

# New York State Testing Program

2023 Mathematics Test

Grade 4

Scoring Leader Materials

Training Set



#### **Note to Scorers**

You may notice that some questions in these scoring materials appear with a bracketed credit value showing the respective number of credits. This is due to a style change that was recently field tested; therefore, not all items will have the bracketed credit value. An example of what the bracketed credit value looks like is provided below for your reference.

Example: Stem of the question. [2]

#### 1-Credit Constructed-Response Rubric

1 Credit A 1-credit response is a correct answer to the question which indicate understanding of mathematical concepts and/or procedures.		A 1-credit response is a <b>correct answer</b> to the question which indicates a thorough understanding of mathematical concepts and/or procedures.			
	0 Credits*	A 0-credit response is incorrect, irrelevant, or incoherent.			

<sup>\*</sup> Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted).

#### 2-Credit Constructed-Response Holistic Rubric

2 Credits	A 2-credit response includes the correct solution to the question and demonstrates a thorough understanding of the mathematical concepts and/or procedures in the task.  This response  • indicates that the student has completed the task correctly, using mathematically sound procedures  • contains sufficient work to demonstrate a thorough understanding of the mathematical concepts and/or procedures  • may contain inconsequential errors that do not detract from the correct solution and the demonstration of a thorough understanding
1 Credit	A 1-credit response demonstrates only a partial understanding of the mathematical concepts and/or procedures in the task.  This response  correctly addresses only some elements of the task may contain an incorrect solution but applies a mathematically appropriate process may contain the correct solution but required work is incomplete
0 Credits*	A 0-credit response is incorrect, irrelevant, incoherent, or contains a correct solution obtained using an obviously incorrect procedure. Although some elements may contain correct mathematical procedures, holistically they are not sufficient to demonstrate even a limited understanding of the mathematical concepts embodied in the task.

<sup>\*</sup> Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted).

#### 3-Credit Constructed-Response Holistic Rubric

3 Credits	A 3-credit response includes the correct solution(s) to the question and demonstrates a thorough understanding of the mathematical concepts and/or procedures in the task.  This response  indicates that the student has completed the task correctly, using mathematically sound procedures  contains sufficient work to demonstrate a thorough understanding of the mathematical concepts and/or procedures  may contain inconsequential errors that do not detract from the correct solution(s) and the demonstration of a thorough understanding
2 Credits	A 2-credit response demonstrates a partial understanding of the mathematical concepts and/or procedures in the task.  This response  • appropriately addresses most but not all aspects of the task using mathematically sound procedures  • may contain an incorrect solution but provides sound procedures, reasoning, and/or explanations  • may reflect some minor misunderstanding of the underlying mathematical concepts
1 Credit	A 1-credit response demonstrates only a limited understanding of the mathematical concepts and/or procedures in the task.  This response  • may address some elements of the task correctly but reaches an inadequate solution and/or provides reasoning that is faulty or incomplete  • exhibits multiple flaws related to misunderstanding of important aspects of the task, misuse of mathematical procedures, or faulty mathematical reasoning  • reflects a lack of essential understanding of the underlying mathematical concepts  • may contain the correct solution(s) but required work is limited
0 Credits*	A 0-credit response is incorrect, irrelevant, incoherent, or contains a correct solution obtained using an obviously incorrect procedure. Although some elements may contain correct mathematical procedures, holistically they are not sufficient to demonstrate even a limited understanding of the mathematical concepts embodied in the task.

<sup>\*</sup> Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted).

#### 2023 1-Credit Constructed-Response Mathematics Scoring Policies

- 1. The student is **not** required to show work for 1-credit constructed-response question, therefore, any work shown will **not** be scored. A clearly identified correct response should still receive full credit.
- 2. If the student clearly identifies a correct answer but fails to write that answer in the answer space, the student should still receive full credit.
- 3. If the student provides one legible response (and one response only), the rater should score the response, even if it has been crossed out.
- 4. If the student has written more than one response but has crossed some out, the rater should score only the response that has **not** been crossed out.
- 5. If the student provides more than one response but does not indicate which response is to be considered the correct response and none have been crossed out, the student shall not receive credit.
- 6. If the student does not provide the answer in the form as directed in the question, the student will not receive credit.
- 7. In questions requiring number sentences, the number sentences must be written horizontally.
- 8. When measuring angles with a protractor, there is a +/- 5 degrees deviation allowed of the true measure.
- 9. Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted). This is not to be confused with a score of zero wherein the student does respond to part or all of the question, but that work results in a score of zero.

#### 2023 2- and 3-Credit Constructed-Response Mathematics Scoring Policies

- If a student shows the work in other than a designated "Show your work" or "Explain" area, that
  work should still be scored.
- If the question requires students to show their work, and the student shows appropriate work and clearly identifies a correct answer but fails to write that answer in the answer space, the student should still receive full credit.
- 3. If students are directed to show work or provide an explanation, a correct answer with **no** work shown or **no** explanation provided, receives **no** credit.
- 4. If students are **not** directed to show work, any work shown will **not** be scored. This applies to questions that do **not** ask for any work and questions that ask for work for one part and do **not** ask for work in another part.
- 5. If the student provides one legible response (and one response only), the rater should score the response, even if it has been crossed out.
- 6. If the student has written more than one response but has crossed some out, the rater should score only the response that has **not** been crossed out.
- 7. If the student provides more than one response, but does not indicate which response is to be considered the correct response and none have been crossed out, the student shall not receive full credit.
- 8. Trial-and-error responses are **not** subject to Scoring Policy #6 above, since crossing out is part of the trial-and-error process.
- 9. If a response shows repeated occurrences of the same conceptual error within a question, the conceptual error should **not** be considered more than once in gauging the demonstrated level of understanding.
- 10. In questions requiring number sentences, the number sentences must be written horizontally.
- 11. When measuring angles with a protractor, there is a +/- 5 degrees deviation allowed of the true measure.
- 12. Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted). This is not to be confused with a score of zero wherein the student does respond to part or all of the question but that work results in a score of zero.

36

Rosie combined  $1\frac{3}{4}$  gallons of cranberry juice and  $\frac{3}{4}$  gallon of apple juice to make fruit juice. How many gallons of fruit juice did Rosie make with the cranberry juice and apple juice?



Answer gallons

# **EXEMPLARY RESPONSE**

36

Rosie combined  $1\frac{3}{4}$  gallons of cranberry juice and  $\frac{3}{4}$  gallon of apple juice to make fruit juice. How many gallons of fruit juice did Rosie make with the cranberry juice and apple juice?



 $2\frac{1}{2}$  or  $2\frac{2}{4}$  or  $1\frac{6}{4}$ 

Answer

or equivalent answer gallons

36

Rosie combined  $1\frac{3}{4}$  gallons of cranberry juice and  $\frac{3}{4}$  gallon of apple juice to make fruit juice. How many gallons of fruit juice did Rosie make with the cranberry juice and apple juice?

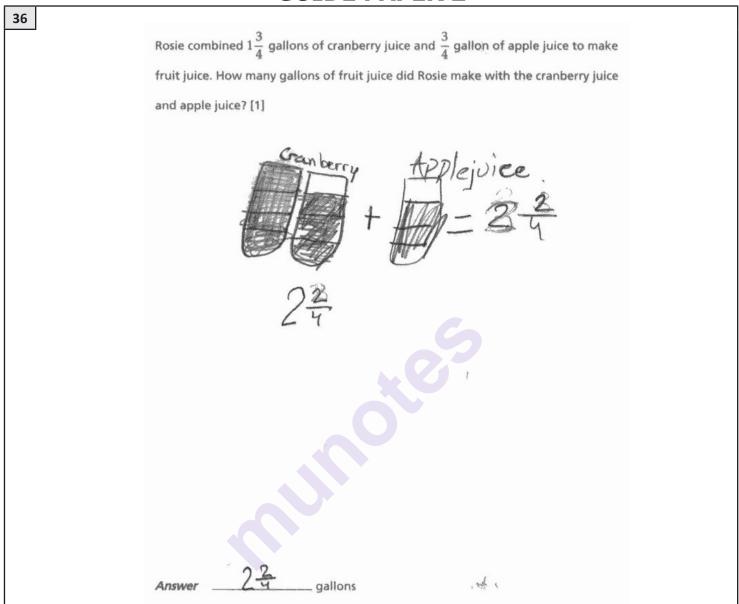
 $2\frac{2}{4} \text{ or } 2\frac{1}{2}$ 

Answer

**Score Point 1 (out of 1 credit)** 

gallons

A correct answer is provided.



# **Score Point 1 (out of 1 credit)**

A correct answer is provided.

36

Rosie combined  $1\frac{3}{4}$  gallons of cranberry juice and  $\frac{3}{4}$  gallon of apple juice to make fruit juice. How many gallons of fruit juice did Rosie make with the cranberry juice and apple juice? [1]

Answer 44 gallon

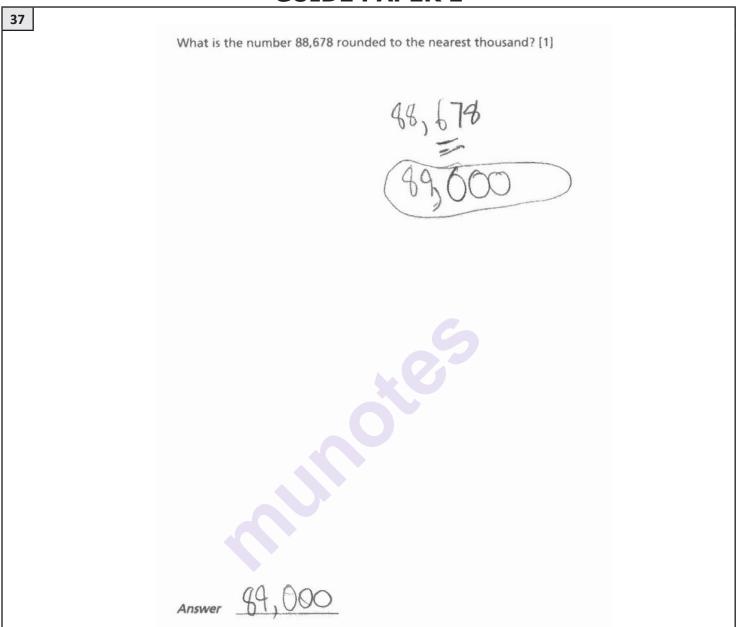
#### Score Point 0 (out of 1 credit)

An incorrect answer is provided.

37	What is the number 88,678 rounded to the nearest thousand?
	Answer

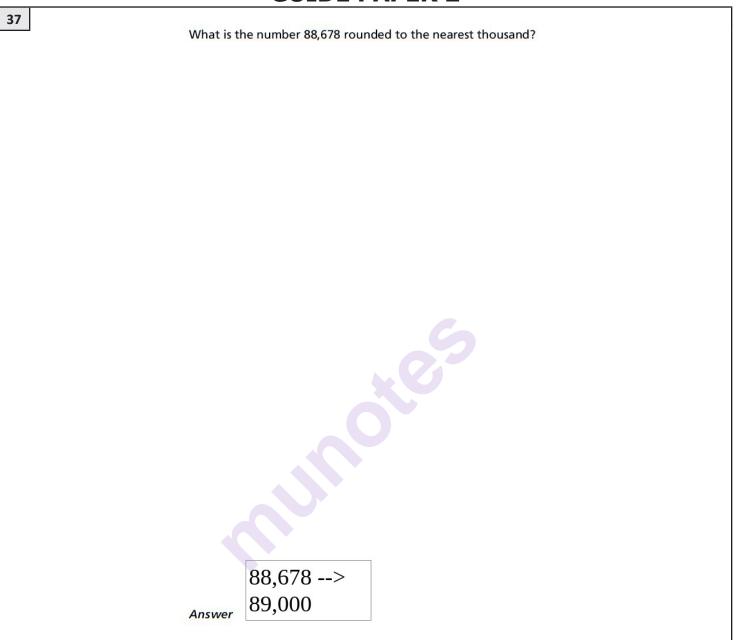
#### **EXEMPLARY RESPONSE**

	EXEMI EART RESIGNSE
37	What is the number 88,678 rounded to the nearest thousand?
	89,000 or 89000  Answer or equivalent answer



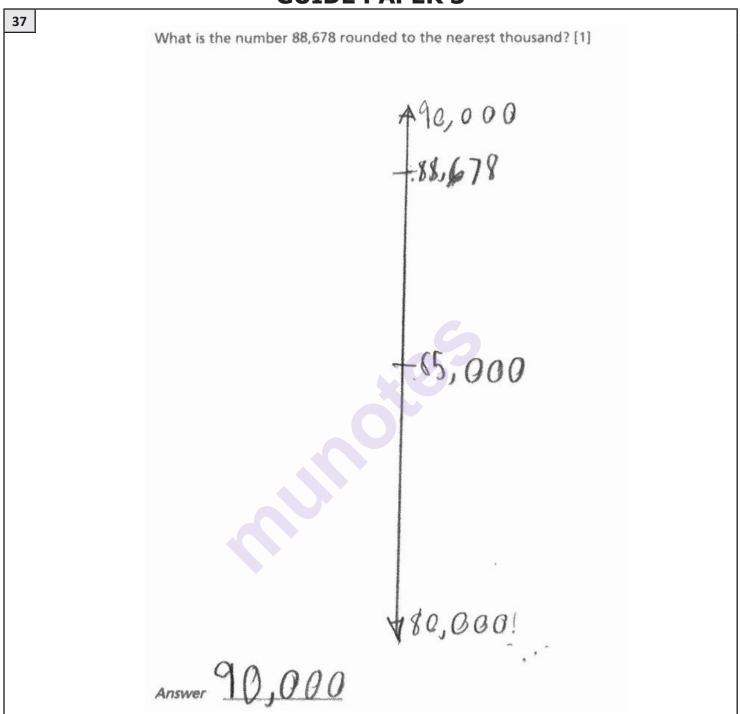
# **Score Point 1 (out of 1 credit)**

A correct answer is provided.



# **Score Point 1 (out of 1 credit)**

A correct answer is provided.



# Score Point 0 (out of 1 credit)

An incorrect answer is provided.

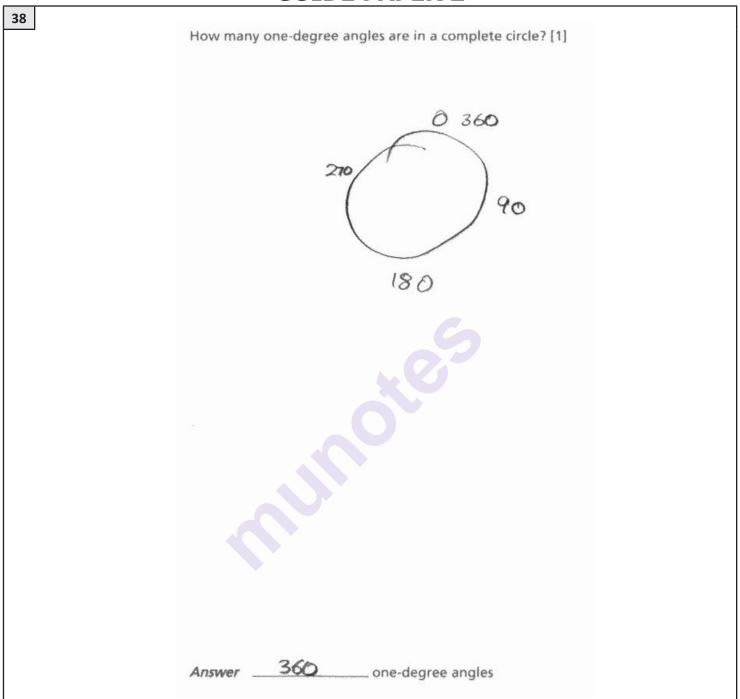
#### **EXEMPLARY RESPONSE**

	EXEMPLARY RESPONSE
3	How many one-degree angles are in a complete circle?
	360
	Answer or equivalent answer one-degree angles
	Answer One-degree angles

	GUIDE PAPER 1
38	How many one-degree angles are in a complete circle?
	Answer 360 one-degree angles

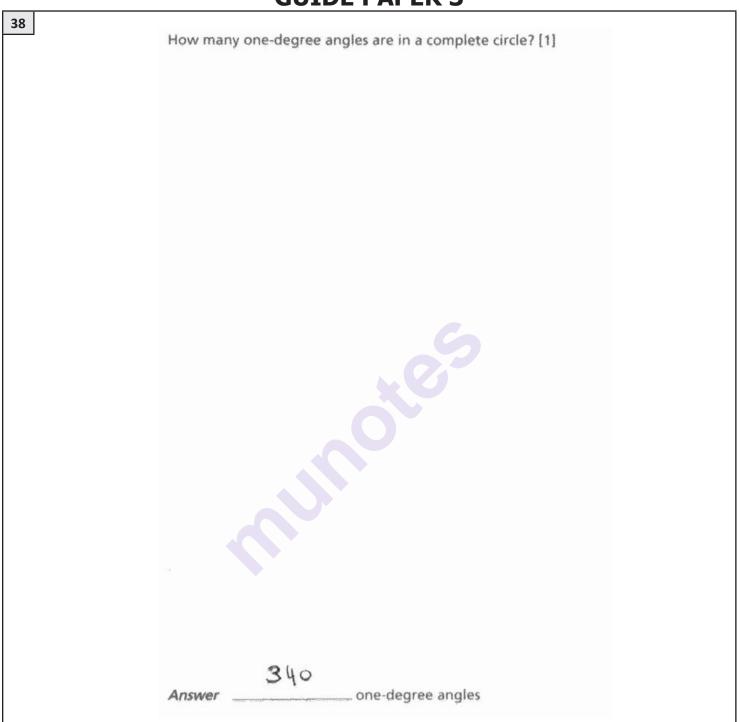
**Score Point 1 (out of 1 credit)** 

A correct answer is provided.



# **Score Point 1 (out of 1 credit)**

A correct answer is provided.



Score Point 0 (out of 1 credit)

An incorrect answer is provided.

9	Which quadrilaterals shown below appear to be rectangles? Be sure to include what you know about angles and sides in your answer.  B C D Explain how you know your answer is correct.

# **EXEMPLARY RESPONSE**

39

Which quadrilaterals shown below appear to be rectangles? Be sure to include what you know about angles and sides in your answer.



Explain how you know your answer is correct.

C and E are both rectangles because they have 4 right angles.

or

C and E are both rectangles because they have 4 angles of 90 degrees. *or other valid explanation* 

39

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0.700				have			

# Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The correct quadrilaterals are chosen, and a valid explanation is provided. This response is complete and correct.

39

Which quadrilaterals shown below appear to be rectangles? Be sure to include what you know about angles and sides in your answer.



Explain how you know your answer is correct.

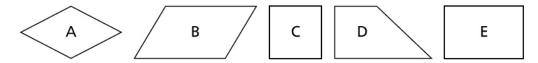
C,E I know this because rectangles must have 4 sides, 4 right angles, 2 pares of parallel sides, and 2 pares of = sides.

#### Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The correct quadrilaterals are chosen, and a valid explanation is provided. This response is complete and correct.

39

Which quadrilaterals shown below appear to be rectangles? Be sure to include what you know about angles and sides in your answer.



Explain how you know your answer is correct.

C and E because it has four right angles.

#### Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The correct quadrilaterals are chosen, and a valid explanation is provided. The explanation is sufficient to show a thorough understanding.

39

Which quadrilaterals shown below appear to be rectangles? Be sure to include what you know about angles and sides in your answer.

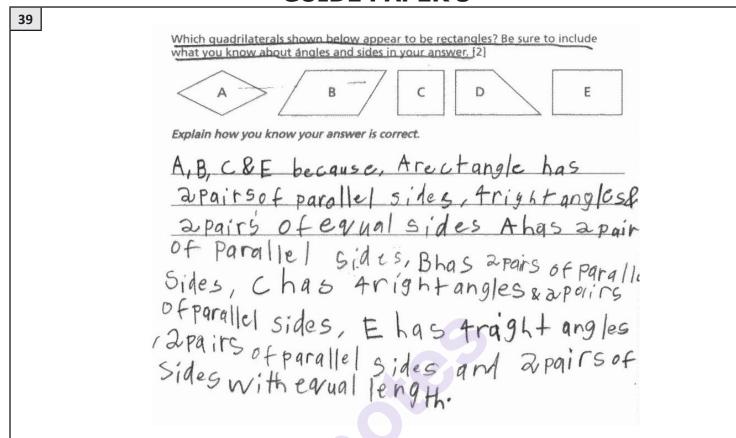


Explain how you know your answer is correct.

Quadrilateral E is a rectangle. I know this because rectangles have four right angles. Rectangles also have two sets of paralell sides, and two short sides and two long sides. Quadrilateral has all of these things. That is how I know my answer is correct.

#### Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. One correct quadrilateral is chosen, and a valid explanation is provided for E. This response correctly addresses only some elements of the task.



#### **Score Point 1 (out of 2 credits)**

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. Two correct quadrilaterals and two incorrect quadrilaterals are chosen, and an explanation identifying 4 right angles is provided for C and E. This response correctly addresses only some elements of the task.

Which quadrilaterals shown below appear to be rectangles? Be sure to include what you know about angles and sides in your answer. [2]

A

B

C

D

Explain how you know your answer is correct.

E and C

ale setangles

Angles

Charles

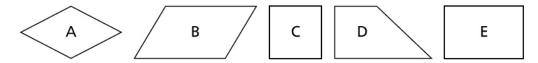
Cha

#### **Score Point 1 (out of 2 credits)**

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. Although the correct quadrilaterals are chosen and right angles are identified, the phrase "4 equle sides" is incorrect. This response correctly addresses only some elements of the task.

39

Which quadrilaterals shown below appear to be rectangles? Be sure to include what you know about angles and sides in your answer.



Explain how you know your answer is correct.

Quadrilaterals C and E. I know this because E has two sets of parellel sides and C has two sets of parellel sides too.

#### Score Point 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although the correct quadrilaterals are chosen, right angles are not addressed. The phrase "2 sets of parellel sides" is insufficient because quadrilaterals A and B also have two sets of parallel sides. Holistically, this response shows no overall understanding.

Which quadrilaterals shown below appear to be rectangles? Be sure to include what you know about angles and sides in your answer. [2]

B

Explain how you know your answer is correct.

I Know MY WALWAY IS CORPECT +

because company to the same of the same of

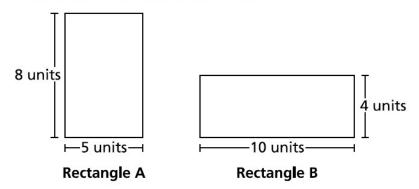
#### **Score Point 0 (out of 2 credits)**

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although a correct quadrilateral is chosen, right angles are not addressed. Holistically, the explanation is insufficient to show any understanding.

# **EXEMPLARY RESPONSE**

40

A student draws the two rectangles shown below.

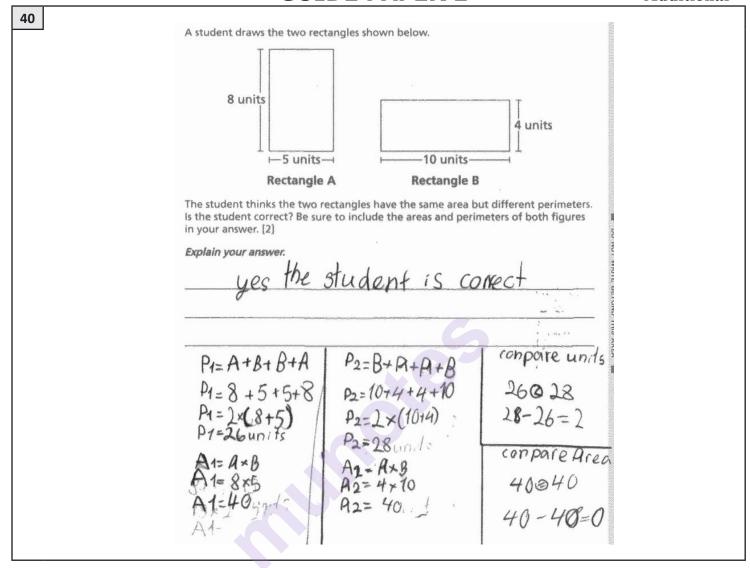


The student thinks the two rectangles have the same area but different perimeters. Is the student correct? Be sure to include the areas and perimeters of both figures in your answer.

Explain your answer.

Yes, the student is correct. The area for Rectangle A is  $8 \times 5 = 40$  and the area for Rectangle B is  $10 \times 4 = 40$ . The rectangles have the same area. The perimeter for Rectangle A is 8 + 5 + 8 + 5 = 26 and the perimeter for Rectangle B is 10 + 4 + 10 + 4 = 28. The rectangles have different perimeters.

or other valid explanation

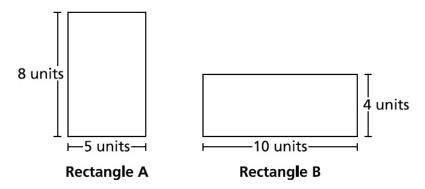


#### Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The correct claim is chosen, and the areas and perimeters of both rectangles are provided. This response is complete and correct.

40

A student draws the two rectangles shown below.



The student thinks the two rectangles have the same area but different perimeters. Is the student correct? Be sure to include the areas and perimeters of both figures in your answer.

Explain your answer.

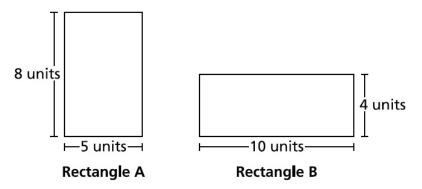
He is correct The area of Rectangle A,  $(8 \times 5)$  is 40 and the area of Rectangle B,  $(10 \times 4)$  is also 40. The Perimeter of Rectangle A is, (8+5+8+5) 26 and the Perimiter of Rectangle B is (10+4+10+4) 28.

#### **Score Point 2 (out of 2 credits)**

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The correct claim is chosen, and the areas and perimeters of both rectangles are provided. The explanation is sufficient to show a thorough understanding.

40

A student draws the two rectangles shown below.



The student thinks the two rectangles have the same area but different perimeters. Is the student correct? Be sure to include the areas and perimeters of both figures in your answer.

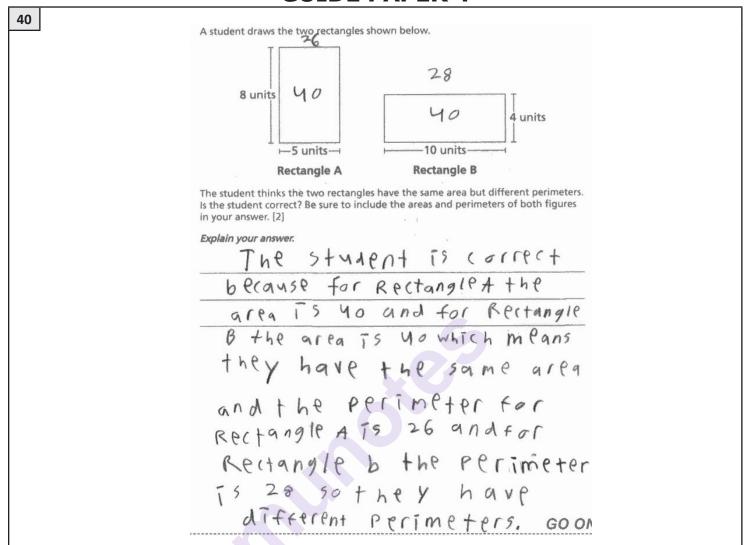
Explain your answer.

$$8 \times 5=40$$
 $10 \times 4=40$ 
 $20+8=28$ 
 $16+10=26$ 

He is because both of the areas are 40 and the perimiters are 28 and 26.

#### **Score Point 2 (out of 2 credits)**

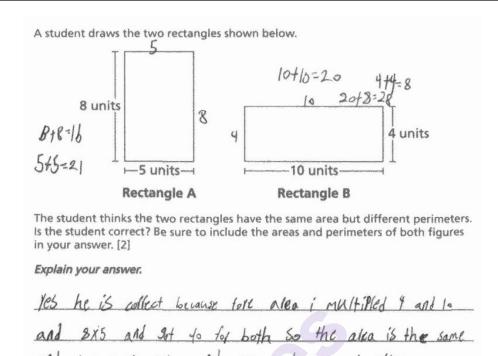
This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The correct claim is chosen, and the areas and perimeters of both rectangles are provided. This response is complete and correct.



#### **Score Point 1 (out of 2 credits)**

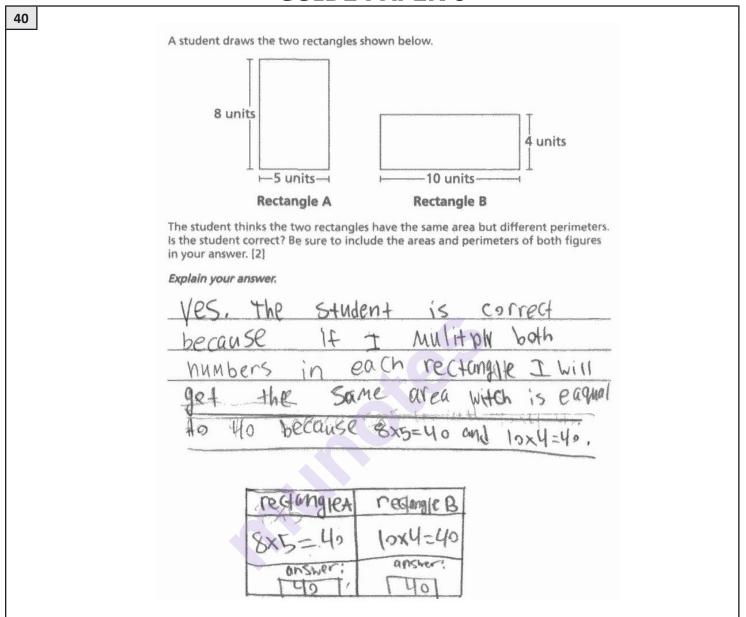
This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. Although the correct claim is chosen, and the areas and perimeters of both rectangles are provided, the explanation is incomplete because it is unclear how the solutions are obtained. This response correctly addresses only some elements of the task.





### Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The correct claim is chosen; however, a calculation error occurs when computing the perimeter of Rectangle A resulting in an incorrect solution of 21. The rest of the explanation is correct. Per Scoring Policy #1 for 2- and 3-credit responses, the work shown in other than a designated "Explain" area should still be scored. This response correctly addresses only some elements of the task.

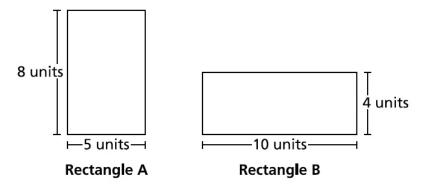


### **Score Point 1 (out of 2 credits)**

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. Although the correct claim is chosen, and the areas of both rectangles are provided, the explanation does not address the perimeters of the rectangles. This response correctly addresses only some elements of the task.

40

A student draws the two rectangles shown below.



The student thinks the two rectangles have the same area but different perimeters. Is the student correct? Be sure to include the areas and perimeters of both figures in your answer.

Explain your answer.

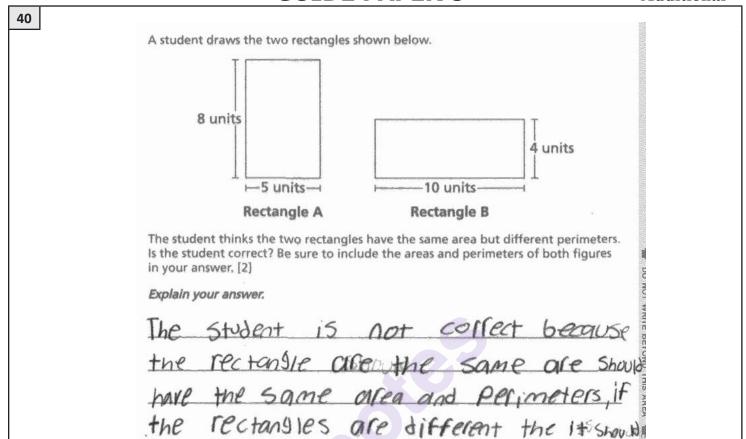
No the student is not correct they have the same perimiter 10

$$\times$$
 4 = 40

and  $8 \times 5 = 40$ 

#### **Score Point 0 (out of 2 credits)**

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although the areas of both rectangles are correctly calculated, the response identifies them as the perimeters of the rectangles, and an incorrect claim is chosen. Holistically, the explanation is insufficient to show any understanding.



#### **Score Point 0 (out of 2 credits)**

have different area and perimeters.

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. An incorrect claim is chosen, and the areas and perimeters of the rectangles are not provided. The explanation shows no understanding.

What fraction can be added to the expression shown below to have a total value of one whole?

$$\frac{2}{12} + \frac{7}{12}$$

Show your work.

Answer

# **EXEMPLARY RESPONSE**

41

What fraction can be added to the expression shown below to have a total value of one whole?

$$\frac{2}{12} + \frac{7}{12}$$

Show your work.

$$\frac{2}{12} + \frac{7}{12} = \frac{9}{12}$$
$$\frac{9}{12} + \frac{3}{12} = \frac{12}{12}$$

or

$$\frac{2}{12} + \frac{7}{12} + \frac{3}{12} = \frac{12}{12}$$

or other valid process



Answer

 $\frac{3}{12}$  or  $\frac{1}{4}$  or equivalent

What fraction can be added to the expression shown below to have a total value of one whole? [2]

$$\frac{2}{12} + \frac{7}{12}$$

Show your work.

$$\frac{247 = 9}{121212}$$

$$\frac{9}{12} + \frac{?}{12} = 1$$
?=3

swer 11

### Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The solution is calculated correctly using a sound procedure. This response is complete and correct.

What fraction can be added to the expression shown below to have a total value of one whole?

$$\frac{2}{12} + \frac{7}{12}$$

Show your work.

$$\frac{9}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} = \frac{12}{12}$$

Answer  $\frac{3}{12}$ 

### **Score Point 2 (out of 2 credits)**

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The solution is calculated correctly using a sound procedure. This response is complete and correct.

What fraction can be added to the expression shown below to have a total value of one whole?

$$\frac{2}{12} + \frac{7}{12}$$

Show your work.

$$\frac{2}{12} + \frac{7}{12} + \frac{3}{12} = 1 (or) \frac{12}{12}$$

Answer

### **Score Point 2 (out of 2 credits)**

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The solution is calculated correctly using a sound procedure. This response contains sufficient work to show a thorough understanding.



What fraction can be added to the expression shown below to have a total value of one whole?

$$\frac{2}{12} + \frac{7}{12}$$

Show your work.

2/12 +7/12 =9/12

my answer is 9/12 because it says add 2/12 + 7/12

and got 9/12

Answer

#### **Score Point 1 (out of 2 credits)**

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The expression is correctly evaluated but the result is inappropriately provided as the solution. This response correctly addresses only some elements of the task.



What fraction can be added to the expression shown below to have a total value of one whole? [2]

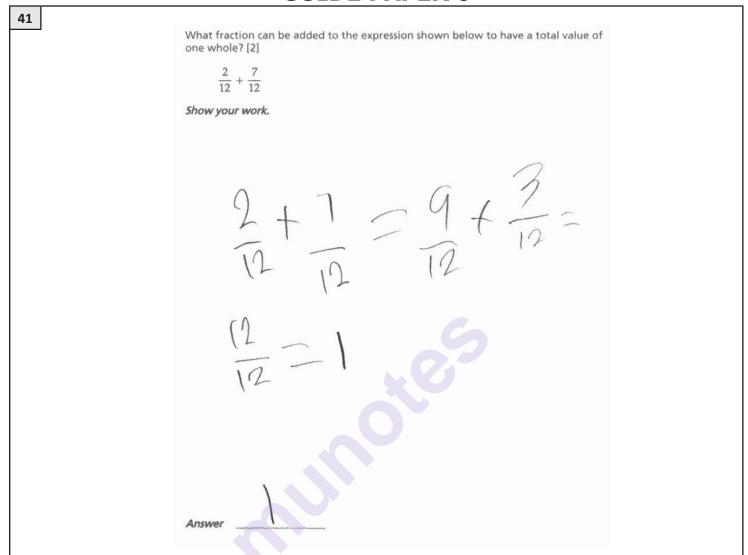
$$\frac{2}{12} + \frac{7}{12}$$

Show your work.

Answer  $\frac{3}{12}$ 

# Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The expression is evaluated correctly, and a correct solution is provided; however, the subtraction equation is written in an incorrect order. This response correctly addresses only some elements of the task.



# **Score Point 1 (out of 2 credits)**

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The expression is evaluated correctly and  $\frac{3}{12}$  is determined in the work; however, 1 is inappropriately provided as the solution. This response correctly addresses only some elements of the task.

What fraction can be added to the expression shown below to have a total value of one whole?

$$\frac{2}{12} + \frac{7}{12}$$

Show your work.

$$\frac{2}{12} + \frac{7}{12} = 9$$

 $\frac{\frac{2}{12} + \frac{7}{12} = 9}{\frac{7}{12}}$ 

### Score Point 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The expression is incorrectly evaluated and inappropriately provided as the solution. Holistically, this response shows no overall understanding.

41 What fraction can be added to the expression shown below to have a total value of one whole? [2] Show your work.

# **Score Point 0 (out of 2 credits)**

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The answer is provided with no work or explanation. Per Scoring Policy #3 for 2- and 3-credit responses, this response receives no credit.

42	Stacey played the same game two times. She scored 36 points in the second game, which is 4 times as many points as she scored in the first game. How many points did Stacey score in the first game?
	Explain how you know your answer is correct.

# **EXEMPLARY RESPONSE**

42

Stacey played the same game two times. She scored 36 points in the second game, which is 4 times as many points as she scored in the first game. How many points did Stacey score in the first game?

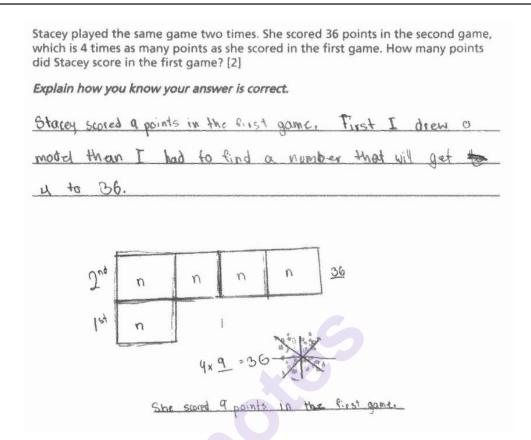
Explain how you know your answer is correct.

Stacey scored 9 points in the first game because  $36 \div 4 = 9$ .

or

Stacey scored 9 points in the first game because  $4 \times 9 = 36$ .

or other valid explanation



#### Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The explanation describes a correct process of determining how many points are scored in the first game and the correct solution is provided. The explanation is complete and correct.

42

Stacey played the same game two times. She scored 36 points in the second game, which is 4 times as many points as she scored in the first game. How many points did Stacey score in the first game?

Explain how you know your answer is correct.

 $36 \div 4 = 9$  4,8,12,16,20,24,28,32,361, 2, 3, 4, 5, 6, 7, 8, 9

I know that the anaswer is correct because i skip counted from 4 all the way to 36 and then I counted how many times 4 skip counts all the way to 36 and i got 9 so  $36 \div 4 = 9$ 

#### Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The explanation describes a correct process of determining how many points are scored in the first game and the correct solution is provided. The explanation is complete and correct.

42

Stacey played the same game two times. She scored 36 points in the second game, which is 4 times as many points as she scored in the first game. How many points did Stacey score in the first game?

Explain how you know your answer is correct.

 $36 \div 4 = 9$ 

### **Score Point 2 (out of 2 credits)**

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The explanation describes a correct process of determining how many points are scored in the first game and the correct solution is provided. The explanation is sufficient to show a thorough understanding.

Stacey played the same game two times. She scored 36 points in the second game, which is 4 times as many points as she scored in the first game. How many points did Stacey score in the first game? [2]

Explain how you know your answer is correct.

I know my answer ist correct become I multiplayed 4 and 36 Which 9 ave me
The answer 144 as my asser.

### **Score Point 1 (out of 2 credits)**

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The explanation uses a correct process of multiplication; however, the student misunderstands the number of points in the first game to be 4 times the number of points scored in the second game. This response contains an incorrect solution but applies a mathematically appropriate process.

42

Stacey played the same game two times. She scored 36 points in the second game, which is 4 times as many points as she scored in the first game. How many points did Stacey score in the first game? [2]

Explain how you know your answer is correct.

stacey Played the same game

4:36=9

### **Score Point 1 (out of 2 credits)**

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The number of points scored, in the first game, is correctly determined; however, the division equation is written in an incorrect order. This response correctly addresses only some elements of the task.

42

Stacey played the same game two times. She scored 36 points in the second game, which is 4 times as many points as she scored in the first game. How many points did Stacey score in the first game?

Explain how you know your answer is correct.

if  $8 \times 4 = 36$  then se scored 8 points

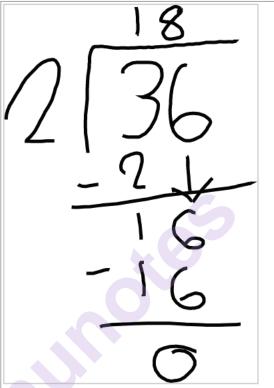
8points

### **Score Point 1 (out of 2 credits)**

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The explanation describes a correct process of multiplication to determine how many points are scored in the first game; however, the description contains a calculation error. This response contains an incorrect solution but applies a mathematically appropriate process.

Stacey played the same game two times. She scored 36 points in the second game, which is 4 times as many points as she scored in the first game. How many points did Stacey score in the first game?

Explain how you know your answer is correct.



Stacy scored 18 points in the first round of soccer she played.

### Score Point 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although division is used to determine the number of points in the first game, dividing by 2 shows no overall understanding of the relationship between the points scored for the two games.

Stacey played the same game two times. She scored 36 points in the second game, which is 4 times as many points as she scored in the first game. How many points did Stacey score in the first game?

Explain how you know your answer is correct.

9

### **Score Point 0 (out of 2 credits)**

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The answer is provided with no work or explanation. Per Scoring Policy #3 for 2- and 3-credit responses, this response receives no credit.

]	Ms. Leonard has \$110 to buy bottles of craft paint at the store. Each bottle is \$9. What is the greatest number of bottles of craft paint Ms. Leonard can buy with the amount of money she has?
	Show your work.

Answer \_\_\_\_\_ bottles

# **EXEMPLARY RESPONSE**

43

Ms. Leonard has \$110 to buy bottles of craft paint at the store. Each bottle is \$9. What is the greatest number of bottles of craft paint Ms. Leonard can buy with the amount of money she has?

Show your work.

$$110 \div 9 = 12 \text{ r2}$$

or

$$9 \times 12 = 108$$

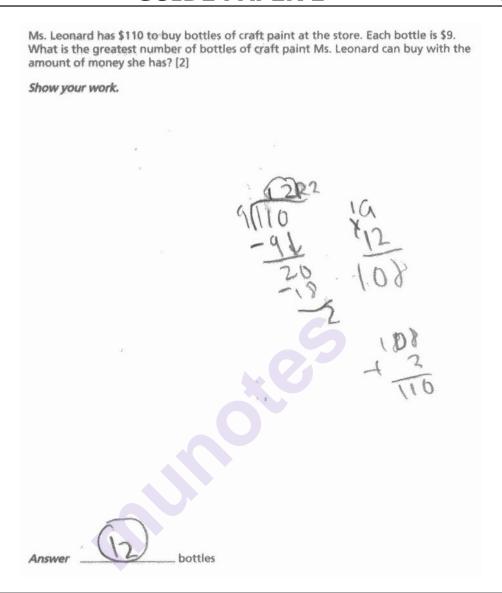
$$9 \times 13 = 117$$

or

9, 18, 27, 36, 45, 54, 63, 72, 81, 90, 99, 108, 117

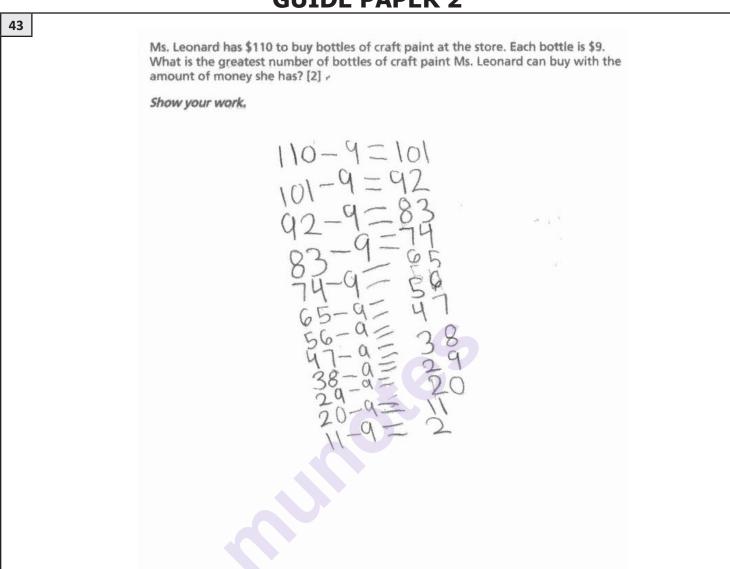
or other valid process

Answer 12 bottles



### Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The number of bottles is calculated correctly by using sound procedures. This response is complete and correct.



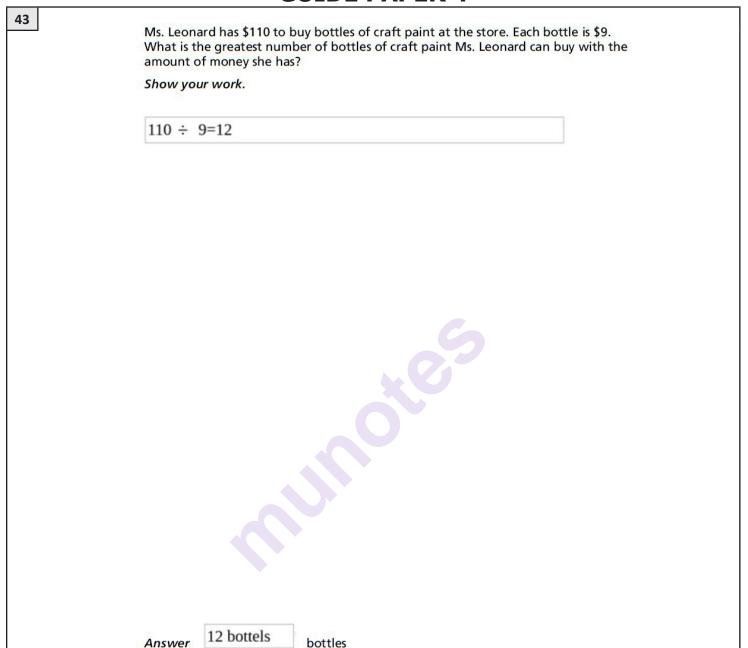
## **Score Point 2 (out of 2 credits)**

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The number of bottles is calculated correctly by using repeated subtraction. This response is complete and correct.

43 Ms. Leonard has \$110 to buy bottles of craft paint at the store. Each bottle is \$9. What is the greatest number of bottles of craft paint Ms. Leonard can buy with the amount of money she has? Show your work.  $110 \div 9 = 12 \text{ r2}$ 12 bottles Answer

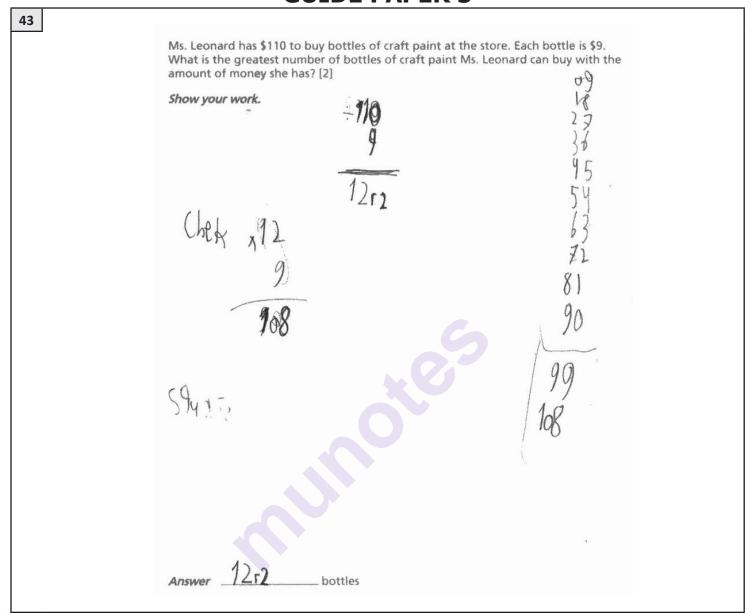
### **Score Point 2 (out of 2 credits)**

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The number of bottles is calculated correctly by using division. This response is complete and correct.



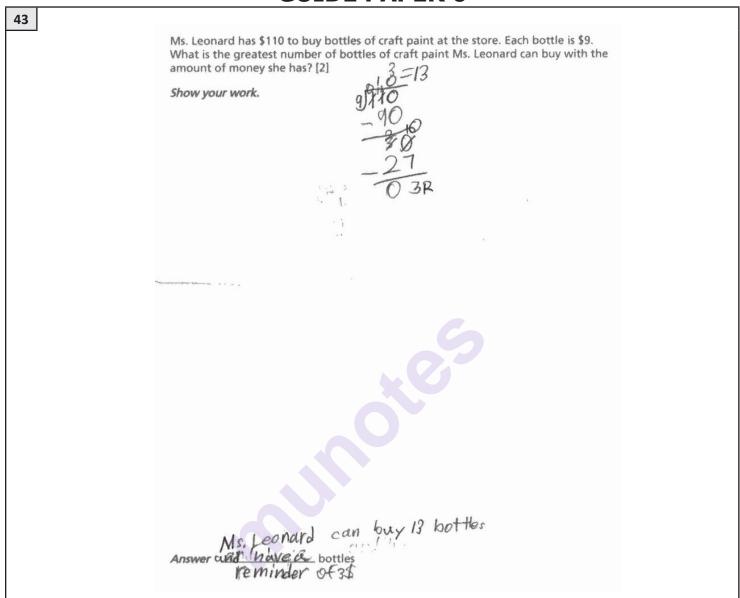
### **Score Point 1 (out of 2 credits)**

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. Although the correct solution is determined,  $110 \div 9 \neq 12$ . The work does not address the remainder of  $110 \div 9$ . This response contains the correct solution, but the required work is incomplete.



### **Score Point 1 (out of 2 credits)**

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. Sound procedures are used to determine the solution; however, the remainder of the quotient is inappropriately included in the solution. This response correctly addresses only some elements of the task.



#### **Score Point 1 (out of 2 credits)**

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. A calculation error occurs when computing 110-90 because  $110-90 \neq 30$ . The rest of the work is performed correctly. This response contains an incorrect solution but applies a mathematically appropriate process.

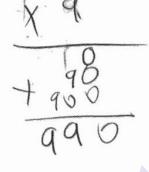
43 Ms. Leonard has \$110 to buy bottles of craft paint at the store. Each bottle is \$9. What is the greatest number of bottles of craft paint Ms. Leonard can buy with the amount of money she has? Show your work. 9 ÷ 110= 22r2 bottles Answer

#### **Score Point 0 (out of 2 credits)**

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The equation is written in an incorrect order and an incorrect solution is determined. Holistically, this response shows no overall understanding.

Ms. Leonard has \$110 to buy bottles of craft paint at the store. Each bottle is \$9. What is the greatest number of bottles of craft paint Ms. Leonard can buy with the amount of money she has? [2]

Show your work.



Answer 000 bottle

### **Score Point 0 (out of 2 credits)**

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. An incorrect solution is obtained by using an incorrect procedure. Holistically, this response shows no overall understanding.

Mr. Benson is making burgers based on the information below.

- He has 4 pounds of meat.
- He uses  $\frac{1}{4}$  pound of meat for each burger.
- He makes 9 burgers.

How many pounds of meat does Mr. Benson have left over after making all the burgers?

Explain how you determined your answer.

# **EXEMPLARY RESPONSE**

44

Mr. Benson is making burgers based on the information below.

- He has 4 pounds of meat.
- He uses  $\frac{1}{4}$  pound of meat for each burger.
- · He makes 9 burgers.

How many pounds of meat does Mr. Benson have left over after making all the burgers?

Explain how you determined your answer.

$$9 \times \frac{1}{4} = 2\frac{1}{4}$$
 and  $4-2\frac{1}{4}=1\frac{3}{4}$ . Mr. Benson has  $1\frac{3}{4}$  pounds of meat left over.

or

$$\frac{16}{4} - \frac{9}{4} = \frac{7}{4}$$
. Mr. Benson has  $\frac{7}{4}$  pounds of meat left over.

or other valid explanation

Mr. Benson is making burgers based on the information below.

- · He has 4 pounds of meat.
- He uses  $\frac{1}{4}$  pound of meat for each burger.
- · He makes 9 burgers.

How many pounds of meat does Mr. Benson have left over after making all the burgers?

Explain how you determined your answer.

$$9 \times \frac{1}{4} = \frac{9}{4} = 2\frac{1}{4}$$
  
4-  $2\frac{1}{4} = 1\frac{3}{4}$  pounds of meat

He makes 9 burgers with  $\frac{1}{4}$  pounds of meat in each burger so

$$9 \times \frac{1}{4} = 2\frac{1}{4}$$
. If he has 4 pounds of meat then you would do

$$4-2\frac{1}{4}$$
 wich equals  $1\frac{3}{4}$  pounds of meat.

## Score Point 3 (out of 3 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The amount of meat used to make the burgers and the amount of meat left over are correctly identified in a valid explanation. This explanation is complete and correct.

44

Mr. Benson is making burgers based on the information below.

- · He has 4 pounds of meat.
- He uses  $\frac{1}{4}$  pound of meat for each burger.
- He makes 9 burgers.

How many pounds of meat does Mr. Benson have left over after making all the burgers?

Explain how you determined your answer.

$$\frac{1}{4} \times 9 = 2\frac{1}{4} \cdot 4 - 2\frac{1}{4} = 1\frac{3}{4}$$

## Score Point 3 (out of 3 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The amount of meat used to make the burgers and the amount of meat left over are correctly identified in a valid explanation. The explanation is sufficient to show a thorough understanding.

Mr. Benson is making burgers based on the information below.

- He has 4 pounds of meat.
- He uses  $\frac{1}{4}$  pound of meat for each burger.
- · He makes 9 burgers.

How many pounds of meat does Mr. Benson have left over after making all the burgers?

Explain how you determined your answer.

Mr.Benson has  $\frac{7}{4}$  pounds of meat left.

Pounds of meat left.

pounds of meat left.

### Score Point 3 (out of 3 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The amount of meat used to make the burgers and the amount of meat left over are correctly identified in a valid explanation. This explanation is complete and correct.

Mr. Benson is making burgers based on the information below.

• He has 4 pounds of meat.

• He uses  $\frac{1}{4}$  pound of meat for each burger.

• He makes 9 burgers.

How many pounds of meat does Mr. Benson have left over after making all the burgers? [3]

Explain how you determined your answer.

### Score Point 2 (out of 3 credits)

This response demonstrates a partial understanding of the mathematical concepts and procedures in the task. The amount of meat used to make the burgers is correctly identified; however, the subtraction of the amount of meat used from the total amount of meat is in an incorrect order. This explanation reflects some minor misunderstanding of the underlying mathematical concepts and procedures.

44

Mr. Benson is making burgers based on the information below.

- · He has 4 pounds of meat.
- He uses  $\frac{1}{4}$  pound of meat for each burger.
- · He makes 9 burgers.

How many pounds of meat does Mr. Benson have left over after making all the burgers? [3]

Explain how you determined your answer.

Mr. Benson has 13 pounds of meat left over loccouse 4x4=16 and 16-9=7 and 7=13.

1×4=16 - 7 = 13

## Score Point 2 (out of 3 credits)

This response demonstrates a partial understanding of the mathematical concepts and procedures in the task. Although the amount of meat left over is correctly determined, the process to obtain the solution addresses only the numerators and does not address the denominators of the fractions. This explanation appropriately addresses most, but not all, aspects of the task.

Mr. Benson is making burgers based on the information below.

- · He has 4 pounds of meat.
- He uses  $\frac{1}{4}$  pound of meat for each burger.
- · He makes 9 burgers.

How many pounds of meat does Mr. Benson have left over after making all the burgers?

Explain how you determined your answer.

$$\frac{1}{4} \times 9 = \frac{9}{4} = 2\frac{1}{4} \quad 4 - 2\frac{1}{4} = 2\frac{3}{4}$$

Mr.Benson has  $2\frac{3}{4}$  pounds of meat left over

#### Score Point 2 (out of 3 credits)

This response demonstrates a partial understanding of the mathematical concepts and procedures in the task. The amount of meat used to make the burgers is correctly determined but a calculation error occurs when determining the amount of meat left over. This explanation contains an incorrect solution but applies a mathematically appropriate process.

Mr. Benson is making burgers based on the information below.

- He has 4 pounds of meat.
- He uses  $\frac{1}{4}$  pound of meat for each burger.
- · He makes 9 burgers.

How many pounds of meat does Mr. Benson have left over after making all the burgers?

Explain how you determined your answer.

$$\frac{9}{4} = 2\frac{1}{4} \qquad 2\frac{1}{4} - 4 = 2\frac{1}{4} \quad \text{he uses } 2\frac{1}{4} \text{ pounds}$$
of meat

## Score Point 1 (out of 3 credits)

This response demonstrates only a limited understanding of the mathematical concepts and procedures in the task. The amount of meat used to make the burgers is correctly determined. However, the subtraction equation is in an incorrect order with a calculation error, and the amount of meat used is inappropriately provided as the solution. This explanation exhibits multiple flaws related to misunderstanding of important aspects of the task.

Mr. Benson is making burgers based on the information below.

- · He has 4 pounds of meat.
- He uses  $\frac{1}{4}$  pound of meat for each burger.
- · He makes 9 burgers.

How many pounds of meat does Mr. Benson have left over after making all the burgers?

Explain how you determined your answer.

4-2 1/4=1 3/4

## Score Point 1 (out of 3 credits)

This response demonstrates only a limited understanding of the mathematical concepts and procedures in the task. The amount of meat left over is correctly determined, but it is unclear how the amount of meat used is obtained. This response contains the correct solution, but the explanation is insufficient.

44

Mr. Benson is making burgers based on the information below.

- · He has 4 pounds of meat.
- He uses  $\frac{1}{4}$  pound of meat for each burger.
- · He makes 9 burgers.

How many pounds of meat does Mr. Benson have left over after making all the burgers? [3]

Explain how you determined your answer.

1x9=9=4=24,50 ur. Benson use 24 pound of meat.

## Score Point 1 (out of 3 credits)

This response demonstrates only a limited understanding of the mathematical concepts and procedures in the task. The amount of meat used to make the burgers is correctly determined; however, an incorrect statement of equality  $(9 \neq \%)$  is used to demonstrate the steps taken to determine 2% and the amount of meat left over is not addressed. This response addresses some elements of the task correctly, but the explanation is incomplete.

44

Mr. Benson is making burgers based on the information below.

- · He has 4 pounds of meat.
- He uses  $\frac{1}{4}$  pound of meat for each burger.
- · He makes 9 burgers.

How many pounds of meat does Mr. Benson have left over after making all the burgers?

Explain how you determined your answer.

 $1\frac{3}{4}$ 

## Score Point 0 (out of 3 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The answer is provided with no work or explanation. Per Scoring Policy #3 for 2- and 3-credit responses, this response receives no credit.

Mr. Benson is making burgers based on the information below.

- · He has 4 pounds of meat.
- He uses  $\frac{1}{4}$  pound of meat for each burger.
- · He makes 9 burgers.

How many pounds of meat does Mr. Benson have left over after making all the burgers? [3]

Explain how you determined your answer.

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4/est =

## Score Point 0 (out of 3 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The explanation is incoherent and shows no overall understanding.



**Grade 4 Mathematics** 

Scoring Leader Materials 2023 Training Set