4.1 (6)

Primary Target 4A (Content Domain NS), Secondary Target 1B (CCSS 6.NS.A), Tertiary Target 4B, Quaternary Target 1A (CCSS 6.RP.A)

Juan has $7\frac{3}{4}$ cups of nuts. He wants to make either banana nut muffins or carrot muffins. The table shows how many cups of nuts are needed for each batch.

Banana nut	$\frac{1}{2}$ cup
Carrot	$\frac{5}{8}$ cup

Juan decided to make only carrot muffins. What is the maximum number of whole batches of carrot muffins Juan can make with $7\frac{3}{4}$ cups of nuts?

Enter your answer in the response box.

(1 point) Student enters the correct number (12).

Equation/Numeric

The task could also ask about banana nut muffins, or about both for a 2-point item. A more cognitively demanding version of the task could ask how many whole batches can be made if he wants to make half banana nut and half carrot.

4 .1 (6)

Primary Target 4A (Content Domain RP), Secondary Target 1A (CCSS 6.RP.A), Tertiary Target 4B, Quaternary Target 4F

Hummingbirds drink nectar from flowers and sugar water from bird feeders.

- Sugar water is made by mixing 50 grams of sugar with 200 grams of water.
- A hummingbird's favorite flower nectar is 21% sugar by mass.

The amount of food a hummingbird eats at one time is always the same whether it eats sugar water or flower nectar.

Part A

Will the hummingbird get more sugar from a meal of sugar water made according to the recipe, or from an equal-sized meal of flower nectar? [Drop down choices: sugar water, flower nectar]

Part B

How much more sugar, in grams, would a hummingbird get from 4 grams of the [fills in with student's choice for the more sugary food type from part A] than from 4 grams of the [fills in with student's choice for the less sugary food type from part A]?

Once the student selects the more sugary food type in part A, part B populates with the student's choice. The student can go back and change the choice in part A, in which case the statement of part B changes as well. Title the response box in Part B "Grams of sugar."

(2 points) The student selects the more sugary food item (flower nectar) and identifies the additional amount of sugar correctly (0.04).
(1 point) The student identifies the food made by the recipe and enters the difference as 0.16, which corresponds to assuming the recipe is 25% sugar by weight (a likely mistake) but then correctly computing the difference.

Drop Down Menu[5] and Equation/Numeric

Functionality for this item type does not currently exist, although the item could be modified to work with current technology by making Part A a hot Spot (choose between "Recipe" and "Flower Nectar") and by wording Part B, "How much more sugar, in grams, would a hummingbird get from 4 grams of the option you chose in Part A than from 4 grams of the other

4 .2

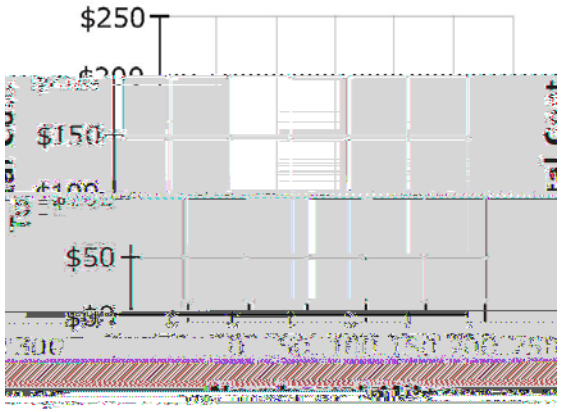
- The student solves a problem involving ratios, proportional relationships, or linear functions.
- The student identifies needed information and chooses the ratio, proportional relationship, or linear function required to complete the problem. The problem should require the student to do one of the following:
    - ignore irrelevant information,
    - request or conduct research to find missing information,
    - identify constraints that are not explicitly stated, or
    - make an estimate for one or more quantities and use that estimate to solve the problem.

4 .2 ( )

Primary Target 4A (Content Domain EE), Secondary Target 1D (CCSS 8.EE.C), Tertiary Target 4D, Quaternary Target 4F

This table represents the cost of renting a truck from Moving Company X and Moving Company Y. Each company charges a one-time rental fee plus a charge for each mile driven.

	-	
	$150	$0.25
	$ 50	$0.75



Grades 6-8, Claim 4

Grades 6-8

4 .1 (7)

Primary Target 4C (Content Domain SP), Secondary Target 1I (CCSS 7.SP.C), Tertiary Target 4B, Quaternary Target 4D

Ramos flips a coin 100 times and records the results in a table.

100

Part A

Select an assumption about the outcome of a single flip of this coin [heads and tails are equally likely; heads are 3 times as likely as tails]

Part B

Based on your assumption, which would be the most likely outcome for the next **2** flips?

A. two heads
B. two tails

C. one head and one tail

4 .2

- The student is given a problem with insufficient information and must indicate what information is needed to complete the solution to a problem.

4 .2 (7)

Primary Target 4C (Content Domain RP), Secondary Target 1A (CCSS 7.RP.A), Tertiary Target 4F
[Adapted from Illustrative Mathematics task 1564.]

Chichén Itzá was a Mayan city in what is now Mexico.

4 .1 ( )

Primary Target 4D (Content Domain F), Secondary Target 1F (CCSS 8.F.B), Tertiary Target 4C

This graph shows the average number of words a child can say from birth to 36 months.

Which statement is the description of the growth in the number of words a child speaks based on the graph shown?

A. Children learn to say new words at a steady rate starting about 12 months of age.
B. Children are constantly learning to say new words from the moment they are born.
C.

Grades 6-8

Grades 6-8

6

Part A: Typically, the greater the length of the egg, the greater the width.
Part B: The width is approximately 126 mm (accept values between 115 and 135 mm).
“I multiplied the length by about 0.7” or “The width is a little less than

4 .2

- The student chooses between two or more different models to solve a given problem, between two or more problems that fit a given model, or between two or more different solutions to a given problem.
- Different models or solutions can depend on different (possibly incorrect) interpretations of the problem, but do not have to.
- The student assesses the fit of a particular model being used.

4 .2 ( )

Primary Target 4E (Content Domain F), Secondary Target 1F (CCSS 8.F.B), Tertiary Target 4F, Quaternary Target 4D
(Source: Adapted from Illustrative Mathematics 8-F Modeling with a Linear Function)

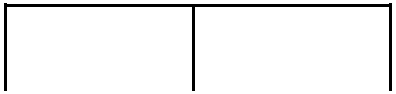
Select situations that can be modeled by the linear equation = 2 + 5.

A.

4.2 ( )

Primary Target 4E (Content Domain F), Secondary Target 1F (CCSS 8.F.B), Tertiary Target 4D

The table shows the relationship between the average number of hours students studied for a mathematics test and their average grade.



0

Which type of function is most likely to model these data?

A. linear function with positive rate of change
B. linear function with negative rate of change
C. non-linear function that decreases then increases
D. non-linear function that increases then decreases

(1 point) The student recognized the function most likely to model the data (D).

Multiple Choice, single correct response

4

Grades 6-8, Claim 4