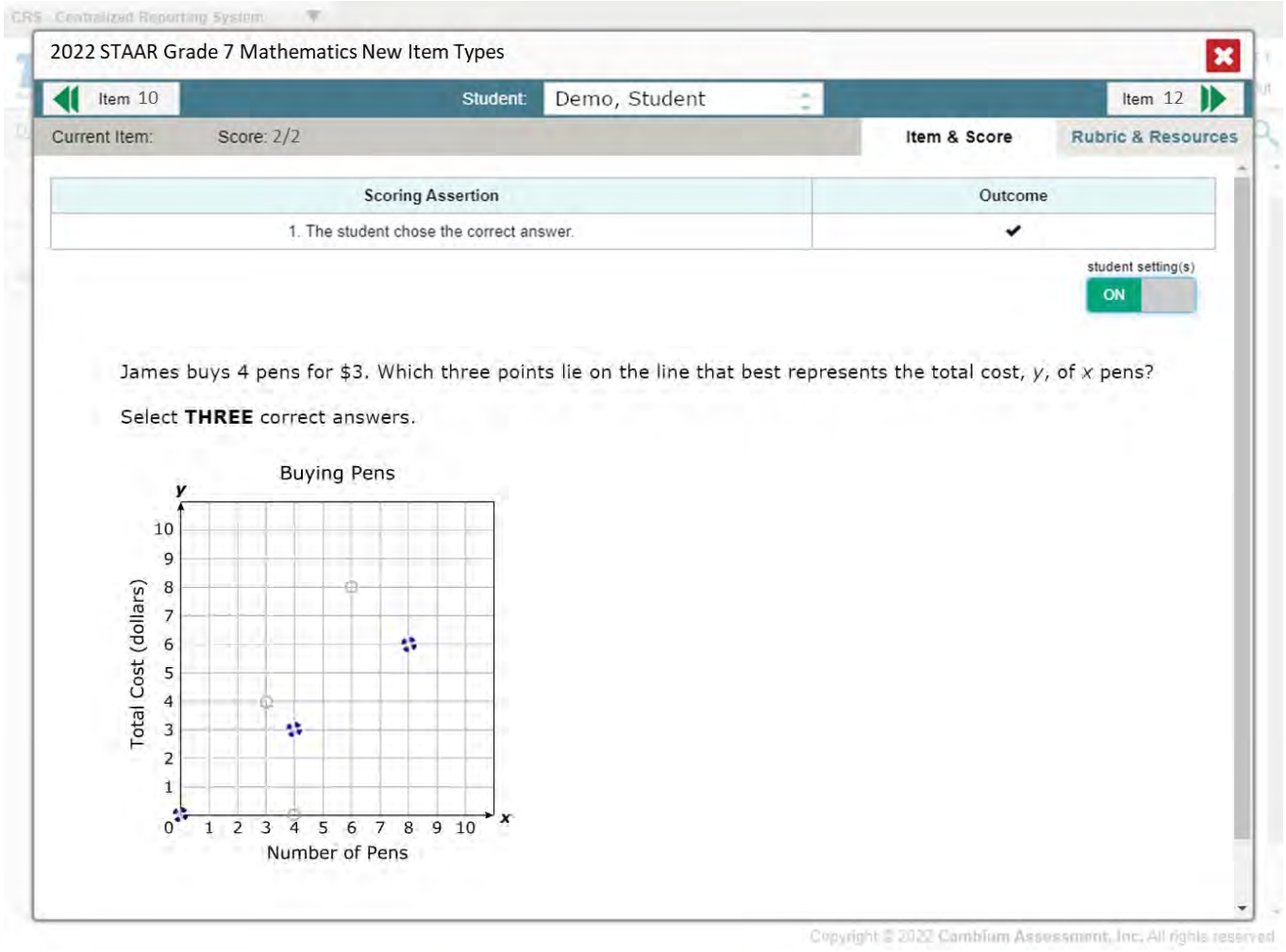
This student selected two correct points (1 point).



This student selected two incorrect points (0 points).



Question Type: Hot Spot
Example #1: Teacher view



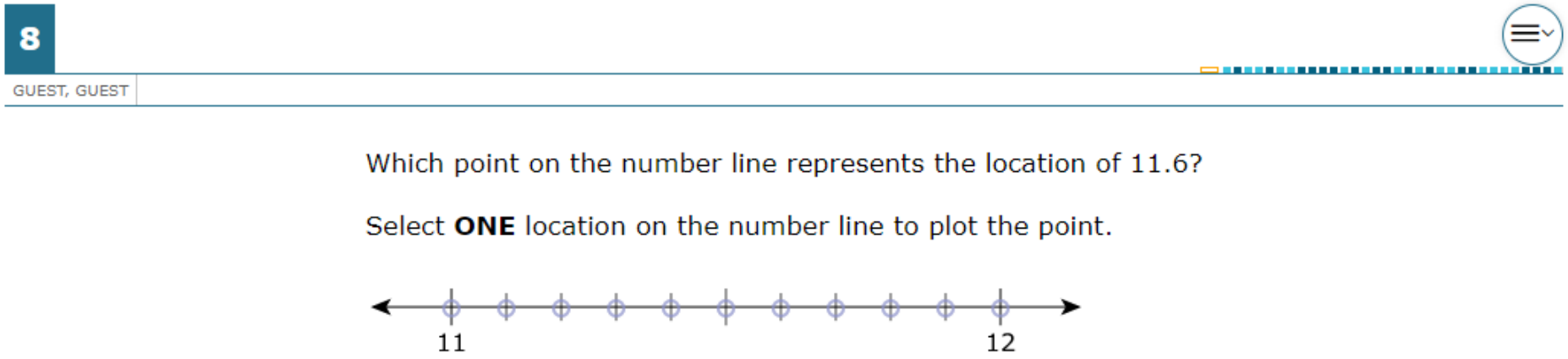
The scoring model for **hot spot** questions is:

- To obtain full credit (2 points), the student will correctly select three points on the line.
- To obtain partial credit (1 point), the student will correctly select two points on the line.
- Students will receive 0 points if two points are missing or incorrect.

In this example, this student selected all correct three points on the line, so they received full credit (2 points).

Question Type: Hot Spot
Example #2: Student view

This example is question #8 in the Grade 4 sampler.



Question Type: Hot Spot
Example #2: Student view

This is what the student will see when they select the correct answer (1 point).

Which point on the number line represents the location of 11.6?

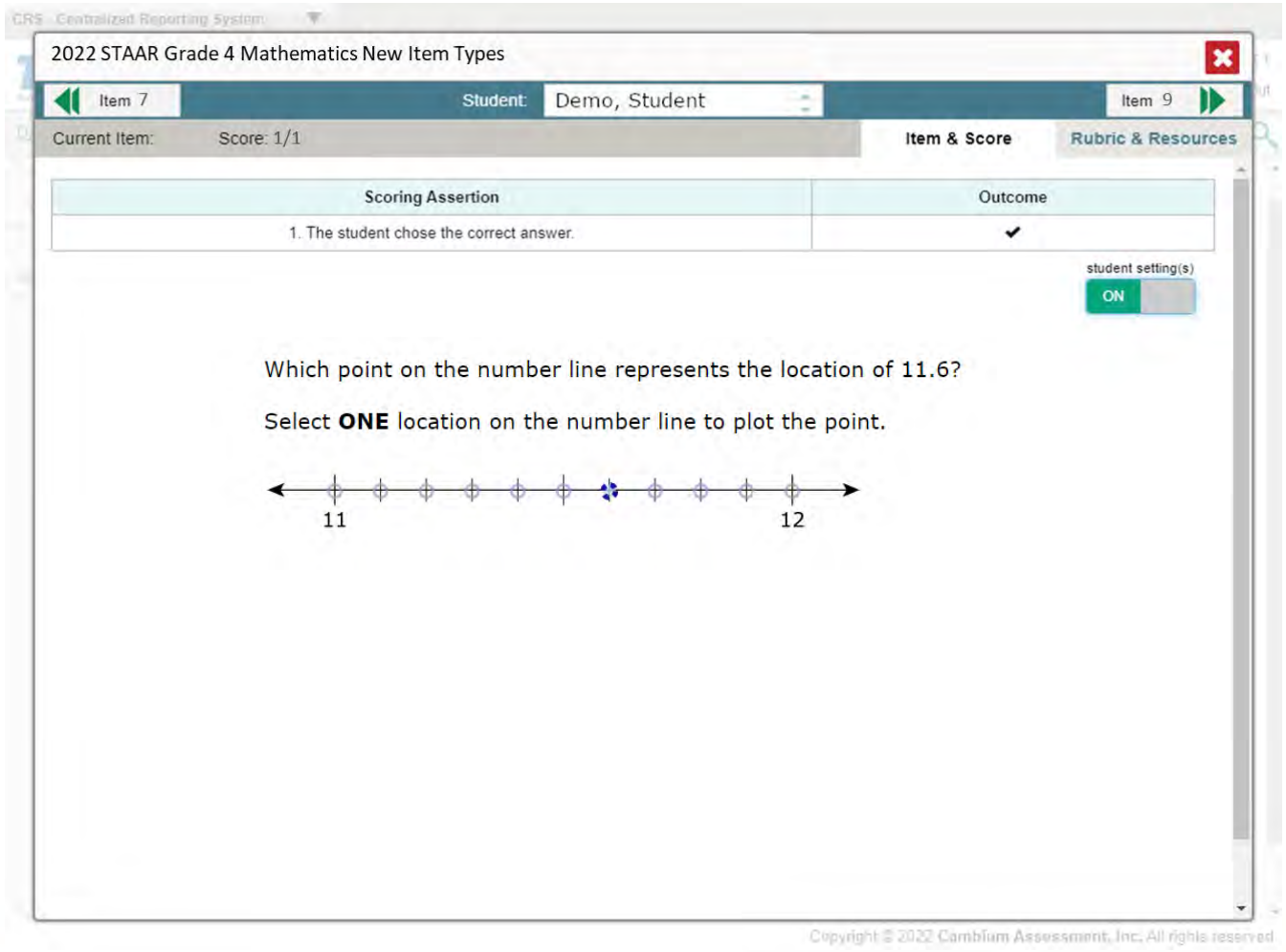
Select **ONE** location on the number line to plot the point.

This student did not select the correct answer (0 points).

Which point on the number line represents the location of 11.6?

Select **ONE** location on the number line to plot the point.

Question Type: Hot Spot
Example #2: Teacher view



The scoring model for **hot spot** questions is:

- To obtain full credit (1 point), the student will correctly select the location on the number line.
- Students will receive 0 points if the location is missing or incorrect.

In this example, this student selected the correct location, so they received full credit (1 point).

Question Type: Fraction Model

Question Type Overview

Description: Student represents a fraction by dividing an object into the correct number of sections to indicate the denominator and clicking to shade the appropriate number of sections to indicate the numerator.

Point value: These questions can be worth a maximum of 2 points with the possibility of receiving 1 point for a partially correct response.

Math tests that may include these questions: Grades 3-5 and Spanish Grades 3-5

Question Type: Fraction Model
Example #1: Student view

This example is question #10 in the Grade 4 sampler.

10

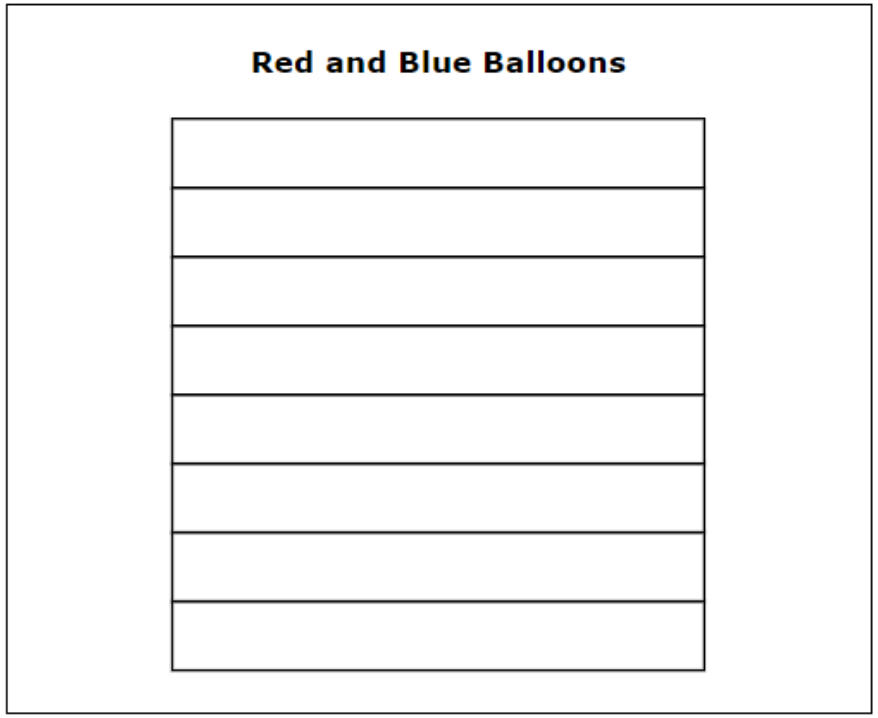
GUEST, GUEST

In a bag of balloons, $\frac{2}{8}$ of the balloons are red and $\frac{5}{8}$ of the balloons are blue.

What fraction of the balloons in the bag are either red or blue?

Complete the model so that it is shaded to represent the fraction of the balloons that are either red or blue.

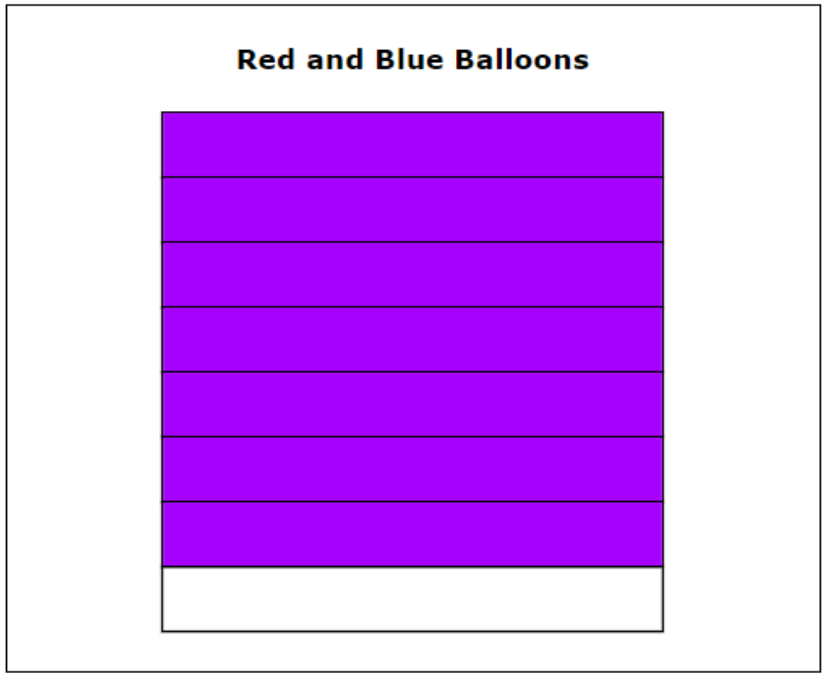
Select the parts you want to shade.



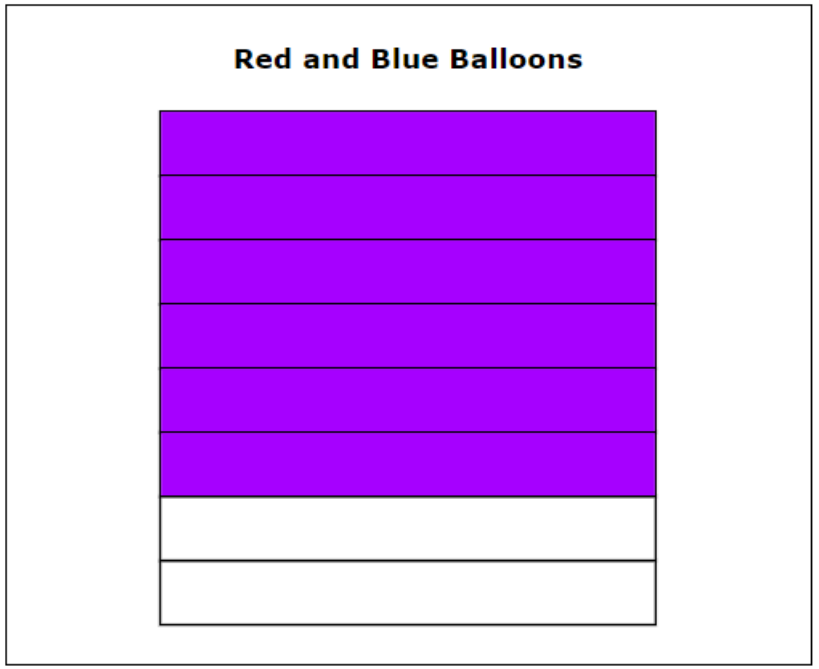
Question Type: Fraction Model

Example #1: Student view

This is what the student will see when they select the correct answer (1 point).

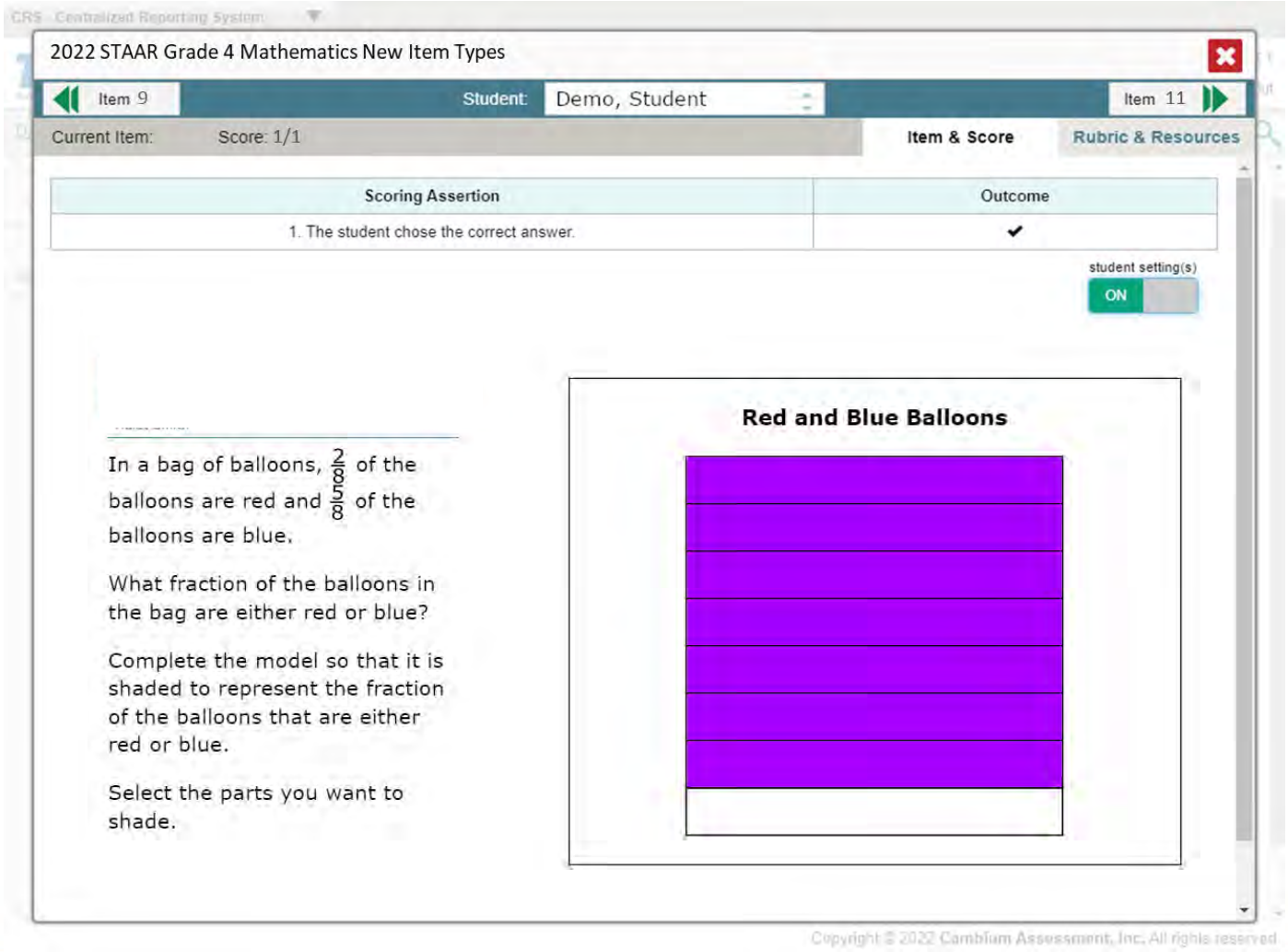


This student did not select the correct answer (0 points).



Question Type: Fraction Model

Example #1: Teacher view



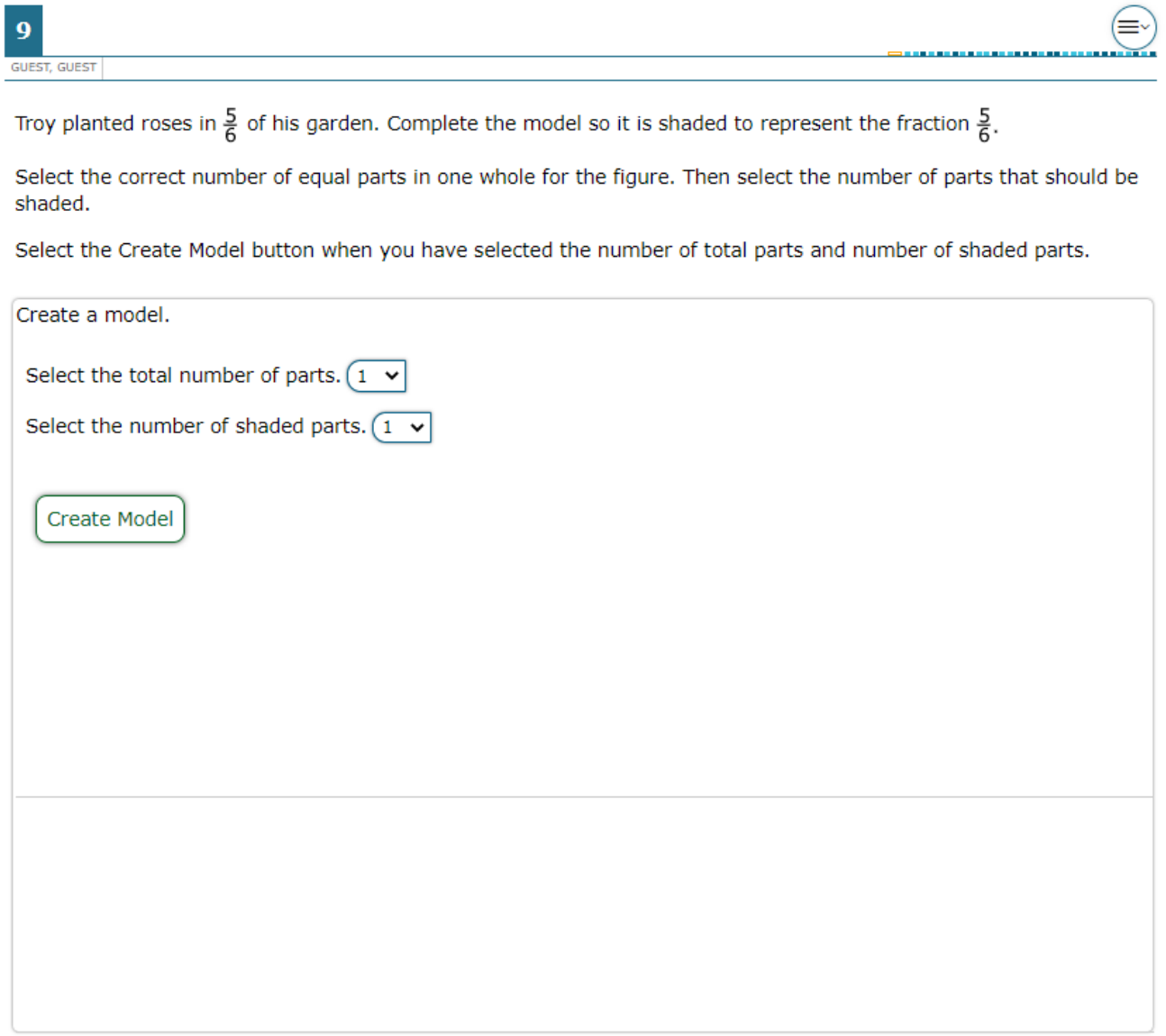
The scoring model for **fraction model** questions is:

- To obtain full credit (1 points), the student will correctly complete the model with shading.
- Students will receive 0 points if the model is not shaded correctly.

In this example this student correctly shaded the model, so they received full credit (1 point).

Question Type: Fraction Model
Example #2: Student view

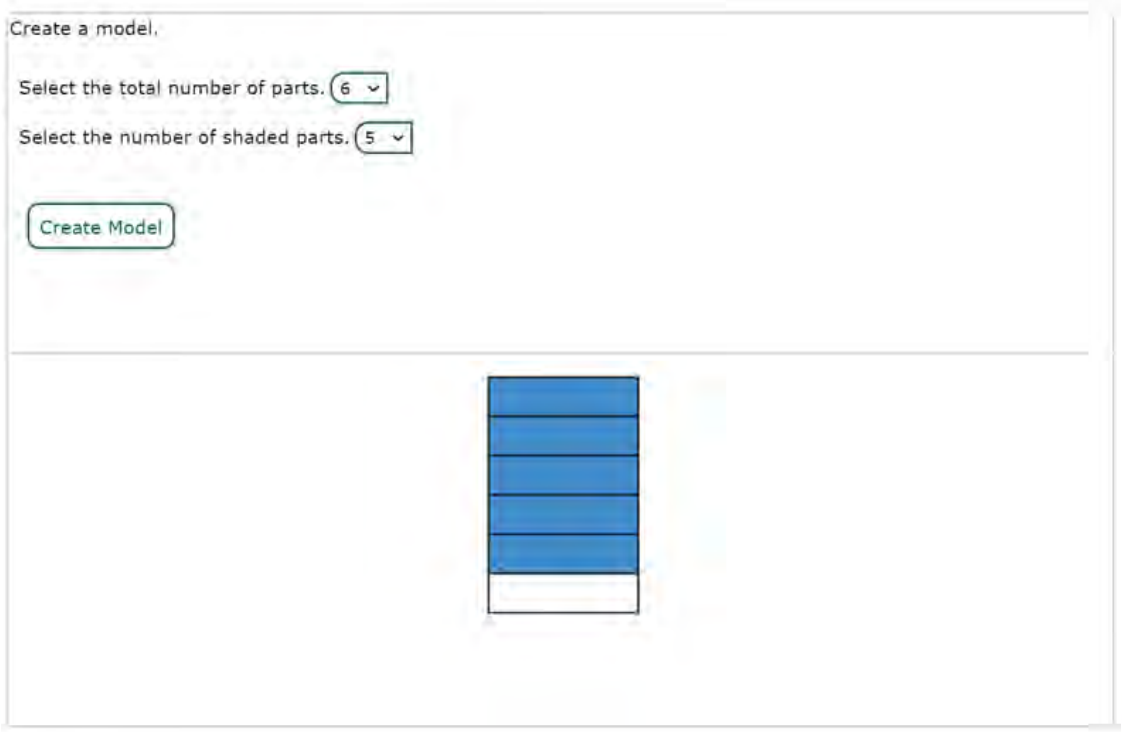
This example is question #9 in the Grade 3 sampler.



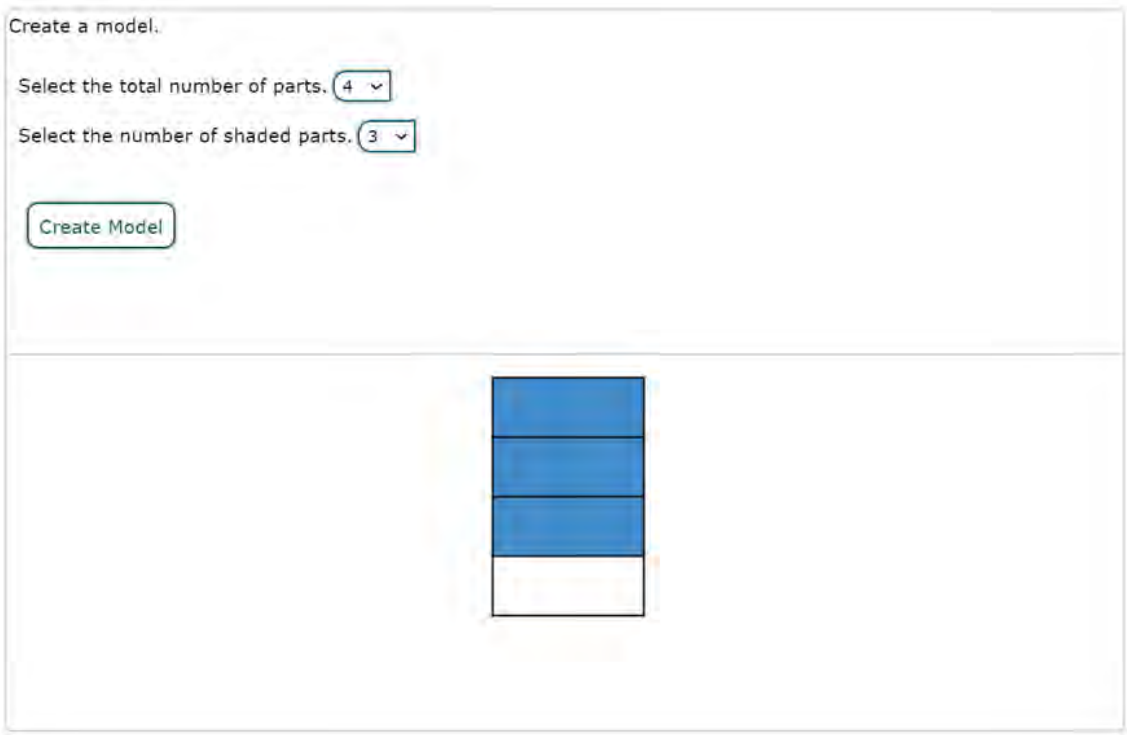
Question Type: Fraction Model

Example #2: Student view

This is what the student will see when they select the correct answers (1 point).

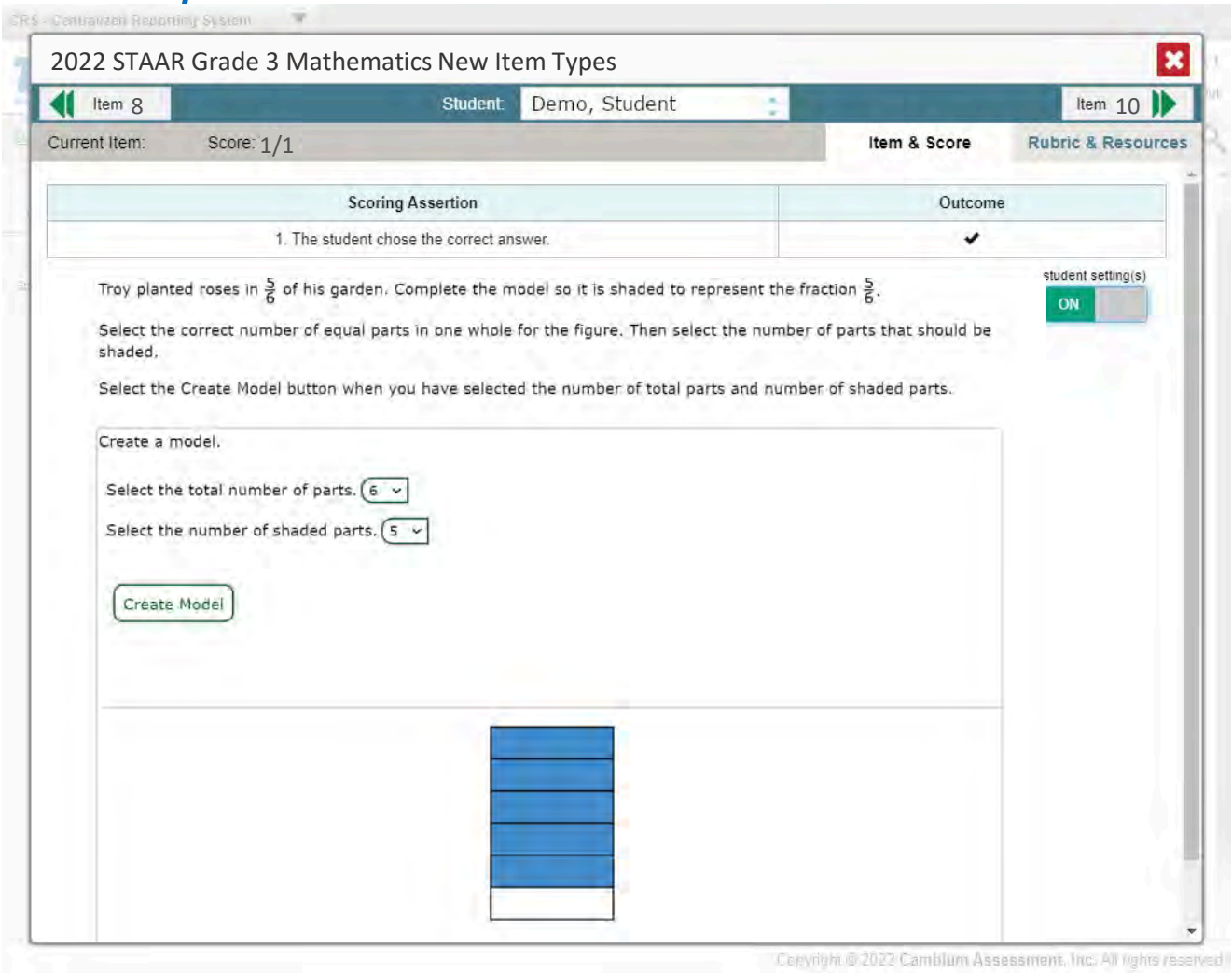


This student selected incorrect answers (0 points).



Question Type: Fraction Model

Example #2: Teacher view



The scoring model for **fraction model** questions is:

- To obtain full credit (1 point), the student will correctly select the total number of parts and the number of shaded parts.
- Students will receive 0 points if either selection is missing or incorrect.

In this example, this student chose correct answers, so they received full credit (1 point).

Question Type: Drag and Drop

Question Type Overview

Description: Student evaluates a given number of options (words, numbers, symbols, etc.) and chooses which response(s) to drag to a given area (a diagram, map, chart, etc.).

Point value: These questions can be worth a maximum of 2 points with the possibility of receiving 1 point for a partially correct response.

Math tests that may include these questions: Grades 3-8, Spanish Grades 3-5, and EOC

Question Type: Drag and Drop
Example #1: Student view

This example is question #13 in the Grade 5 sampler.

13

GUEST, GUEST

Four students are traveling to a math contest. The table shows the weights of the four students' suitcases.

Weights of Suitcases

Student	Weight (pounds)
Juan	21.605
Tiana	24.8
Kimberly	21.48
Emanuel	24.75

What is the order of the weights of the suitcases in pounds from greatest to least?

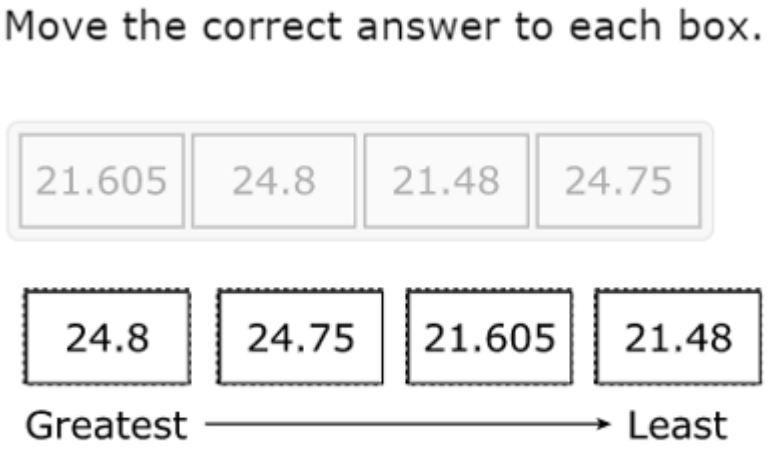
Move the correct answer to each box.

21.605	24.8	21.48	24.75

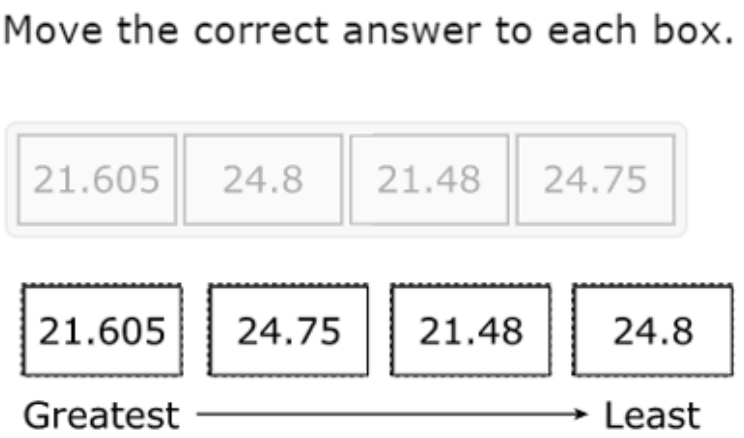
Greatest → Least

Question Type: Drag and Drop
Example #1: Student view

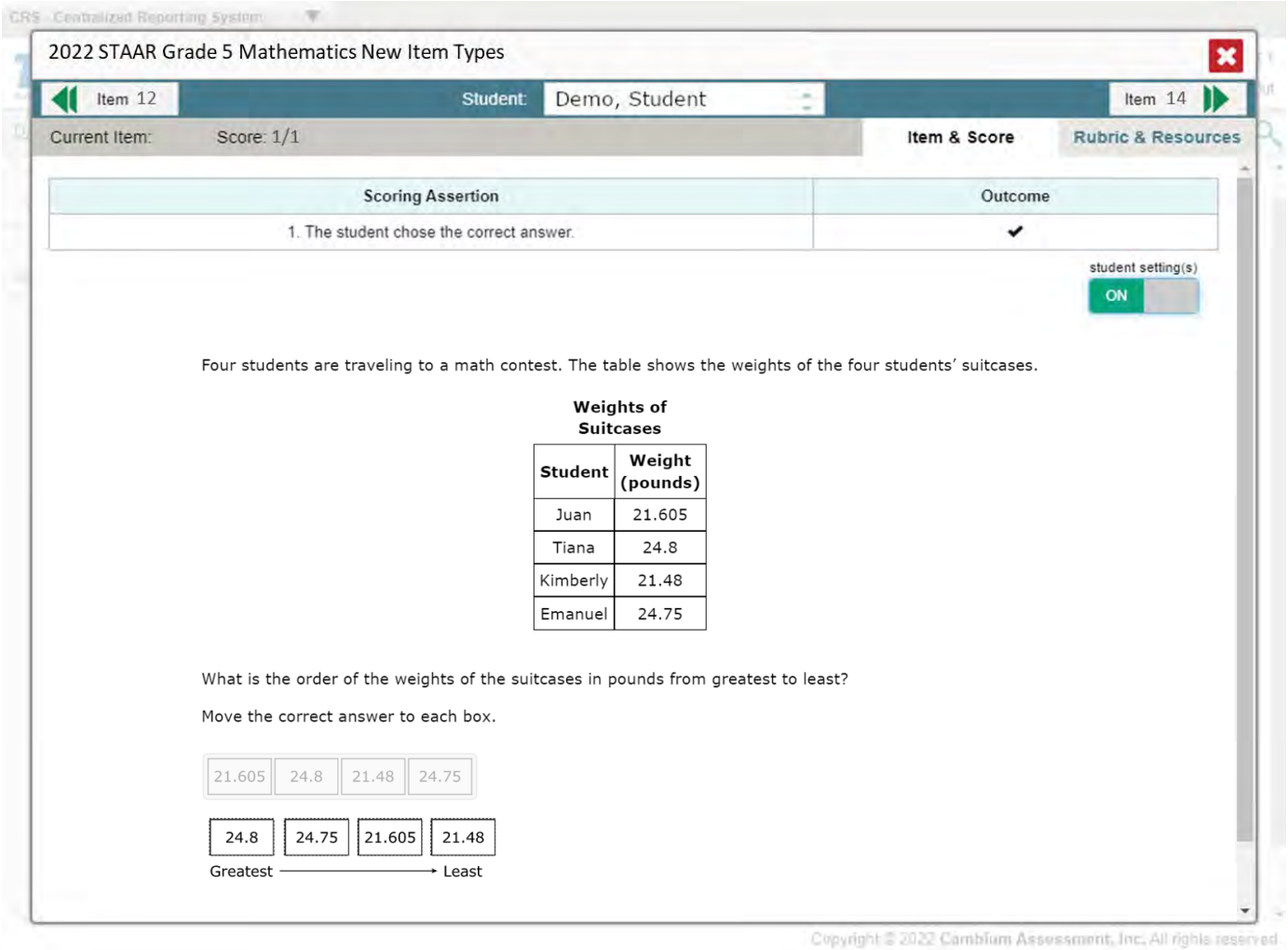
This is what the student will see when they move their answers to the correct boxes (1 point).



This student did not move all the answers to the correct boxes (0 points).



Question Type: Drag and Drop
Example #1: Teacher view



The scoring model for **drag and drop** questions is:

- To obtain full credit (1 point), the student will correctly move the answer to each box from greatest to least weight.
- Students will receive 0 points if any answer is missing or incorrectly placed.

In this example, this student moved all the answers to correct boxes, so they received full credit (1 point).

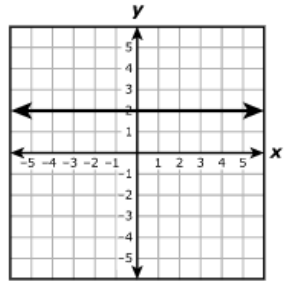
Question Type: Drag and Drop
Example #2: Student view

This example is question #18 in the Algebra I sampler.

18

GUEST, GUEST

The graph of a line is shown.



What are the equation and the slope of the line?

Move the correct answer to each box. Not all answers will be used.

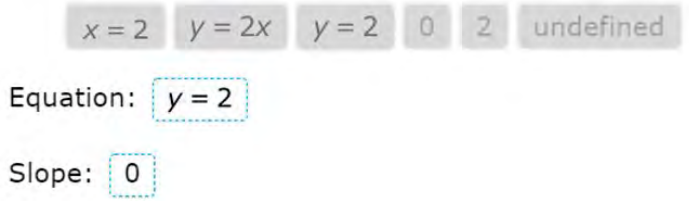
$x = 2$ | $y = 2x$ | $y = 2$ | 0 | 2 | undefined

Equation: [ ]

Slope: [ ]

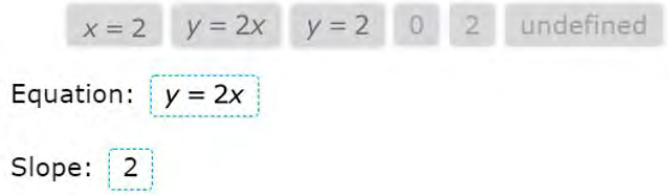
Question Type: Drag and Drop
Example #2: Student view

This is what the student will see when they select the correct answers (2 points).

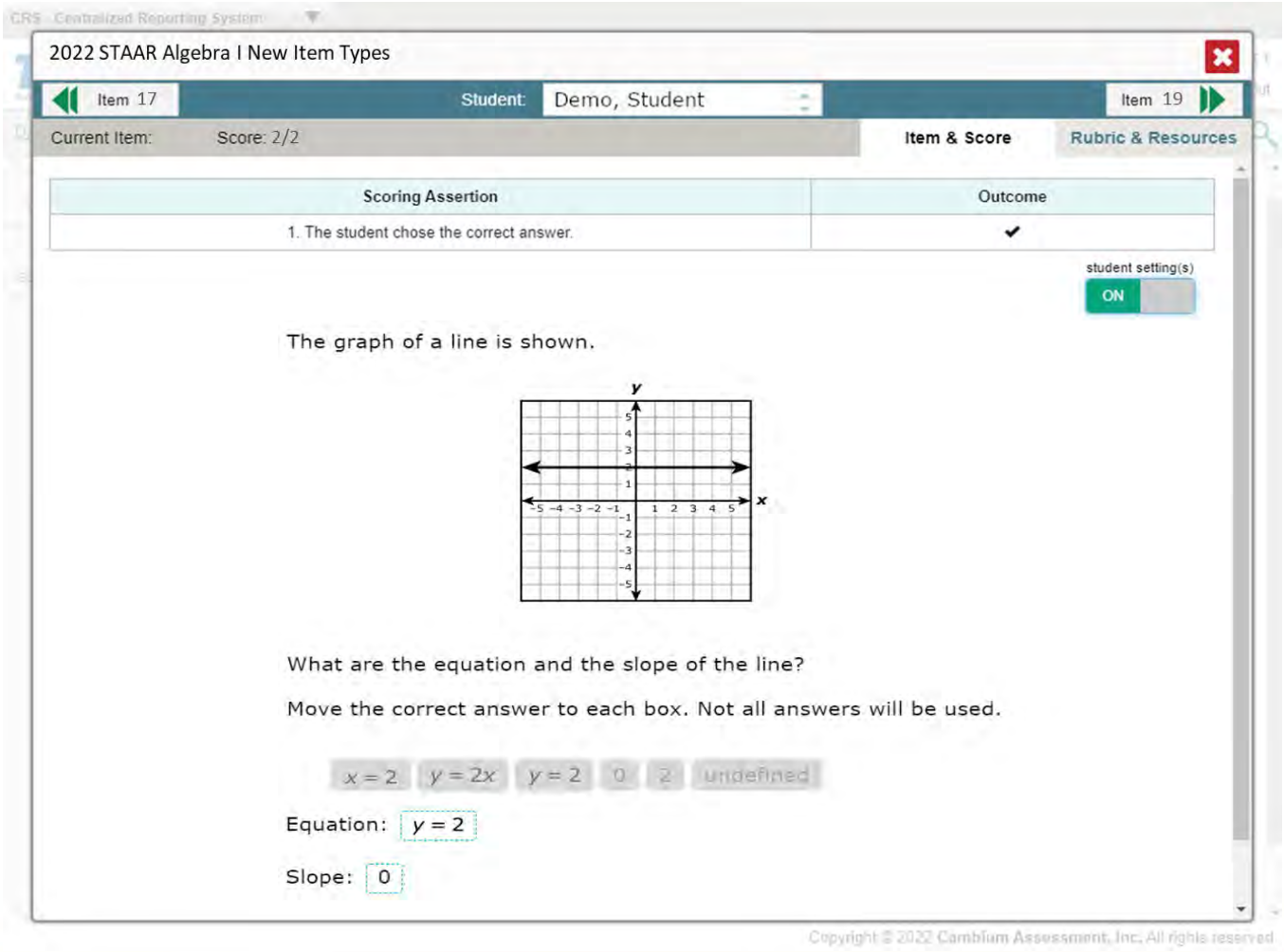


This student chose one correct answer and one incorrect answer (1 point).

This student chose two incorrect answers (0 points).



Question Type: Drag and Drop
Example #2: Teacher view



The scoring model for **drag and drop** questions is:

- To obtain full credit (2 points), the student will move the correct answer to both boxes.
- To obtain partial credit (1 point), the student will move the correct answer to one of the boxes.
- Students will receive 0 points if both answers are missing or incorrect.

In this example, this student moved all the answers to the correct boxes, so they received full credit (2 points).

Question Type: Match Table Grid

Question Type Overview

Description: Student matches statements or objects to different categories presented in a table grid.

Point value: These questions can be worth a maximum of 2 points with the possibility of receiving 1 point for a partially correct response.

Math tests that may include these questions: Grades 6-8 and EOC

Question Type: Match Table Grid
Example #1: Student view

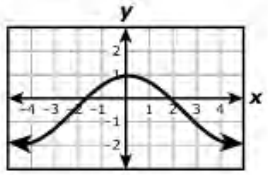
This example is question #19 in the Algebra I sampler.

19

GUEST, GUEST

Which of the relations shown represent y as a function of x?

Select the correct answer in each row.

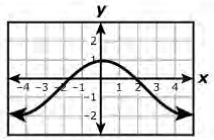
Relation	Function	Not a Function
$y = -3.4x$	☐	☐
<table><tr><td>x</td><td>1</td><td>1</td><td>4</td><td>4</td><td>9</td><td>9</td></tr><tr><td>y</td><td>1</td><td>−1</td><td>2</td><td>−2</td><td>3</td><td>−3</td></tr></table>	☐	☐
	☐	☐

Question Type: Match Table Grid

Example #1: Student view

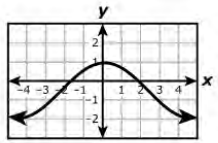
This is what the student will see when they select the correct answers (2 points).

Select the correct answer in each row.

Relation	Function	Not a Function
$y = -3.4x$	☑	☐
x: 1, 1, 4, 4, 9, 9 / y: 1, −1, 2, −2, 3, −3	☐	☑
	☑	☐

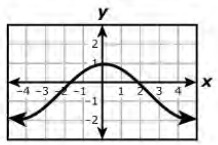
This student chose two correct answers and one incorrect answer (1 point).

Select the correct answer in each row.

Relation	Function	Not a Function
$y = -3.4x$	☐	☑
x: 1, 1, 4, 4, 9, 9 / y: 1, −1, 2, −2, 3, −3	☐	☑
	☑	☐

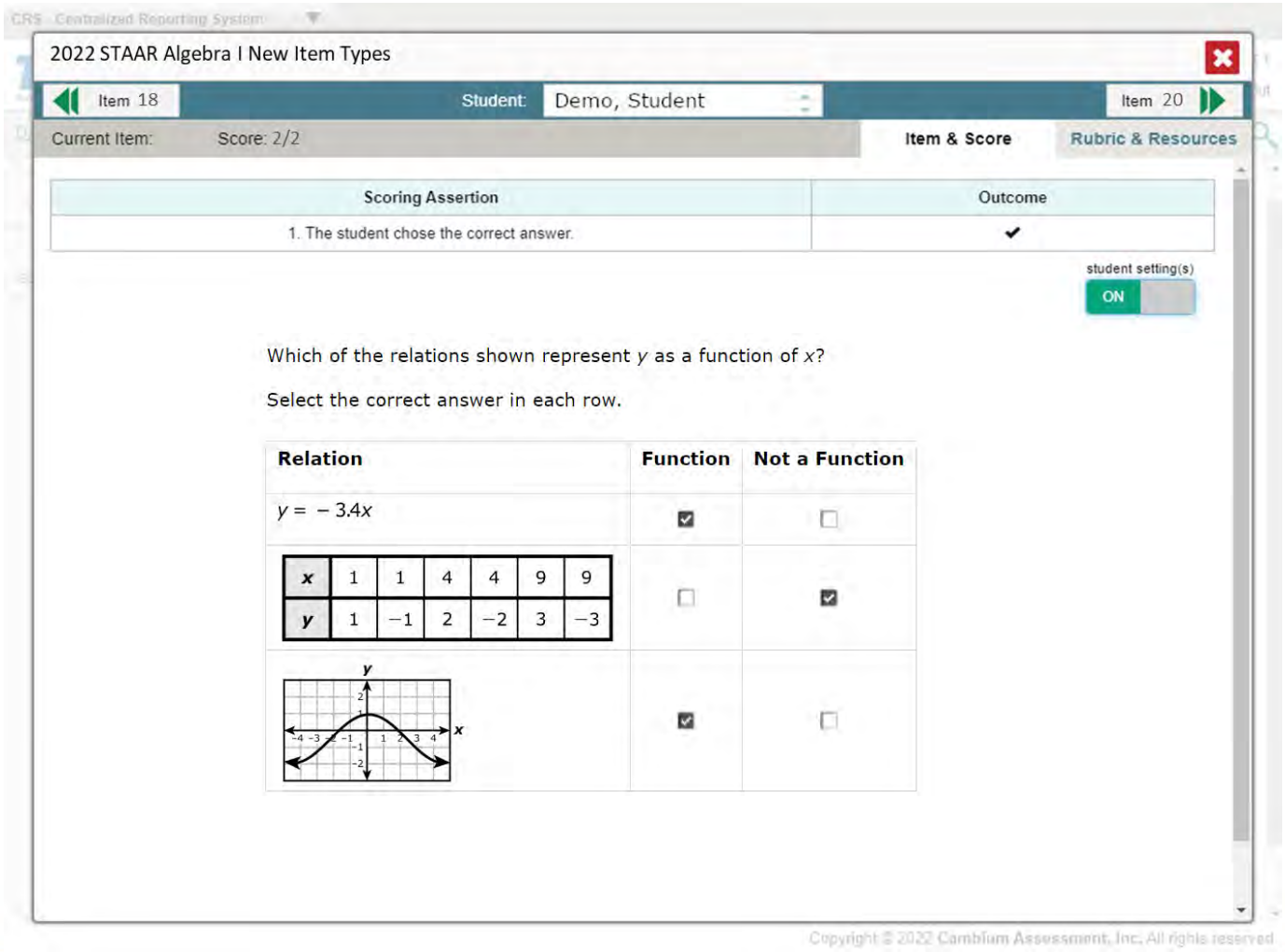
This student chose two incorrect answers (0 points).

Select the correct answer in each row.

Relation	Function	Not a Function
$y = -3.4x$	☑	☐
x: 1, 1, 4, 4, 9, 9 / y: 1, −1, 2, −2, 3, −3	☑	☐
	☐	☑

Question Type: Match Table Grid

Example #1: Teacher view



The scoring model for **match table grid** questions is:

- To obtain full credit (2 points), the student will correctly classify all three relations as a function or not a function.
- To obtain partial credit (1 point), the student will correctly classify two of the relations.
- Students will receive 0 points if two or more classifications are missing or incorrect.

In this example, this student selected all correct answers, so they received full credit (2 points).

Question Type: Multiselect

Question Type Overview

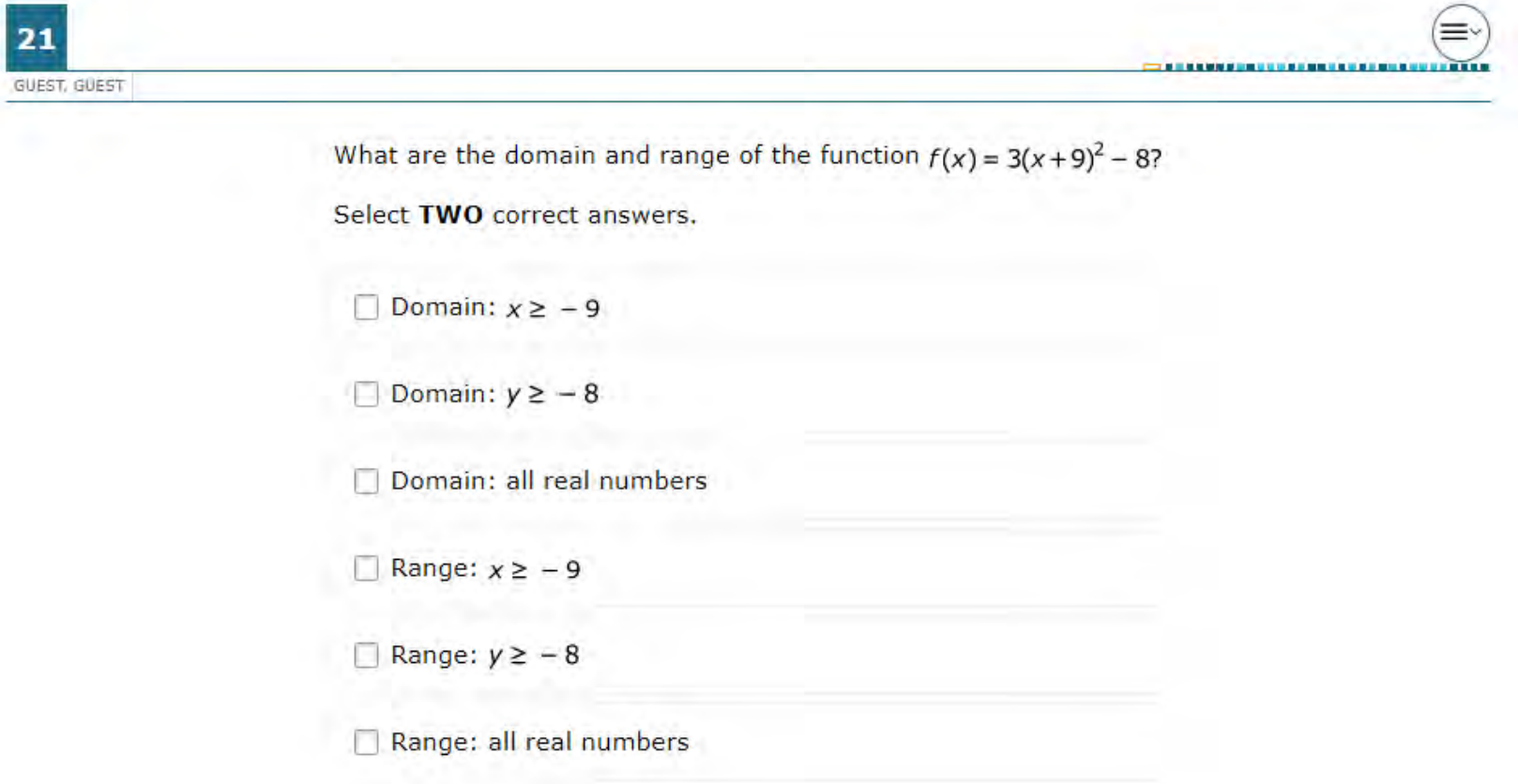
Description: Student can select more than one correct answer from a set of possible answers. Student will not be allowed to select more than the specified number of correct answers asked for within an individual question.

Point value: These questions can be worth a maximum of 2 points with the possibility of receiving 1 point for a partially correct response.

Math tests that may include these questions: Grades 3-8, Spanish Grades 3-5, and EOC

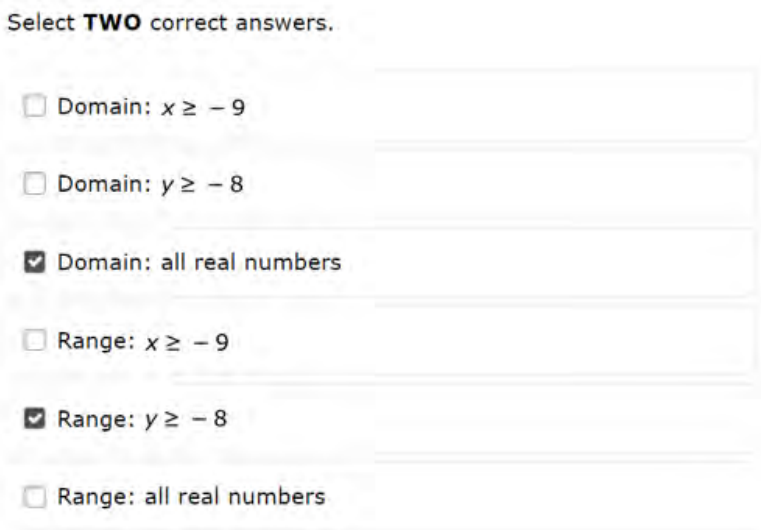
Question Type: Multiselect
Example #1: Student view

This example is question #21 in the Algebra I sampler.

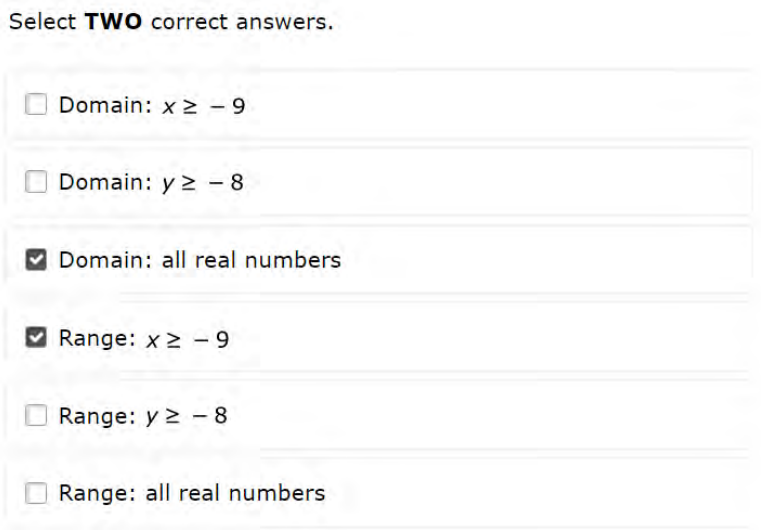


Question Type: Multiselect
Example #1: Student view

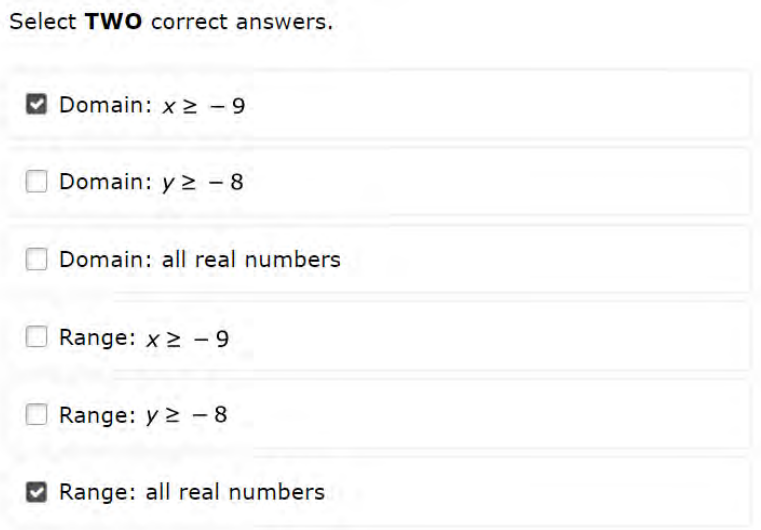
This is what the student will see when they select the correct answers (2 points).



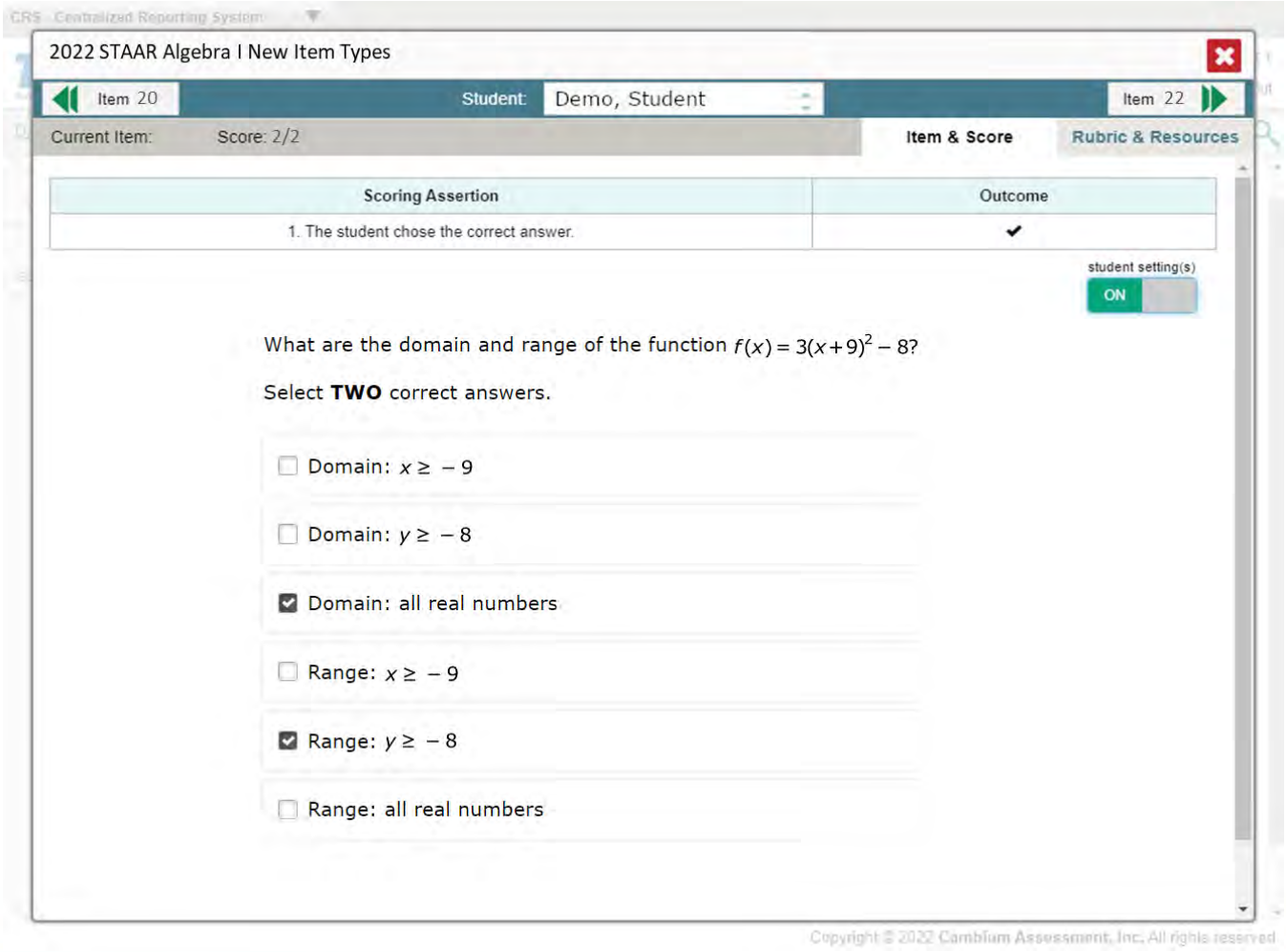
This student chose one correct answer and one incorrect answer (1 point).



This student chose two incorrect answers (0 points).



Question Type Multiselect
Example #1: Teacher view



The scoring model for **multiselect** questions is:

- To obtain full credit (2 points), the student will correctly select the domain and range of the function.
- To obtain partial credit (1 point), the student will correctly select either the domain or range of the function.
- Students will receive 0 points if both selections are missing or incorrect.

This student correctly selected the domain and range of the function, so they received full credit (2 points).

Additional Resources

Additional information about STAAR and STAAR Redesign is available via the following links:

- STAAR Redesign Resources
- STAAR Mathematics Resources
- STAAR Resources for all Assessments