4MA SLM-T

New York State Testing Program

2016 Common Core

Mathematics Test

Grade 4

Scoring Leader Materials

Training Set

2-Point Holistic Rubric

2 Point	A two-point 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 Point	A one-point 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 Point*	A zero-point 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.

*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-Point Holistic Rubric

Score Points:

3 Point	A three-point 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 Point	A two-point 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 and/or procedures
1 Point	A one-point 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 Point*	A zero-point 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.

*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).

2016 2-and 3-Point Mathematics Scoring Policies

Below are the policies to be followed while scoring the mathematics tests for all grades:

1. If a student does the work in other than a designated "Show your work" area, that work should still be scored. (Additional paper is an allowable accommodation for a student with disabilities if indicated on the student's Individual Education Program or Section 504 Accommodation Plan.)
2. 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 blank, the student should still receive full credit.
3. In questions that provide ruled lines for students to write an explanation of their work, mathematical work shown elsewhere on the page should be considered and scored.
4. If the student provides one legible response (and one response only), teachers should score the response, even if it has been crossed out.
5. If the student has written more than one response but has crossed some out, teachers should score only the response that has **not** been crossed out.
6. Trial-and-error responses are **not** subject to Scoring Policy #5 above, since crossing out is part of the trial-and-error process.
7. If a response shows repeated occurrences of the same conceptual error within a question, the student should **not** be penalized more than once.
8. In questions that require students to provide bar graphs,
    - in Grades 3 and 4 only, touching bars are acceptable
    - in Grades 3 and 4 only, space between bars does **not** need to be uniform
    - in all grades, widths of the bars must be consistent
    - in all grades, bars must be aligned with their labels
    - in all grades, scales must begin at 0, but the 0 does **not** need to be written
9. In questions requiring number sentences, the number sentences must be written horizontally.
10. In pictographs, the student is permitted to use a symbol other than the one in the key, provided that the symbol is used consistently in the pictograph; the student does not need to change the symbol in the key. The student may **not**, however, use multiple symbols within the chart, nor may the student change the value of the symbol in the key.
11. If students are not directed to show work, any work shown will not be scored. This applies to items that do not ask for any work and items that ask for work for one part and do not ask for work in another part.
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.

46 The area of a rectangular doghouse floor is 15 square feet. The length of the floor is five feet. What is the perimeter of the floor of the doghouse?

Show your work.

Answer _____ feet

EXEMPLARY RESPONSE

46

The area of a rectangular doghouse floor is 15 square feet. The length of the floor is five feet. What is the perimeter of the floor of the doghouse?

Show your work.

$15 \div 5 = 3$

$5 + 5 + 3 + 3 = 16$

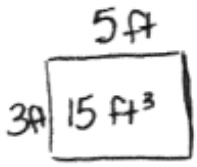
Or other valid process

Answer 16 feet

46

The area of a rectangular doghouse floor is 15 square feet. The length of the floor is five feet. What is the perimeter of the floor of the doghouse?

Show your work.



$5\overline{)15}$ 3

$5 + 3 = 8$

$8 \times 2 = 16$

Answer 16 feet

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The width of floor is correctly calculated and used to calculate the correct perimeter of the doghouse.

GUIDE PAPER 2

46

The area of a rectangular doghouse floor is 15 square feet. The length of the floor is five feet. What is the perimeter of the floor of the doghouse?

Show your work.

$15 = a$ $\quad 5 \times 3 = 15$ $\quad 3 = w$

$5 = L$

$P = 2 \times (L + w)$

$P = 2 \times (5 + 3)$

$P = 2 \times 8$

$P = 16 ft$

Answer 16 ft. **feet**

Score Point 2 (out of 2 points)

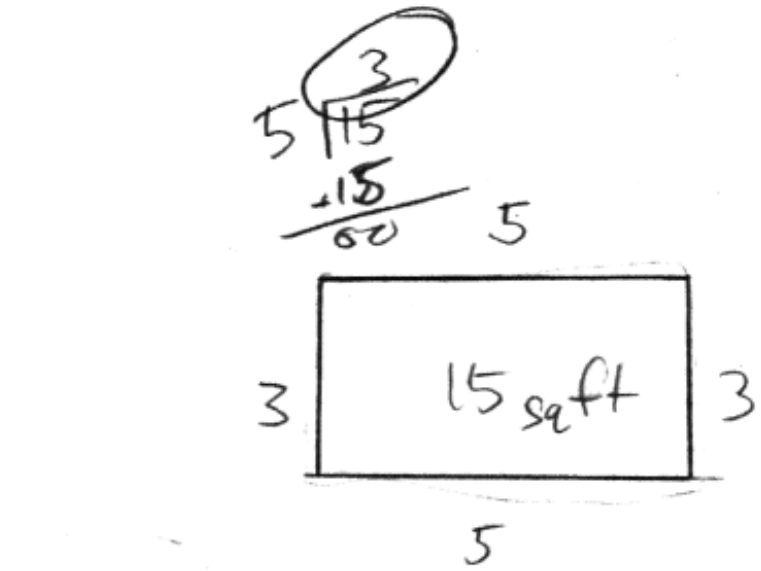
This response demonstrates a thorough understanding of the mathematical concepts in the task. The width of floor is correctly calculated and used to calculate the correct perimeter of the doghouse.

GUIDE PAPER 3

46

The area of a rectangular doghouse floor is 15 square feet. The length of the floor is five feet. What is the perimeter of the floor of the doghouse?

Show your work.



10
+6
16 feet

3
+3
6

5
+5
10

Answer 16 **feet**

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The width of floor is correctly calculated and used to calculate the correct perimeter of the doghouse.

GUIDE PAPER 4

46

The area of a rectangular doghouse floor is 15 square feet. The length of the floor is five feet. What is the perimeter of the floor of the doghouse?

Show your work. A=LxW 15 square ft 5ft

p=5ft5ft5ft5

5ft 15ft 5ft

5
+5
10 ft

+2
14ft

that is the closest

Answer 14 feet

Score Point 1 (out of 2 points)

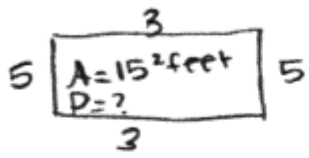
This response demonstrates only a partial understanding of the mathematical concepts in the task. Appropriate addition is used to calculate the perimeter of the doghouse; however, the width of the floor is incorrectly calculated (2 feet). The response correctly addresses only some elements of the task.

GUIDE PAPER 5

46

The area of a rectangular doghouse floor is 15 square feet. The length of the floor is five feet. What is the perimeter of the floor of the doghouse?

Show your work.



5x ? = 15
15 ÷ 5 = ?
15 ÷ 5 = 3
3 x 5 = 15

(3+3)+(5+5)
6 + 10 = 16 2feet

Answer 16^2 feet

Score Point 1 (out of 2 points)

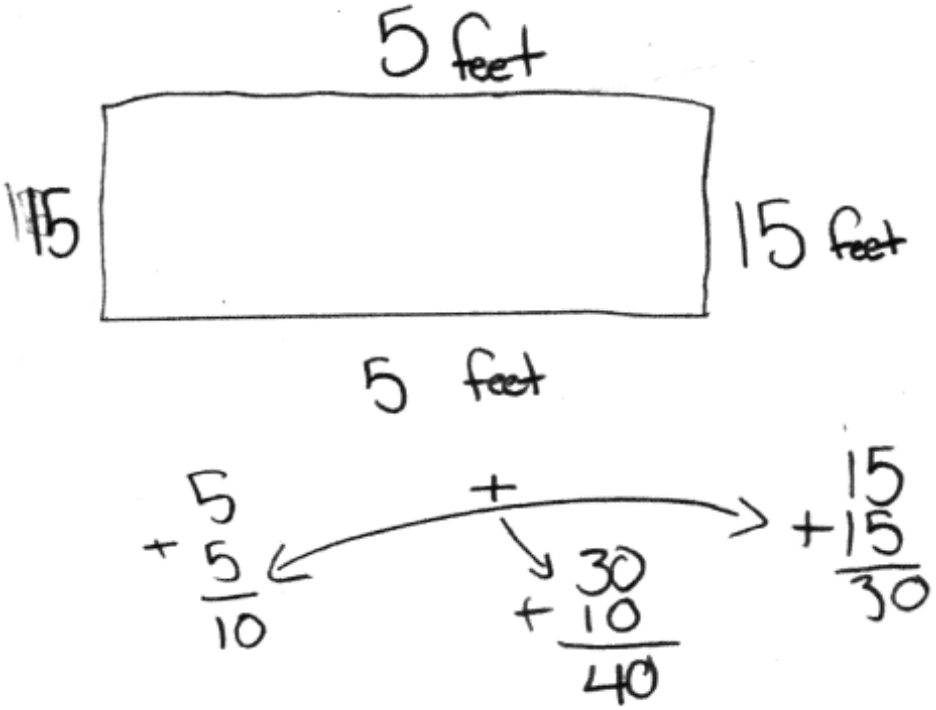
This response demonstrates only a partial understanding of the mathematical concepts in the task. The width of the floor is correctly calculated and used to calculate the correct perimeter of the doghouse; however, an extra exponent is inappropriately added to the solution (16^2). Although the solution is incorrect, an appropriate procedure is applied.

GUIDE PAPER 6

46

The area of a rectangular doghouse floor is 15 square feet. The length of the floor is five feet. What is the perimeter of the floor of the doghouse?

Show your work.



Answer 40 feet

Score Point 1 (out of 2 points)

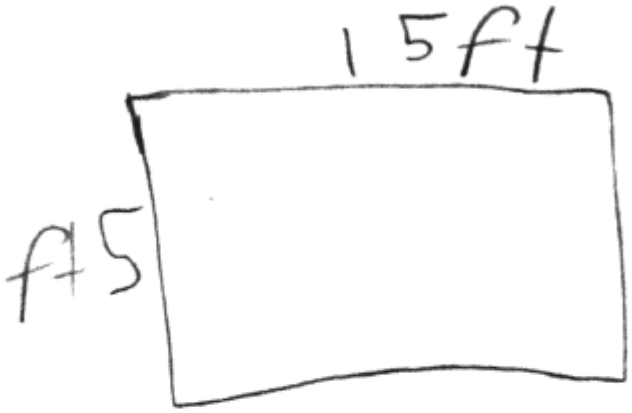
This response demonstrates only a partial understanding of the mathematical concepts in the task. The value 15 is misinterpreted to be the width of the floor rather than the area; however, the perimeter of the doghouse is then appropriately calculated using the incorrect value. The response correctly addresses only some elements of the task.

GUIDE PAPER 7

46

The area of a rectangular doghouse floor is 15 square feet. The length of the floor is five feet. What is the perimeter of the floor of the doghouse?

Show your work.



15
× 5
75

Answer 75 feet

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The value 15 is misinterpreted to be the width of the floor rather than the area and is the multiplied by 5 feet to calculate an area using the incorrect values instead of calculating the perimeter.

GUIDE PAPER 8

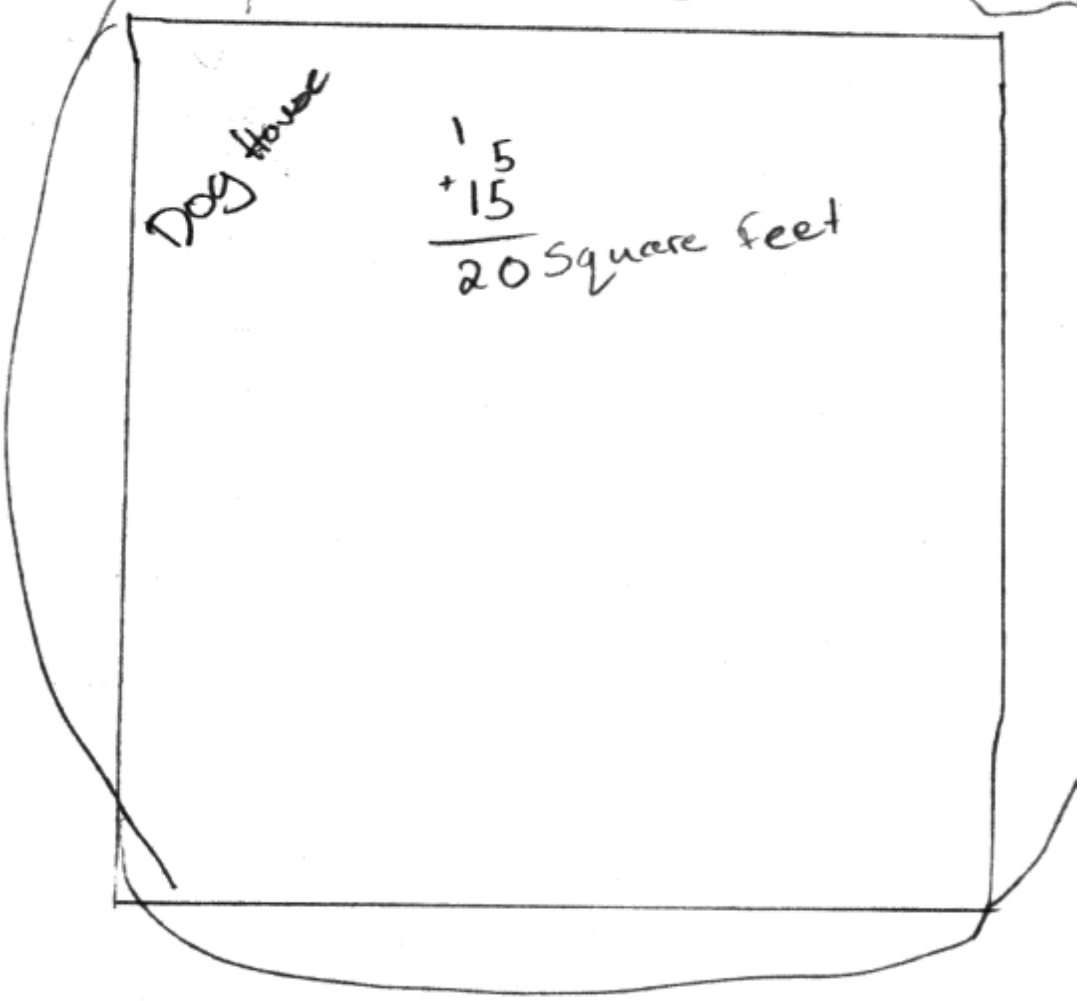
Additional

46

The area of a rectangular doghouse floor is 15 square feet. The length of the floor is five feet. What is the perimeter of the floor of the doghouse?

Show your work.

15 + 5 =



Answer 20 square **feet**

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The values given in the prompt are inappropriately added.

47 Last month, a store sent 2,014 e-mails to customers about sales. The number of e-mails sent the month before was 2,104.

Use one of the symbols <, >, or = to compare the two numbers of e-mails sent. Explain how you used the digits to determine your answer.

Answer

EXEMPLARY RESPONSE

47

Last month, a store sent 2,014 e-mails to customers about sales. The number of e-mails sent the month before was 2,104.

Use one of the symbols <, >, or = to compare the two numbers of e-mails sent. Explain how you used the digits to determine your answer.

Answer

2014 < 2104

The numbers have the same amount of thousands but differ in the digit in the next highest place value, the hundreds. 2104 has 1 hundred; 2014 does not so 2114 is greater than 2014.

Or other valid response

47 Last month, a store sent 2,014 e-mails to customers about sales. The number of e-mails sent the month before was 2,104.

Use one of the symbols <, >, or = to compare the two numbers of e-mails sent. Explain how you used the digits to determine your answer.

Answer

2,014 < 2,104, I looked at the first number which was in the thousands place and they were both 2. The next number had a one and the other had a 0. 1 is greater than 0 so I knew 2,104 was greater than 2,014

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. A correct comparison is shown and the explanation sufficiently discusses the digits in terms of place value.

GUIDE PAPER 2

47 Last month, a store sent 2,014 e-mails to customers about sales. The number of e-mails sent the month before was 2,104.

Use one of the symbols <, >, or = to compare the two numbers of e-mails sent. Explain how you used the digits to determine your answer.

Answer

2,014 (<) 2,104

I saw that both numbers had all of the same digits but the hundreds place was gredter 2,104 than 2,014 which gave me my answer.

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. A correct comparison is shown and the explanation sufficiently discusses the digits in terms of place value. Circling the lesser-than symbol is considered an inconsequential error that does not detract from the response.

GUIDE PAPER 3

47

Last month, a store sent 2,014 e-mails to customers about sales. The number of e-mails sent the month before was 2,104.

Use one of the symbols <, >, or = to compare the two numbers of e-mails sent. Explain how you used the digits to determine your answer.

Answer

2,1047 2,014 because 2,104 has 104 and 2,014 has 014 104>014

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. A correct comparison is shown and although the explanation does not explicitly mention place value, the secondary comparison omitting the thousands place is sufficient to demonstrate understanding of place value.

GUIDE PAPER 4

47

Last month, a store sent 2,014 e-mails to customers about sales. The number of e-mails sent the month before was 2,104.

Use one of the symbols <, >, or = to compare the two numbers of e-mails sent. Explain how you used the digits to determine your answer.

Answer

2,014 is less than 2,104 because if you use < > or = to it will be a smaller number

2,014 < 2,104

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. A correct comparison is shown below the answer blank; however, the explanation does not address place value or how the digits were used. The response correctly addresses only some elements of the task.

GUIDE PAPER 5

47 Last month, a store sent 2,014 e-mails to customers about sales. The number of e-mails sent the month before was 2,104.

Use one of the symbols <, >, or = to compare the two numbers of e-mails sent. Explain how you used the digits to determine your answer.

Answer

2,014<2,104. I used the digits to determin that 2,014 is less than 2,104.

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. A correct comparison is shown; however, the explanation does not address place value or how the digits were used. The response correctly addresses only some elements of the task.

GUIDE PAPER 6

47 Last month, a store sent 2,014 e-mails to customers about sales. The number of e-mails sent the month before was 2,104.

Use one of the symbols <, >, or = to compare the two numbers of e-mails sent. Explain how you used the digits to determine your answer.

Answer

2,014 ⊗ 2,104

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. A correct comparison is shown; however, no explanation is given to address place value or how the digits were used. The response correctly addresses only some elements of the task.

GUIDE PAPER 7

47 Last month, a store sent 2,014 e-mails to customers about sales. The number of e-mails sent the month before was 2,104.

Use one of the symbols <, >, or = to compare the two numbers of e-mails sent. Explain how you used the digits to determine your answer.

Answer

2,014 is greater than 2,104. 2,104 is smaller than 2,014.

Score Point 0 (out of 2 points)

This response does not demonstrate even a limited understanding of the mathematical concepts in the task. An incorrect comparison is made and no symbol is used to make the comparison.

GUIDE PAPER 8

Additional

47

Last month, a store sent 2,014 e-mails to customers about sales. The number of e-mails sent the month before was 2,104.

Use one of the symbols <, >, or = to compare the two numbers of e-mails sent. Explain how you used the digits to determine your answer.

2,014 ⊖ 2,104

Answer

I Put 2,014 and 2,104 are = I because if You see the Numbers they look the same.

Score Point 0 (out of 2 points)

This response does not demonstrate even a limited understanding of the mathematical concepts in the task. An incorrect comparison is made and the response fails to notice the difference in place value of the numeral 1.

48 Mandy shaded the fraction strip below to represent a fraction.

Shade the fraction strip below so that it represents a fraction that is equivalent to Mandy's fraction strip.

Explain how you know your fraction strip is correct.

EXEMPLARY RESPONSE

48 Mandy shaded the fraction strip below to represent a fraction.

Shade the fraction strip below so that it represents a fraction that is equivalent to Mandy's fraction strip.

Explain how you know your fraction strip is correct.

Mandy's fraction strip has $\frac{3}{6}$ shaded which is equivalent to $\frac{1}{2}$.

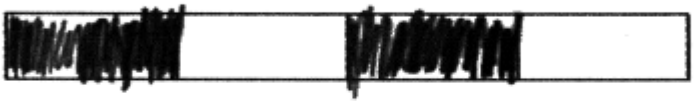
My fraction is $\frac{2}{4}$ which is also equivalent to $\frac{1}{2}$.

OR other equivalent explanation.

48

Mandy shaded the fraction strip below to represent a fraction.

Shade the fraction strip below so that it represents a fraction that is equivalent to Mandy's fraction strip.



Explain how you know your fraction strip is correct.

It is equivalent because the first strip is $\frac{3}{6}$ the second is $\frac{2}{4}$ and when you get them both in simplest form you will get one half. Ex $\frac{3 \div 3}{6 \div 3} \frac{1}{2}$ $\frac{2 \div 2}{4 \div 2} \frac{1}{2}$

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The fraction strip is correctly shaded and the explanation correctly identifies that both fractions reduce to $\frac{1}{2}$.

GUIDE PAPER 2

48

Mandy shaded the fraction strip below to represent a fraction.

$\frac{3}{6}$ 

Shade the fraction strip below so that it represents a fraction that is equivalent to Mandy's fraction strip.

12 12
$\frac{3}{6} = \frac{2}{4}$ 

Explain how you know your fraction strip is correct.

I know the fraction strip is correct because I cross multiplied 3x4=12, and 2x6=12, and 12 and 12 are the same numbers.

(12) (12)
$\frac{3}{6} \times \frac{2}{4}$

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The fraction strip is correctly shaded and the explanation correctly verifies that both fractions are equivalent via cross-multiplication.

GUIDE PAPER 3

48 Mandy shaded the fraction strip below to represent a fraction.

Shade the fraction strip below so that it represents a fraction that is equivalent to Mandy's fraction strip.

Explain how you know your fraction strip is correct.

I know the fraction strip is correct because in my mind I put the three pieces together and it was equivalent to ~~2/4~~.

Score Point 2 (out of 2 points)

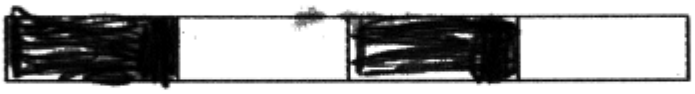
This response demonstrates a thorough understanding of the mathematical concepts in the task. The fraction strip is correctly shaded and the explanation correctly identifies that both fractions are equivalent to $\frac{1}{2}$.

GUIDE PAPER 4

48

Mandy shaded the fraction strip below to represent a fraction.

Shade the fraction strip below so that it represents a fraction that is equivalent to Mandy's fraction strip.



Explain how you know your fraction strip is correct.

On the fraction strip, it has the same pattern as the fraction strip Mandy made.

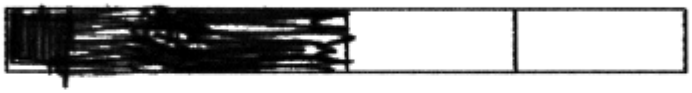
Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The fraction strip is correctly shaded; however, the explanation is incorrect (*it has the same pattern*). The response correctly addresses only some elements of the task.

GUIDE PAPER 5

48 Mandy shaded the fraction strip below to represent a fraction.

Shade the fraction strip below so that it represents a fraction that is equivalent to Mandy's fraction strip.



Explain how you know your fraction strip is correct.

How I know that my answer is correct is because 6÷2=3 so Mandy shaded in 3 and I had to shad in 2 strip because 6÷3=2 That's how I got my answer.

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The fraction strip is correctly shaded; however, the explanation is incorrect (*because 6 ÷ 3 = 2*). The response correctly addresses only some elements of the task.

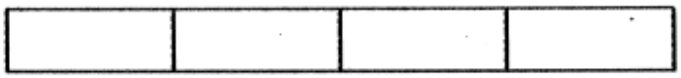
GUIDE PAPER 6

48

Mandy shaded the fraction strip below to represent a fraction.

12 3/6 2/4

Shade the fraction strip below so that it represents a fraction that is equivalent to Mandy's fraction strip.



Explain how you know your fraction strip is correct.

I cros multiplide and I got 12 and 12 So I now it is equale

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The explanation correctly verifies that both fractions are equivalent via cross-multiplication; however, the fraction strip is not shaded. The response correctly addresses only some elements of the task.

GUIDE PAPER 7

48 Mandy shaded the fraction strip below to represent a fraction.

Shade the fraction strip below so that it represents a fraction that is equivalent to Mandy's fraction strip.

Explain how you know your fraction strip is correct.

I know my fraction strip is correct because Mandy shaded in 3, so I shaded in 3. It says equivalent and that means equal.

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The fraction strip is incorrectly shaded and the explanation incorrectly equates only the total number of sections shaded.

GUIDE PAPER 8

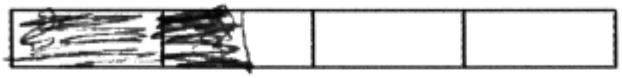
Additional

48

Mandy shaded the fraction strip below to represent a fraction.

1

Shade the fraction strip below so that it represents a fraction that is equivalent to Mandy's fraction strip.



2

Explain how you know your fraction strip is correct.

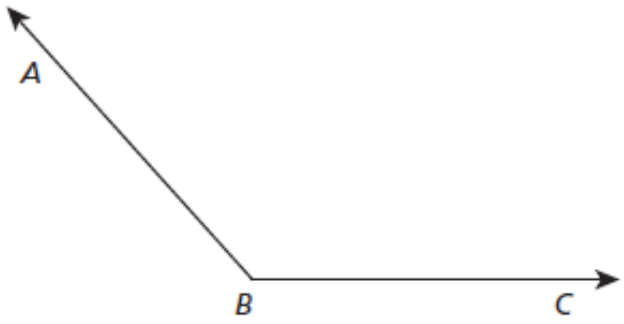
I know the strip is correct because there are three smalls shaded inon the teop bcit the Dotthom is bgger

2

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The fraction strip is incorrectly shaded and the explanation misinterprets the meaning of the size of each section.

49 Joli started with angle *ABC* that measured 132°, as shown below.

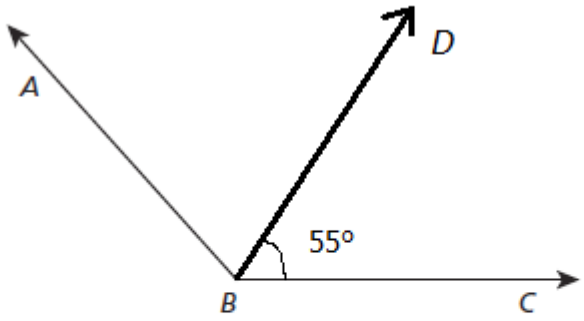


Joli wanted to cut the angle into two smaller angles. Draw and label ray *BD* to cut angle *ABC* into two smaller angles, with angle *DBC* measuring 55°. What is the measure of angle *ABD*?

Answer _____°

EXEMPLARY RESPONSE

49 Joli started with angle *ABC* that measured 132°, as shown below.

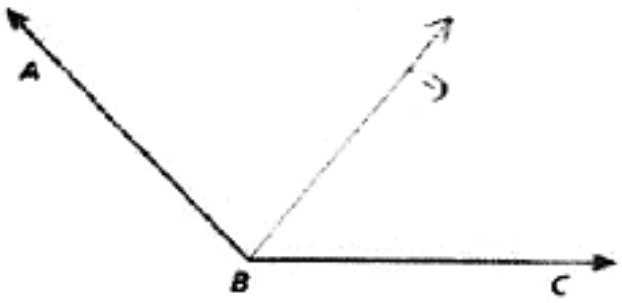


Joli wanted to cut the angle into two smaller angles. Draw and label ray *BD* to cut angle *ABC* into two smaller angles, with angle *DBC* measuring 55°. What is the measure of angle *ABD*?

Answer 77 °

49

Joli started with angle *ABC* that measured 132°, as shown below.



Joli wanted to cut the angle into two smaller angles. Draw and label ray *BD* to cut angle *ABC* into two smaller angles, with angle *DBC* measuring 55°. What is the measure of angle *ABD*?

Answer 77 °

0 12 12
X 3 8

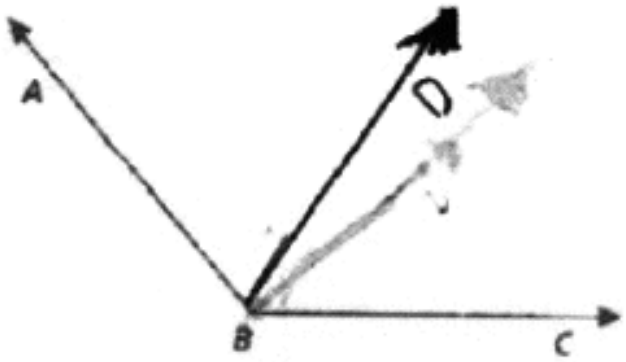
- 55
77

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. Angle DBC is drawn correctly with a measure of 52° and angle ABD is correctly calculated. Any angle DBC drawn within a tolerance of 5° is considered acceptable for credit.

GUIDE PAPER 2

49 Joli started with angle *ABC* that measured 132°, as shown below.



Joli wanted to cut the angle into two smaller angles. Draw and label ray *BD* to cut angle *ABC* into two smaller angles, with angle *DBC* measuring 55°. What is the measure of angle *ABD*?

Answer 77°

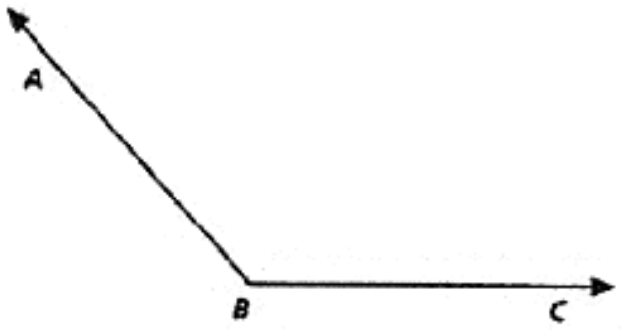
13
132
− 55
77

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. Angle DBC is drawn correctly with a measure of 58° and angle ABD is correctly calculated. Any angle DBC drawn within a tolerance of 5° is considered acceptable for credit.

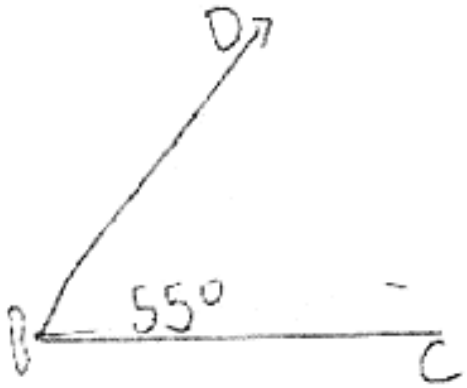
GUIDE PAPER 3

49 Joli started with angle *ABC* that measured 132°, as shown below.



Joli wanted to cut the angle into two smaller angles. Draw and label ray *BD* to cut angle *ABC* into two smaller angles, with angle *DBC* measuring 55°. What is the measure of angle *ABD*?

Answer 77 °

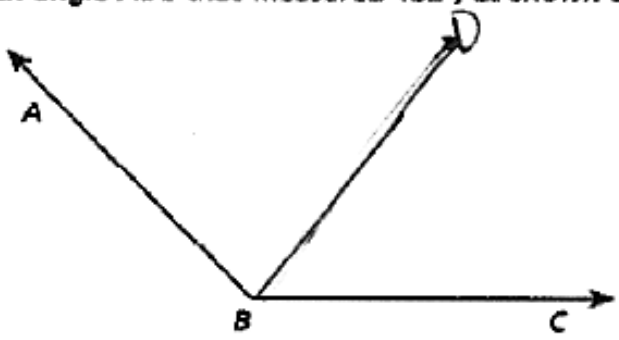


Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. Angle DBC is drawn correctly with a measure of 55° and angle ABD is correctly calculated. Note that it is acceptable for angle DBC to be drawn separate from the diagram provided in the prompt.

GUIDE PAPER 4

49 Joli started with angle *ABC* that measured 132°, as shown below.



Joli wanted to cut the angle into two smaller angles. Draw and label ray *BD* to cut angle *ABC* into two smaller angles, with angle *DBC* measuring 55°. What is the measure of angle *ABD*?

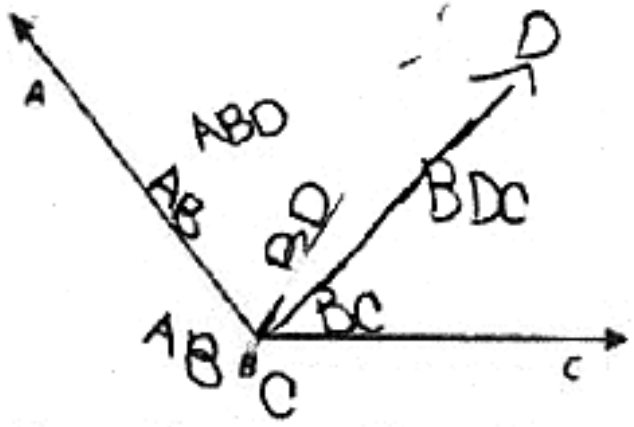
Answer 80.

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. Angle DBC is drawn correctly with a measure of 52°; however, the solution for angle ABD of 80° is incorrect. Any angle DBC drawn within a tolerance of 5° is considered acceptable for credit. The response correctly addresses only some elements of the task.

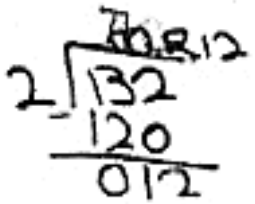
GUIDE PAPER 5

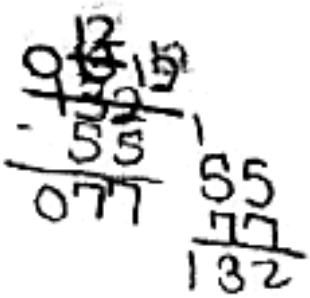
49 Joli started with angle *ABC* that measured 132°, as shown below.



Joli wanted to cut the angle into two smaller angles. Draw and label ray *BD* to cut angle *ABC* into two smaller angles, with angle *DBC* measuring 55°. What is the measure of angle *ABD*?

Answer 77 °.



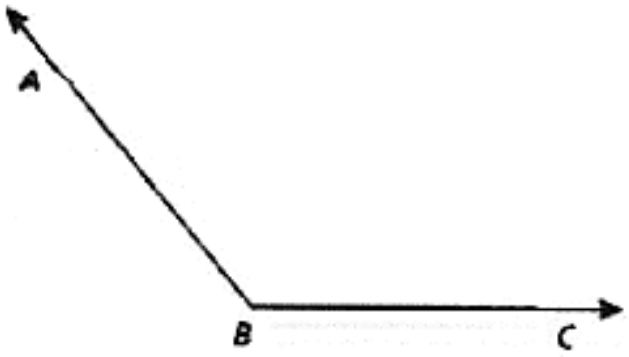


Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. Angle ABD is correctly calculated; however, angle DBC is drawn incorrectly with a measure of 45°, which does not fall within the tolerance of 5°. The response correctly addresses only some elements of the task.

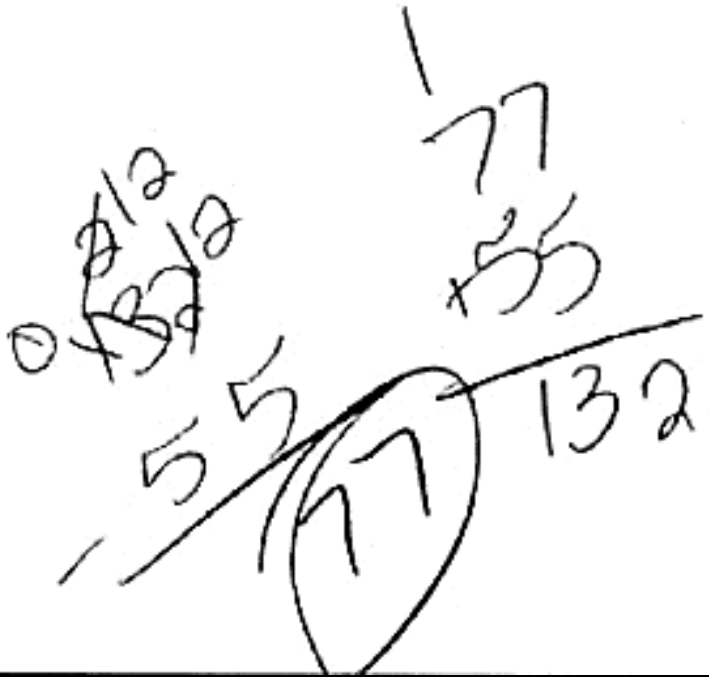
GUIDE PAPER 6

49 Joli started with angle *ABC* that measured 132°, as shown below.



Joli wanted to cut the angle into two smaller angles. Draw and label ray *BD* to cut angle *ABC* into two smaller angles, with angle *DBC* measuring 55°. What is the measure of angle *ABD*?

Answer 77°.



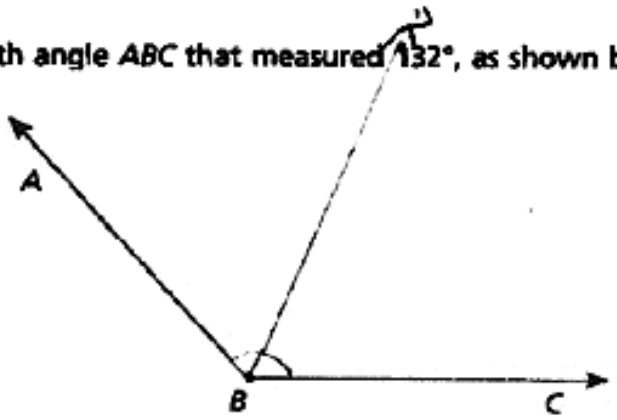
Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. Angle ABD is correctly calculated; however, angle DBC is not drawn. The response addresses only some elements of the task.

GUIDE PAPER 7

49

Joli started with angle *ABC* that measured 132°, as shown below.



Joli wanted to cut the angle into two smaller angles. Draw and label ray *BD* to cut angle *ABC* into two smaller angles, with angle *DBC* measuring 55°. What is the measure of angle *ABD*?

Answer 66.

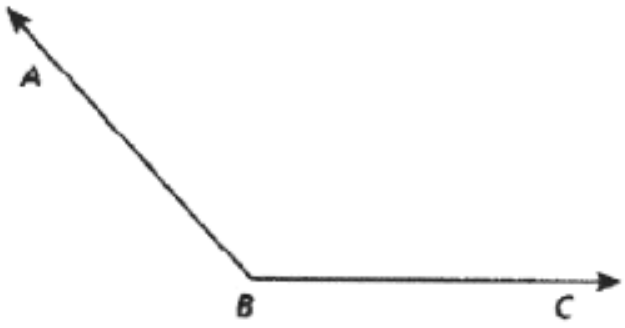
Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Angle DBC is drawn incorrectly with a measure of 66°, which does not fall within the tolerance of 5°. In addition, the solution for angle ABD of 66° is incorrect.

GUIDE PAPER 8

Additional

49 Joli started with angle *ABC* that measured 132°, as shown below.



Joli wanted to cut the angle into two smaller angles. Draw and label ray *BD* to cut angle *ABC* into two smaller angles, with angle *DBC* measuring 55°. What is the measure of angle *ABD*?

Answer 53 °

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The solution for angle ABD of 53° is incorrect and angle DBC is not drawn.

50 A recipe requires $\frac{3}{8}$ cup of sugar for each cup of flour used. If a baker uses 10 cups of flour, what is the total amount of sugar that will be needed?

Show your work.

Answer _____ cup(s)

Between what two whole numbers does your answer lie?

Answer _____ and _____

EXEMPLARY RESPONSE

50

A recipe requires $\frac{3}{8}$ cup of sugar for each cup of flour used. If a baker uses 10 cups of flour, what is the total amount of sugar that will be needed?

Show your work.

$\frac{3}{8} \times 10 = \frac{30}{8} = 3\ ^{6}/_{8} = 3\ ^{3}/_{4}$

OR other valid response

Answer 3 3/4 cup(s)

Between what two whole numbers does your answer lie?

Answer 3 and 4

50

A recipe requires $\frac{3}{8}$ cup of sugar for each cup of flour used. If a baker uses 10 cups of flour, what is the total amount of sugar that will be needed?

Show your work.

$\frac{3}{8} \times 10 = \frac{30}{8}$ $30 \div 8 = 3\frac{6}{8}$ $\frac{6}{8} \div \frac{2}{2} = \frac{3}{4}$

Answer $3\frac{3}{4}$ cup(s)

Between what two whole numbers does your answer lie?

Answer 3 and 4

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The amount of sugar required is calculated correctly and $3\frac{3}{4}$ is correctly placed between 3 and 4.

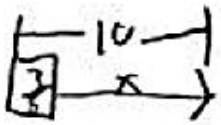
GUIDE PAPER 2

50

A recipe requires $\frac{3}{8}$ cup of sugar for each cup of flour used. If a baker uses 10 cups of flour, what is the total amount of sugar that will be needed?

Show your work.

$\frac{3}{8} \times p = x$



$\frac{3}{8} \times 10 = \frac{3}{8} \times \frac{10}{1} = \frac{30}{8} = 3\frac{6}{8} = 3\frac{3}{4}$

The total amount of sugar needed is $3\frac{3}{4}$ cups.

Answer $3\frac{3}{4}$ cup(s)

Between what two whole numbers does your answer lie?

1 2 (3) (4)

Answer 3 and 4

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The amount of sugar required is calculated correctly and $3\frac{3}{4}$ is correctly placed between 3 and 4.

GUIDE PAPER 3

50

A recipe requires $\frac{3}{8}$ cup of sugar for each cup of flour used. If a baker uses 10 cups of flour, what is the total amount of sugar that will be needed?

Show your work.

$10 \times \frac{3}{8} = \frac{30}{8} =$

(Mixed #)

3 wholes $\frac{6}{8}$

Answer $3\frac{6}{8}$ cup(s)

Between what two whole numbers does your answer lie?

Answer 2 and 4

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The amount of sugar required is calculated correctly and $3\,^{6}/_{8}$ is correctly placed between 2 and 4. Note that it is acceptable for the solution to not be fully reduced to its simplest form and although the expected response in the second part of the problem is 3 and 4, the prompt did not specify that the whole numbers must be consecutive: any two whole numbers are acceptable so long as the answer to the first part lies between them.

GUIDE PAPER 4

50

A recipe requires $\frac{3}{8}$ cup of sugar for each cup of flour used. If a baker uses 10 cups of flour, what is the total amount of sugar that will be needed?

Show your work.

3/8
×10
30/8

3

3/

3/8

Answer 30/8 **cup(s)**

Between what two whole numbers does your answer lie?

Answer 30 **and** 8

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The amount of sugar required is calculated correctly; however, the answer to the second part of the problem is incorrect (the numerator and denominator are copied into the answer blanks). The response correctly addresses only some elements of the task.

GUIDE PAPER 5

50

A recipe requires $\frac{3}{8}$ cup of sugar for each cup of flour used. If a baker uses 10 cups of flour, what is the total amount of sugar that will be needed?

Show your work.

$\frac{3}{8}+\frac{3}{8}+\frac{3}{8}+\frac{3}{8}+\frac{3}{8}+\frac{3}{8}+\frac{3}{8}+\frac{3}{8}+\frac{3}{8}+\frac{3}{8}=\frac{30}{8}=3\frac{6}{8}$

$=4$

Answer 4 cup(s)

Between what two whole numbers does your answer lie?

Answer 3 and 4

Score Point 1 (out of 2 points)

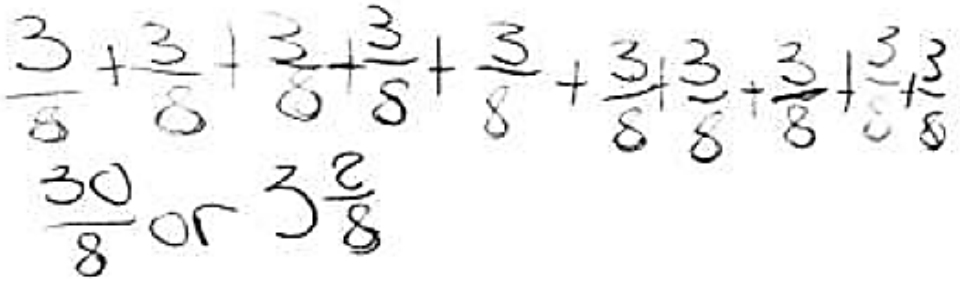
This response demonstrates only a partial understanding of the mathematical concepts in the task. The amount of sugar required is calculated correctly in the work as $^{30}/_{8}$ and is correctly placed between 3 and 4; however, it is incorrectly simplified to $3\,^{8}/_{8}$ resulting in the incorrect solution of 4 cups. The response correctly addresses only some elements of the task.

GUIDE PAPER 6

50

A recipe requires $\frac{3}{8}$ cup of sugar for each cup of flour used. If a baker uses 10 cups of flour, what is the total amount of sugar that will be needed?

Show your work.



$\frac{30}{8}$ or $3\frac{2}{8}$

Answer $3\frac{2}{8}$ cup(s)

Between what two whole numbers does your answer lie?

Answer 3 and 4

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The amount of sugar required is calculated correctly in the work as $^{30}/_{8}$ and is correctly placed between 3 and 4; however, it is incorrectly simplified to $3\,^{2}/_{8}$. The response correctly addresses only some elements of the task.

GUIDE PAPER 7

50

A recipe requires $\frac{3}{8}$ cup of sugar for each cup of flour used. If a baker uses 10 cups of flour, what is the total amount of sugar that will be needed?

Show your work.

$\frac{6}{8} - \frac{10}{8} = \frac{4}{8}$

Answer $\frac{4}{5}$ cup(s)

Between what two whole numbers does your answer lie?

Answer $\frac{3}{8}$ and $\frac{5}{8}$

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Irrelevant numbers are inappropriately subtracted and the values provided in the second part of the problem are not whole numbers.

50

A recipe requires $\frac{3}{8}$ cup of sugar for each cup of flour used. If a baker uses 10 cups of flour, what is the total amount of sugar that will be needed?

Show your work.

$$8\overline{)10}\quad 1\tfrac{2}{8}$$

Answer 1 2/8 cup(s)

Between what two whole numbers does your answer lie?

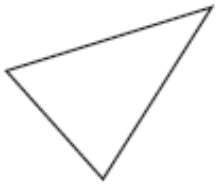
Answer 3/8 and 10

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although the value 10 is appropriately divided by 8 as a part of the correct procedure, it is never multiplied by 3. In addition, one of the values provided in the second part of the problem is not a whole number.

51

Is the triangle below best described as right, acute, or obtuse?



Answer _____

Explain how you know your answer is correct.

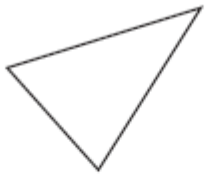
_____

_____

_____

EXEMPLARY RESPONSE

51 Is the triangle below best described as right, acute, or obtuse?



Answer acute

Explain how you know your answer is correct.

All the angles of the triangle are acute angles that measure less than 90°

and there are no right (90°) or obtuse (greater than 90°) angles.

51

Is the triangle below best described as right, acute, or obtuse?

Answer Acute triangle

Explain how you know your answer is correct.

It is an acute triangle because all three corners in the triangle are less than 90°, and if all the corners are less than 90° it has to be an acute triangle.

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The triangle is correctly identified as acute and the explanation is clear and correct. Note that calling the angles "corners" is not preferred, but is acceptable.

GUIDE PAPER 2

51

Is the triangle below best described as right, acute, or obtuse?

Answer Acute

Explain how you know your answer is correct.

All of the angles are Acute. (less than 90 degrees

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The triangle is correctly identified as acute and the explanation is clear and correct.

GUIDE PAPER 3

51 Is the triangle below best described as right, acute, or obtuse?

Answer acute

Explain how you know your answer is correct.

I know my answer is correct because the triangle is less then 90° and an acute angle is less than 90°.

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The triangle is correctly identified as acute and the explanation is clear and correct.

GUIDE PAPER 4

51

Is the triangle below best described as right, acute, or obtuse?

Answer acute

Explain how you know your answer is correct.

I know how my answer is correct because there are no right obtuse angles

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The triangle is correctly identified as acute; however, the explanation is not sufficient. Although it correctly explains there are no right or obtuse angles, it does not discuss the definition of the various types of angles in relation to 90°. The response correctly addresses only some elements of the task.

GUIDE PAPER 5

51

Is the triangle below best described as right, acute, or obtuse?

Answer acute

Explain how you know your answer is correct.

I know my answer is correct because a right triangle, you can put a square in and obtuse tringle has a bigger width.

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The triangle is correctly identified as acute; however, the explanation is not sufficient. It is not clear what is meant by *"put a square in"* or what obtuse triangles have *"a bigger width"* than. The response correctly addresses only some elements of the task.

GUIDE PAPER 6

51

Is the triangle below best described as right, acute, or obtuse?

Answer acute

Explain how you know your answer is correct.

When I Measured it was small

Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The triangle is correctly identified as acute; however, the explanation does not sufficiently define acute angles as less than 90°.

GUIDE PAPER 7

51 Is the triangle below best described as right, acute, or obtuse?

Answer Right

Explain how you know your answer is correct.

I pick right because it is facing the right side.

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The triangle is incorrectly identified as right and the explanation is incorrect and does not provide adequate support for the incorrect choice.

GUIDE PAPER 8

Additional

51

Is the triangle below best described as right, acute, or obtuse?

Answer obtuse

Explain how you know your answer is correct.

I know it is right because The triangle looks like a ramp.

Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The triangle is incorrectly identified as obtuse and the explanation is incorrect and does not provide adequate support for the incorrect choice.

52 Reggie read a 400-page book in 5 days. On the first day, he read 120 pages. Each day after that, he read the same number of pages, p.

Write an equation that can be used to determine the number of pages, p, read on each day after the first day.

Answer _____

Using your equation, determine the number of pages Reggie read each day after the first day.

Show your work.

Answer _____ pages per day

EXEMPLARY RESPONSE

52

Reggie read a 400-page book in 5 days. On the first day, he read 120 pages. Each day after that, he read the same number of pages, p.

Write an equation that can be used to determine the number of pages, p, read on each day after the first day.

Answer $400 = 120 + 4p$ OR $400 - 120 = 4p$

OR other valid response

Using your equation, determine the number of pages Reggie read each day after the first day.

Show your work.

$400 - 120 = 280$
$280 = 4p$
$p = 280 \div 4$
$p = 70$

or other valid process

Answer 70 pages per day

52

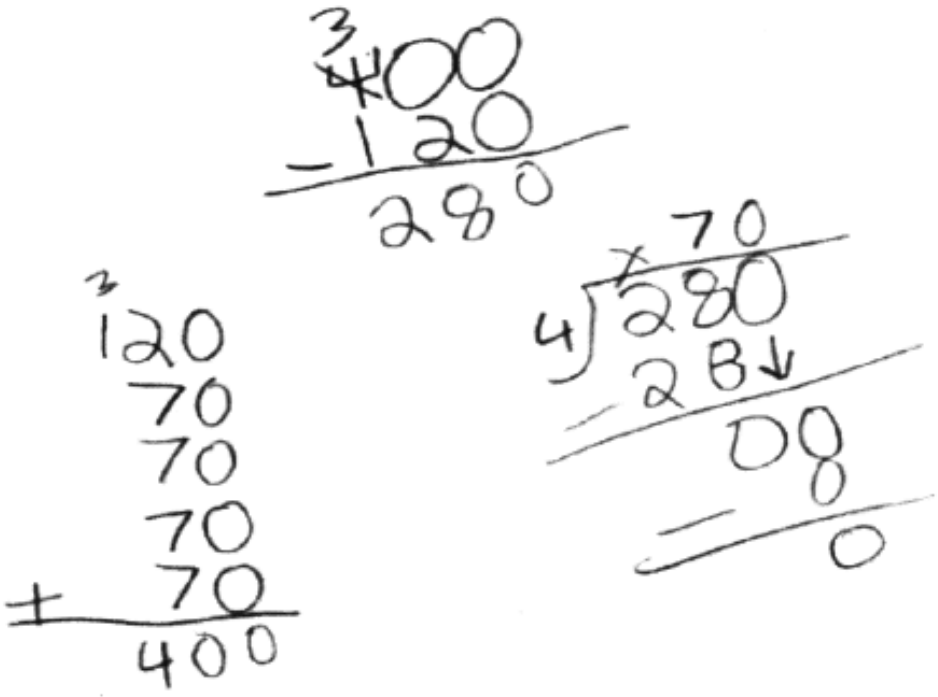
Reggie read a 400-page book in 5 days. On the first day, he read 120 pages. Each day after that, he read the same number of pages, p.

Write an equation that can be used to determine the number of pages, p, read on each day after the first day.

Answer $(400-120)\div 4=P$

Using your equation, determine the number of pages Reggie read each day after the first day.

Show your work.



Answer 70 pages per day

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. An appropriate equation is written and correctly solved to arrive at the correct solution.

GUIDE PAPER 2

52

Reggie read a 400-page book in 5 days. On the first day, he read 120 pages. Each day after that, he read the same number of pages, p.

Write an equation that can be used to determine the number of pages, p, read on each day after the first day. (400 - 120) ÷ 4 = p

Answer $\frac{400-120}{4} = p$

Using your equation, determine the number of pages Reggie read each day after the first day.

Show your work.

5 n
400
- 120
280

280 ÷ 4 = 70

Answer 70 pages per day

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. An appropriate equation is written and correctly solved to arrive at the correct solution.

GUIDE PAPER 3

52

Reggie read a 400-page book in 5 days. On the first day, he read 120 pages. Each day after that, he read the same number of pages, p.

Write an equation that can be used to determine the number of pages, p, read on each day after the first day.

Answer $(P \times 4) + 120 = 400$

Using your equation, determine the number of pages Reggie read each day after the first day.

Show your work.

$(P \times 4) + 120 = 400$ Pages

$80 \times 4 = 320$

$+ 120$

440

$60 \times 4 = 240$

$+ 120$

360

$70 \times 4 = 280$

$+ 120$

400

$P = 70$ pages

Answer 70 pages per day

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. An appropriate equation is written and correctly solved to arrive at the correct solution.

GUIDE PAPER 4

52

Reggie read a 400-page book in 5 days. On the first day, he read 120 pages. Each day after that, he read the same number of pages, p.

Write an equation that can be used to determine the number of pages, p, read on each day after the first day.

Answer 400−120=280 280÷4=p

Using your equation, determine the number of pages Reggie read each day after the first day.

Show your work.

3 4 0 0
− 1 2 0
2 8 0

70+70+70+70=280

Answer 70 pages per day

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. A correct solution is calculated using an appropriate procedure; however, two equations are written piecewise rather than being combined into a single equation. The response correctly addresses most, but not all aspects of the task.

GUIDE PAPER 5

52

Reggie read a 400-page book in 5 days. On the first day, he read 120 pages. Each day after that, he read the same number of pages, p.

Write an equation that can be used to determine the number of pages, p, read on each day after the first day.

Answer 400 − 120 = 280

Using your equation, determine the number of pages Reggie read each day after the first day.

Show your work.

400 − 120 = 280

4 ⟌ 280

− 28

00

− 0

0

Answer 70 pages per day

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. A correct solution is calculated using an appropriate procedure; however, only some of the work is written in the first answer blank (400 − 120 = 280) and no equation using a variable is provided. The response correctly addresses most, but not all aspects of the task.

GUIDE PAPER 6

52

Reggie read a 400-page book in 5 days. On the first day, he read 120 pages. Each day after that, he read the same number of pages, p.

Write an equation that can be used to determine the number of pages, p, read on each day after the first day.

Answer $120+70+70+70+70=400$

Using your equation, determine the number of pages Reggie read each day after the first day.

Show your work.

120

$$\begin{array}{r} 400 \\ -\ 120 \\ \hline 280 \end{array}$$

$$4\overline{)280}\quad 70,\ -28,\ 00$$

$$\begin{array}{r} 70 \\ \times\ 4 \\ \hline 280 \end{array}$$

Answer 70 pages per day

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. A correct solution is calculated using an appropriate procedure; however, only a check on the work is written in the first answer blank ($120 + 70 + \ldots = 400$) and no equation using a variable is provided. The response correctly addresses most, but not all aspects of the task.

GUIDE PAPER 7

52

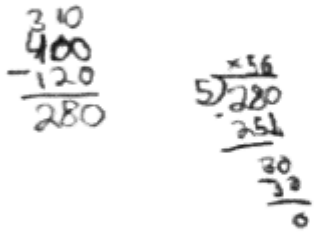
Reggie read a 400-page book in 5 days. On the first day, he read 120 pages. Each day after that, he read the same number of pages, p.

Write an equation that can be used to determine the number of pages, p, read on each day after the first day.

Answer 400 - 120 ÷ 5 = p

Using your equation, determine the number of pages Reggie read each day after the first day.

Show your work.



Answer 56 pages per day

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The equation provided is incorrect ($400 - 120 \div 5 = p$); however, the solution of 56 pages is correct for the work based on the initial error in the equation. Note that in addition to incorrectly dividing by 5, the equation also fails to properly enclose the quantity $400 - 120$ in parentheses: had the parentheses been included, this response may have earned a Score Point of 2. As written, however, the response addresses only some elements of the task correctly.

GUIDE PAPER 8

Additional

52

Reggie read a 400-page book in 5 days. On the first day, he read 120 pages. Each day after that, he read the same number of pages, p.

Write an equation that can be used to determine the number of pages, p, read on each day after the first day.

Answer 400-120=___ ___÷4=___

Using your equation, determine the number of pages Reggie read each day after the first day.

Show your work.

310
400
-120
280

70
4|280
-28
00
-0
0

Check
70
x 4
280✓

Answer:
70

After the first day Reggie read (70) pages per day for the next five days.

Answer 70 pages per day

Score Point 1 (out of 3 points)

This response demonstrates a limited understanding of the mathematical concepts in the task. A correct solution is calculated using an appropriate procedure; however, rather than a single equation using the variable p, two expressions are written piecewise using blank underlines for unknown values (400 − 120 = ___ ; ___ ÷ 4 = ___). The response correctly addresses some elements of the task, but reflects a lack of understanding of algebraic variables.

GUIDE PAPER 9

52

Reggie read a 400-page book in 5 days. On the first day, he read 120 pages. Each day after that, he read the same number of pages, p.

Write an equation that can be used to determine the number of pages, p, read on each day after the first day.

Answer 95 pages

Using your equation, determine the number of pages Reggie read each day after the first day.

Show your work.

$$\begin{array}{r} {}^{1}\cancel{4}{}^{1}\cancel{0}0 \\ -120 \\ \hline 380 \end{array}$$

$$\begin{array}{r} 95 \\ 4\overline{)380} \\ -36 \\ \hline 20 \\ -20 \\ \hline 0 \end{array}$$

$$\begin{array}{r} {}^{2} \\ 95 \\ \times\ 4 \\ \hline 380 \\ +120 \\ \hline 500 \end{array}$$

Answer 95 pages per day

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. An appropriate procedure is used to calculate the number of pages Reggie read each day; however, a calculation error ($400 - 120 = 380$) results in an incorrect solution (95 pages). In addition, this solution is merely repeated in the first answer blank rather than an equation written using a variable. The response addresses some elements of the task correctly but reaches an inadequate solution.

GUIDE PAPER 10

52 Reggie read a 400-page book in 5 days. On the first day, he read 120 pages. Each day after that, he read the same number of pages, p.

Write an equation that can be used to determine the number of pages, p, read on each day after the first day.

Answer 400 − 120

Using your equation, determine the number of pages Reggie read each day after the first day.

Show your work.

3 10
~~4~~ ~~0~~ 0
−120
280

Answer 280 pages per day

Score Point 0 (out of 3 points)

Although an appropriate and correct first step of the work is provided, it is incorrectly taken as the solution. Holistically, this procedure alone is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task.

52

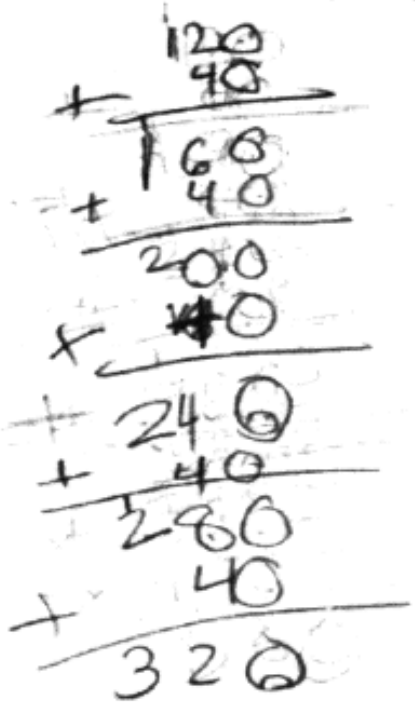
Reggie read a 400-page book in 5 days. On the first day, he read 120 pages. Each day after that, he read the same number of pages, p.

Write an equation that can be used to determine the number of pages, p, read on each day after the first day.

Answer $120 + \_\_\_\_ = 400$

Using your equation, determine the number of pages Reggie read each day after the first day.

Show your work.



Answer 30 pages per day

Score Point 0 (out of 3 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Both the solution of 30 pages and the equation provided are incorrect. In addition the work is incorrect and does not support either the equation or the solution.

53 The Corner Ice Cream Shop has three different types of toppings. The amounts shown below were on the shelf at the end of the day on Monday.

- $\frac{7}{8}$ gallon chocolate sauce
- $\frac{3}{8}$ gallon strawberry sauce
- $\frac{4}{8}$ gallon caramel sauce

On Tuesday, the shop used $\frac{3}{8}$ gallon of chocolate sauce, $\frac{1}{8}$ gallon of strawberry sauce, and $\frac{2}{8}$ gallon of caramel sauce. What was the total amount of toppings, in gallons, remaining at the end of the day on Tuesday?

Show your work.

Answer _____ gallon(s)

EXEMPLARY RESPONSE

53

The Corner Ice Cream Shop has three different types of toppings. The amounts shown below were on the shelf at the end of the day on Monday.

- $\frac{7}{8}$ gallon chocolate sauce
- $\frac{3}{8}$ gallon strawberry sauce
- $\frac{4}{8}$ gallon caramel sauce

On Tuesday, the shop used $\frac{3}{8}$ gallon of chocolate sauce, $\frac{1}{8}$ gallon of strawberry sauce, and $\frac{2}{8}$ gallon of caramel sauce. What was the total amount of toppings, in gallons, remaining at the end of the day on Tuesday?

Show your work.

Left on Monday Total

$7/8 + 3/8 + 4/8 = 14/8$

Used on Tuesday Total

$3/8 + 1/8 + 2/8 = 6/8$

Remaining on Tuesday

$14/8 - 6/8 = 8/8 = 1$

OR

Chocolate

$7/8 - 3/8 = 4/8$

Strawberry

$3/8 - 1/8 = 2/8$

Caramel

$4/8 - 2/8 = 2/8$

Total

$4/8 + 2/8 + 2/8 = 8/8 = 1$

OR other valid response

Answer 1 gallon(s)

53

The Corner Ice Cream Shop has three different types of toppings. The amounts shown below were on the shelf at the end of the day on Monday.

- $\frac{7}{8}$ gallon chocolate sauce
- $\frac{3}{8}$ gallon strawberry sauce
- $\frac{4}{8}$ gallon caramel sauce

On Tuesday, the shop used $\frac{3}{8}$ gallon of chocolate sauce, $\frac{1}{8}$ gallon of strawberry sauce, and $\frac{2}{8}$ gallon of caramel sauce. What was the total amount of toppings, in gallons, remaining at the end of the day on Tuesday?

Show your work.

Monday - $\frac{7}{8}$ C.S. Tuesday - $\frac{7}{8} - \frac{3}{8} = \frac{4}{8}$ CS

$\frac{3}{8}$ S.S. $\frac{3}{8} - \frac{1}{8} = \frac{2}{8}$ SS

$\frac{4}{8}$ Ca.S $\frac{4}{8} - \frac{2}{8} = \frac{2}{8}$ CS

$\frac{4}{8} + \frac{2}{8} + \frac{2}{8} = \frac{8}{8}$

$=$

1 gallon

Answer 1 gallon(s)

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The amount of each topping left at the end of the day on Tuesday is calculated correctly and the amounts are then correctly added to determine the total.

GUIDE PAPER 2

53

The Corner Ice Cream Shop has three different types of toppings. The amounts shown below were on the shelf at the end of the day on Monday.

- $\frac{7}{8}$ gallon chocolate sauce
- $\frac{3}{8}$ gallon strawberry sauce
- $\frac{4}{8}$ gallon caramel sauce

On Tuesday, the shop used $\frac{3}{8}$ gallon of chocolate sauce, $\frac{1}{8}$ gallon of strawberry sauce, and $\frac{2}{8}$ gallon of caramel sauce. What was the total amount of toppings, in gallons, remaining at the end of the day on Tuesday?

Show your work.

$\frac{7}{8} + \frac{3}{8} = \frac{10}{8}$ $\frac{3}{8} + \frac{1}{8} = \frac{4}{8}$ $\frac{14}{8} - \frac{6}{8} = \frac{8}{8}$

$\frac{10}{8} + \frac{4}{8} = \frac{14}{8}$ $\frac{4}{8} + \frac{2}{8} = \frac{6}{8}$ $\frac{8}{8} = 1$ gallon

Answer 1 gallon(s)

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The total amount of toppings left at the end of the day on Monday is correctly calculated and the amount of toppings used on Tuesday is correctly subtracted from the Monday total to determine the total amount of toppings remaining.

GUIDE PAPER 3

53

The Corner Ice Cream Shop has three different types of toppings. The amounts shown below were on the shelf at the end of the day on Monday.

- $\frac{7}{8}$ gallon chocolate sauce
- $\frac{3}{8}$ gallon strawberry sauce
- $\frac{4}{8}$ gallon caramel sauce

On Tuesday, the shop used $\frac{3}{8}$ gallon of chocolate sauce, $\frac{1}{8}$ gallon of strawberry sauce, and $\frac{2}{8}$ gallon of caramel sauce. What was the total amount of toppings, in gallons, remaining at the end of the day on Tuesday?

Show your work.

CS - $\frac{7}{8} - \frac{3}{8} = \frac{4}{8}$

SS - $\frac{3}{8} - \frac{1}{8} = \frac{2}{8}$

CS - $\frac{4}{8} - \frac{2}{8} = \frac{2}{8}$

$\frac{2}{8} + \frac{2}{8} + \frac{4}{8} = \frac{8}{8}$

Answer $\frac{8}{8}$ gallon(s)

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The amount of each topping left at the end of the day on Tuesday is calculated correctly and the amounts are then correctly added to determine the total.

GUIDE PAPER 4

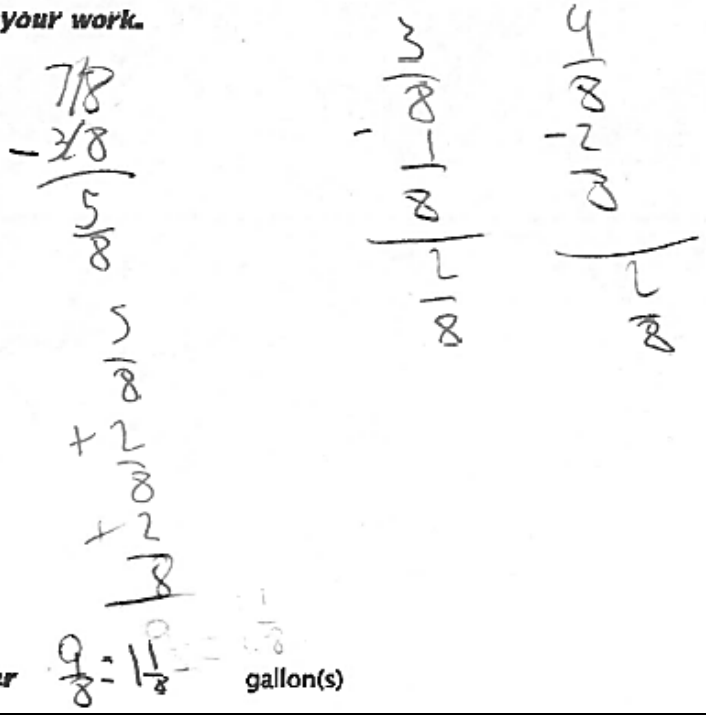
53

The Corner Ice Cream Shop has three different types of toppings. The amounts shown below were on the shelf at the end of the day on Monday.

- $\frac{7}{8}$ gallon chocolate sauce
- $\frac{3}{8}$ gallon strawberry sauce
- $\frac{4}{8}$ gallon caramel sauce

On Tuesday, the shop used $\frac{3}{8}$ gallon of chocolate sauce, $\frac{1}{8}$ gallon of strawberry sauce, and $\frac{2}{8}$ gallon of caramel sauce. What was the total amount of toppings, in gallons, remaining at the end of the day on Tuesday?

Show your work.



Answer $\frac{9}{8} = 1\frac{1}{8}$ gallon(s)

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The response follows a correct procedure to determine the amount of each topping, and the total amount of toppings left at the end of the day on Tuesday; however, an error occurs when calculating the amount of chocolate topping left on Tuesday ($^7\!/_8 - {}^3\!/_8 = {}^5\!/_8$), resulting in an incorrect final answer. The response correctly addresses most, but not all aspects of the task.

GUIDE PAPER 5

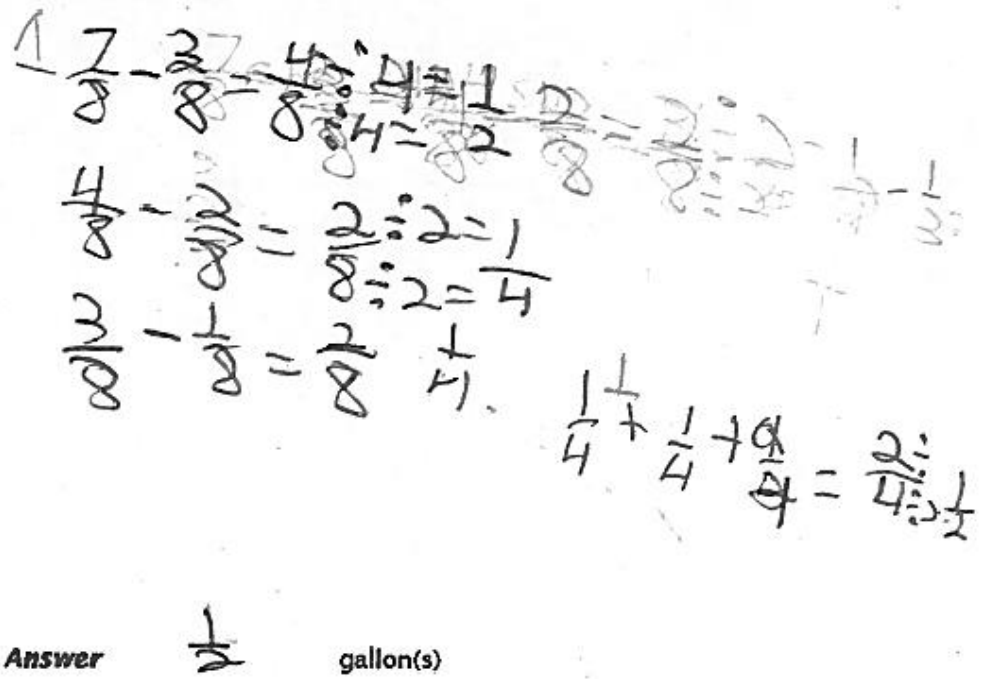
53

The Corner Ice Cream Shop has three different types of toppings. The amounts shown below were on the shelf at the end of the day on Monday.

- $\frac{7}{8}$ gallon chocolate sauce
- $\frac{3}{8}$ gallon strawberry sauce
- $\frac{4}{8}$ gallon caramel sauce

On Tuesday, the shop used $\frac{3}{8}$ gallon of chocolate sauce, $\frac{1}{8}$ gallon of strawberry sauce, and $\frac{2}{8}$ gallon of caramel sauce. What was the total amount of toppings, in gallons, remaining at the end of the day on Tuesday?

Show your work.



Answer $\frac{1}{2}$ gallon(s)

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The amount of each topping left at the end of the day on Tuesday is calculated correctly; however, when adding to determine the total only two of the toppings are added, resulting in an incorrect solution. The response correctly addresses most, but not all aspects of the task.

GUIDE PAPER 6

53

The Corner Ice Cream Shop has three different types of toppings. The amounts shown below were on the shelf at the end of the day on Monday.

- $\frac{7}{8}$ gallon chocolate sauce
- $\frac{3}{8}$ gallon strawberry sauce
- $\frac{4}{8}$ gallon caramel sauce

$\frac{7}{8} + \frac{4}{8} = \frac{11}{8} = 1\frac{3}{8}$

$1\frac{3}{8} + \frac{4}{8} = 1\frac{7}{8}$

On Tuesday, the shop used $\frac{3}{8}$ gallon of chocolate sauce, $\frac{1}{8}$ gallon of strawberry sauce, and $\frac{2}{8}$ gallon of caramel sauce. What was the total amount of toppings, in gallons, remaining at the end of the day on Tuesday?

Show your work.

mon $= 1\frac{7}{8}$

$\frac{3}{8} + \frac{2}{8} = \frac{5}{8} + \frac{1}{8} = \frac{6}{8}$

$1\frac{7}{8} - \frac{6}{8} = 1\frac{1}{8}$

Answer $1\frac{1}{8}$ gallon(s)

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The total amount of toppings used on Tuesday are calculated correctly and is correctly subtracted from the amount of toppings left on Monday; however, an error is made when calculating the Monday total (the value $\frac{4}{8}$ is mistakenly added a second time rather than adding $\frac{3}{8}$), resulting in an incorrect solution. The response correctly addresses most, but not all aspects of the task.

GUIDE PAPER 7

53

The Corner Ice Cream Shop has three different types of toppings. The amounts shown below were on the shelf at the end of the day on Monday.

- $\frac{7}{8}$ gallon chocolate sauce
- $\frac{3}{8}$ gallon strawberry sauce
- $\frac{4}{8}$ gallon caramel sauce

On Tuesday, the shop used $\frac{3}{8}$ gallon of chocolate sauce, $\frac{1}{8}$ gallon of strawberry sauce, and $\frac{2}{8}$ gallon of caramel sauce. What was the total amount of toppings, in gallons, remaining at the end of the day on Tuesday?

Show your work.

$\frac{3}{8} + \frac{2}{8} + \frac{1}{8}$

Answer $\frac{6}{8}$ gallon(s)

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. Only the total amount of toppings used on Tuesday is calculated: no attempt is made to subtract this value from the amount left on Monday. The response addresses only some elements of the task.

GUIDE PAPER 8

Additional

53

The Corner Ice Cream Shop has three different types of toppings. The amounts shown below were on the shelf at the end of the day on Monday.

- $\frac{7}{8}$ gallon chocolate sauce
- $\frac{3}{8}$ gallon strawberry sauce
- $\frac{4}{8}$ gallon caramel sauce

On Tuesday, the shop used $\frac{3}{8}$ gallon of chocolate sauce, $\frac{1}{8}$ gallon of strawberry sauce, and $\frac{2}{8}$ gallon of caramel sauce. What was the total amount of toppings, in gallons, remaining at the end of the day on Tuesday?

Show your work.

Ch $\frac{7}{8} - \frac{3}{8} = \frac{4}{8}$

S $\frac{3}{8} - \frac{1}{8} = \frac{2}{8}$

C $\frac{4}{8} - \frac{2}{8} = \frac{2}{8}$

$\frac{4}{8} - \frac{2}{8} = \frac{2}{8}$

$\frac{2}{8} - \frac{2}{8} = \frac{0}{8}$

Answer $\frac{0}{8}$ gallon(s)

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The amount of each topping left at the end of the day on Tuesday is calculated correctly; however, an incorrect procedure is then used to determine the total amount of toppings left. The amounts of caramel and strawberry toppings are inappropriately subtracted from the amount of chocolate topping, resulting in incorrect answer. The response correctly addresses some elements of the task. but reflects a lack of understanding.

GUIDE PAPER 9

53

The Corner Ice Cream Shop has three different types of toppings. The amounts shown below were on the shelf at the end of the day on Monday.

- $\frac{7}{8}$ gallon chocolate sauce
- $\frac{3}{8}$ gallon strawberry sauce
- $\frac{4}{8}$ gallon caramel sauce

On Tuesday, the shop used $\frac{3}{8}$ gallon of chocolate sauce, $\frac{1}{8}$ gallon of strawberry sauce, and $\frac{2}{8}$ gallon of caramel sauce. What was the total amount of toppings, in gallons, remaining at the end of the day on Tuesday?

Show your work.

$\frac{7}{8} + \frac{3}{8} + \frac{4}{8} = \frac{14}{8}$

Answer $\frac{14}{8}$ gallon(s)

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The response only determines the total amount of toppings left on Monday; no attempt is made to subtract the amount of topping used on Tuesday from this value. The response addresses only some elements of the task.

GUIDE PAPER 10

53

The Corner Ice Cream Shop has three different types of toppings. The amounts shown below were on the shelf at the end of the day on Monday.

- $\frac{7}{8}$ gallon chocolate sauce Tuesday
- $\frac{3}{8}$ gallon strawberry sauce
- $\frac{4}{8}$ gallon caramel sauce

On Tuesday, the shop used $\frac{3}{8}$ gallon of chocolate sauce, $\frac{1}{8}$ gallon of strawberry sauce, and $\frac{2}{8}$ gallon of caramel sauce. What was the total amount of toppings, in gallons, remaining at the end of the day on Tuesday?

Show your work.

$\frac{7}{8} \times \frac{3}{8} = \frac{21}{8}$

$\frac{21}{8} \times \frac{4}{8} = \frac{84}{8}$

Answer $\frac{84}{8}$ gallon(s)

Score Point 0 (out of 3 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The amounts of each topping left on Monday are inappropriately multiplied.

53

The Corner Ice Cream Shop has three different types of toppings. The amounts shown below were on the shelf at the end of the day on Monday.

- $\frac{7}{8}$ gallon chocolate sauce
- $\frac{3}{8}$ gallon strawberry sauce
- $\frac{4}{8}$ gallon caramel sauce

On Tuesday, the shop used $\frac{3}{8}$ gallon of chocolate sauce, $\frac{1}{8}$ gallon of strawberry sauce, and $\frac{2}{8}$ gallon of caramel sauce. What was the total amount of toppings, in gallons, remaining at the end of the day on Tuesday?

Show your work.

$\frac{7}{8}$

$\frac{7}{16}$

Answer gallon(s)

Score Point 0 (out of 3 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The answer is incorrect and no work is provided.

54 There will be 45 adults going to a museum. There will be twice as many students as adults. Adult tickets cost $25 each. Student tickets cost $12 each.

What is the total cost for the students and adults?

Show your work.

Answer $_____

EXEMPLARY RESPONSE

54 There will be 45 adults going to a museum. There will be twice as many students as adults. Adult tickets cost $25 each. Student tickets cost $12 each.

What is the total cost for the students and adults?

Show your work.

$2 \times 45 = 90$

$\$25 \times 45 = \$1125$
$\$12 \times 90 = \$1080$
$\$1125 + \$1080 = \$2205$

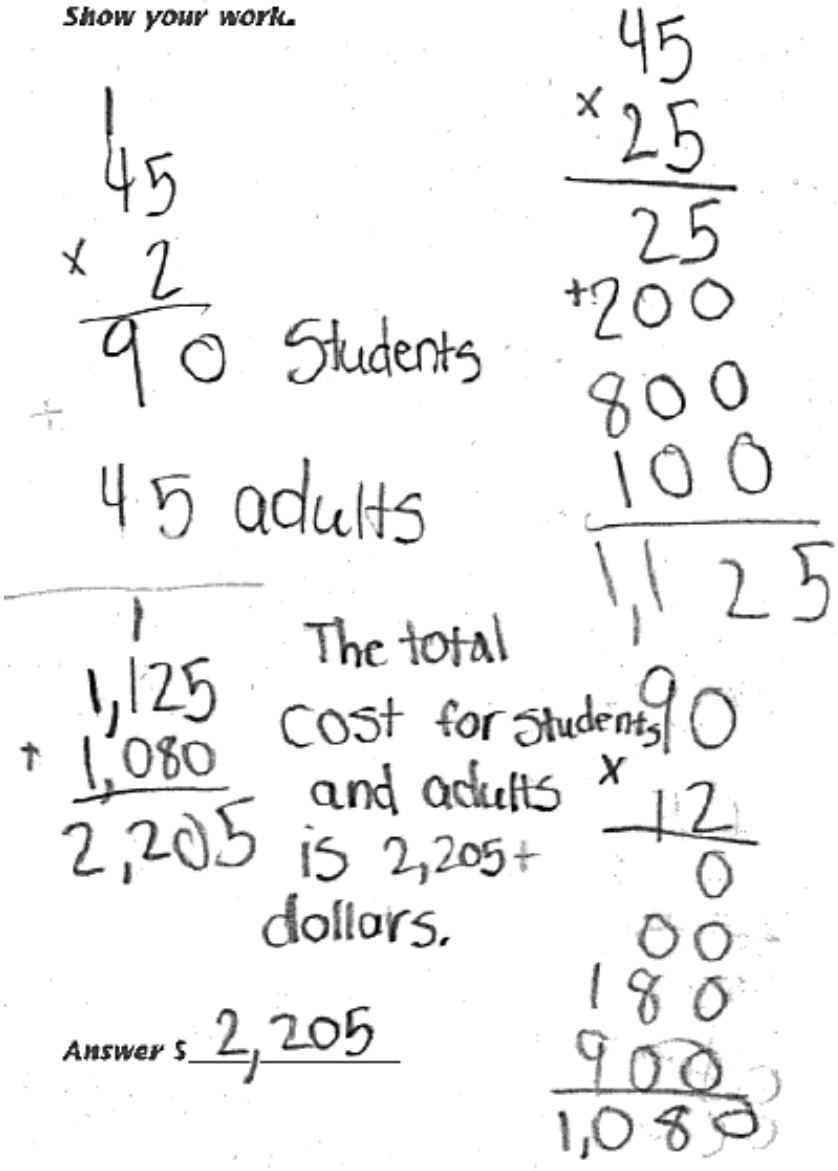
Answer $ 2205

54

There will be 45 adults going to a museum. There will be twice as many students as adults. Adult tickets cost $25 each. Student tickets cost $12 each.

What is the total cost for the students and adults?

Show your work.



Answer $ 2,205

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The work correctly calculates both the total cost for adults and the total cost for students then adds them together to determine the overall total.

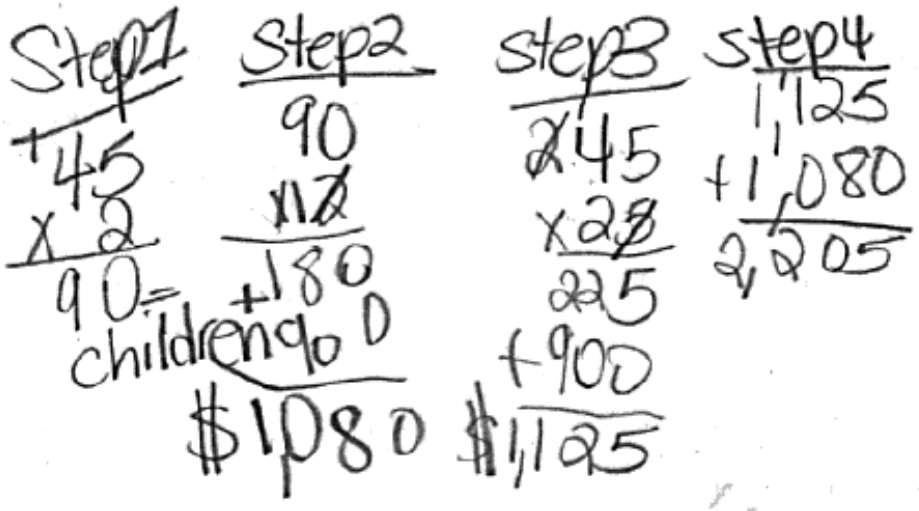
GUIDE PAPER 2

54

There will be 45 adults going to a museum. There will be twice as many students as adults. Adult tickets cost $25 each. Student tickets cost $12 each.

What is the total cost for the students and adults?

Show your work.



Answer $ 2,205

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The work correctly calculates both the total cost for adults and the total cost for students then adds them together to determine the overall total.

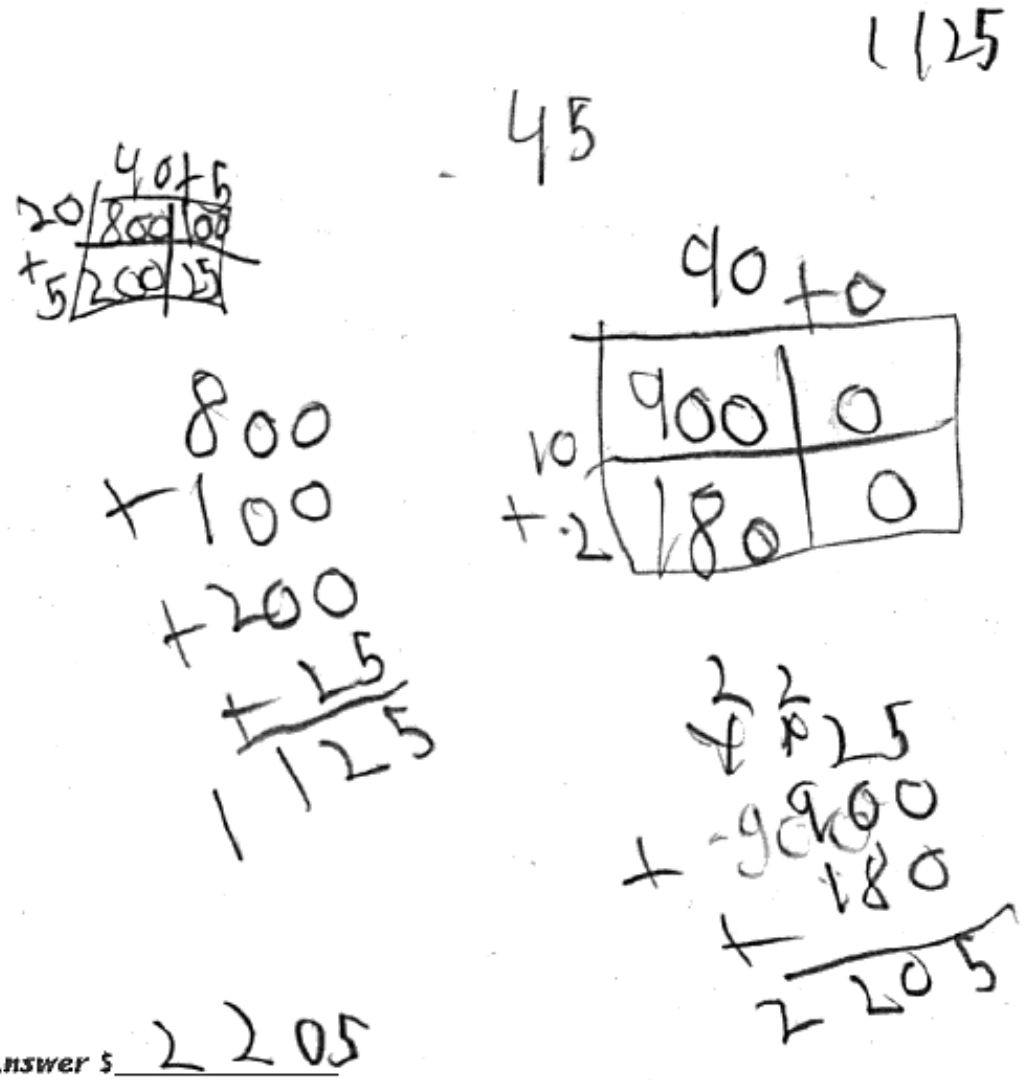
GUIDE PAPER 3

54

There will be 45 adults going to a museum. There will be twice as many students as adults. Adult tickets cost $25 each. Student tickets cost $12 each.

What is the total cost for the students and adults?

Show your work.



Answer $ 2205

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The work correctly calculates both the total cost for adults and the total cost for students then adds them together to determine the overall total.

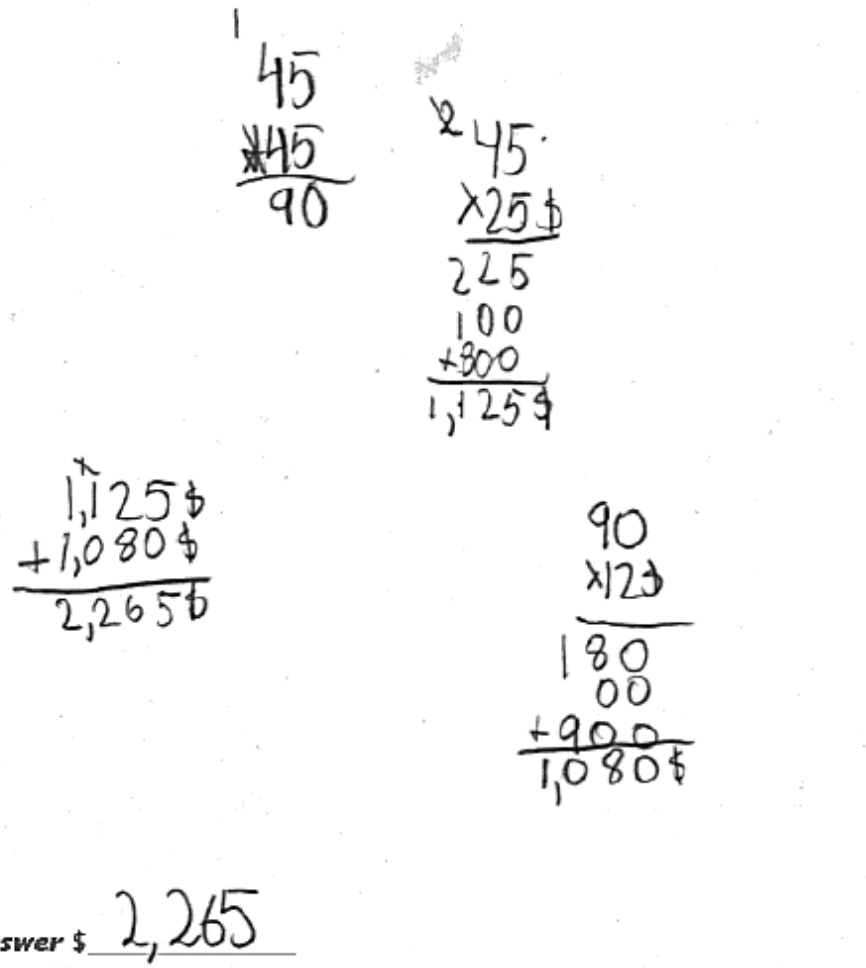
GUIDE PAPER 4

54

There will be 45 adults going to a museum. There will be twice as many students as adults. Adult tickets cost $25 each. Student tickets cost $12 each.

What is the total cost for the students and adults?

Show your work.



Answer $ 2,265

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The work correctly calculates both the total cost for adults and the total cost for students then adds them together to determine the overall total; however, a calculation error in the final step (1125 + 1080 = 2265) results in an incorrect final solution. Although the solution is incorrect, the response uses mathematically sound procedures.

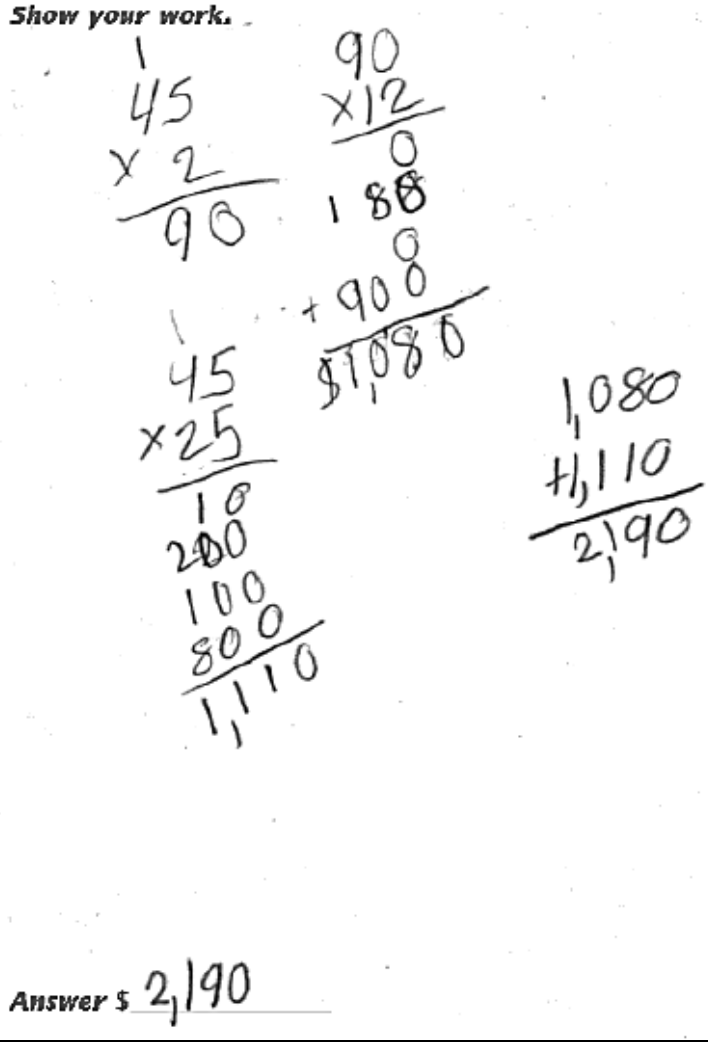
GUIDE PAPER 5

54

There will be 45 adults going to a museum. There will be twice as many students as adults. Adult tickets cost $25 each. Student tickets cost $12 each.

What is the total cost for the students and adults?

Show your work.



Answer $ 2,190

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The work calculates both the total cost for adults and the total cost for students then correctly adds them together to determine the overall total; however, a calculation error when determining the cost of the adult tickets ($45 \times 25 = 1110$) results in an incorrect final solution. Although the solution is incorrect, the response uses mathematically sound procedures.

GUIDE PAPER 6

54

There will be 45 adults going to a museum. There will be twice as many students as adults. Adult tickets cost $25 each. Student tickets cost $12 each.

What is the total cost for the students and adults?

Show your work.

45
x25
105

1
45
+45
90

90
x12
180

105
+900
1,080

1,080
+105
1,185

Answer $ 1,185

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The work calculates both the total cost for adults and the total cost for students then correctly adds them together to determine the overall total; however, a calculation error when determining the cost of the adult tickets ($45 \times 25 = 105$) results in an incorrect final solution. Although the solution is incorrect, the response uses mathematically sound procedures.

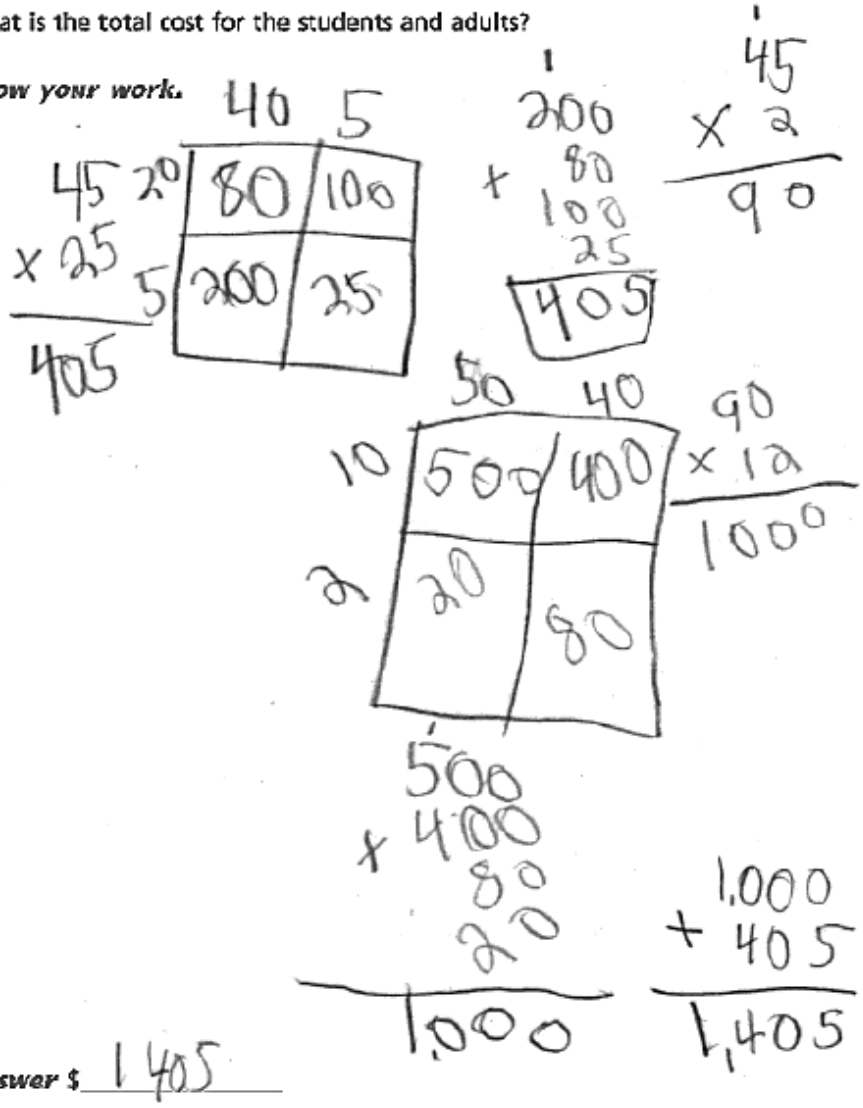
GUIDE PAPER 7

54

There will be 45 adults going to a museum. There will be twice as many students as adults. Adult tickets cost $25 each. Student tickets cost $12 each.

What is the total cost for the students and adults?

Show your work.



Answer $ 1405

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The work calculates both the total cost for adults and the total cost for students then correctly adds them together to determine the overall total; however, multiple calculation errors when determining the cost of the adult tickets ($45 \times 25 = 405$) and the student tickets ($90 \times 12 = 1000$) result in an incorrect final solution. The response exhibits multiple flaws in reasoning.

GUIDE PAPER 8

Additional

54

There will be 45 adults going to a museum. There will be twice as many students as adults. Adult tickets cost $25 each. Student tickets cost $12 each.

What is the total cost for the students and adults?

Show your work.

$45 × 2 = 90

12 × 90 = 182

45 × 25 = 800 + 100 = 900

900 + 182 = 1,082

Answer $ 1,082

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The work calculates both the total cost for adults and the total cost for students then correctly adds them together to determine the overall total; however, multiple calculation errors when determining the cost of the adult tickets ($45 \times 25 = 900$) and the student tickets ($12 \times 90 = 182$) result in an incorrect final solution. The response exhibits multiple flaws in reasoning.

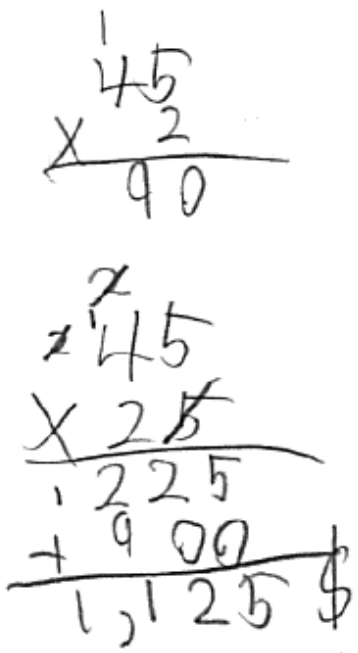
GUIDE PAPER 9

54

There will be 45 adults going to a museum. There will be twice as many students as adults. Adult tickets cost $25 each. Student tickets cost $12 each.

What is the total cost for the students and adults?

Show your work.



Answer $ 1,125

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The work correctly calculates the total cost for adults and the number of students attending; however, the cost for adults is inappropriately taken as the overall total and no attempt is made to calculate the total cost of student tickets. The response addresses only some elements of the task.

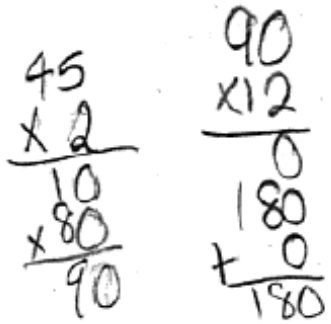
GUIDE PAPER 10

54

There will be 45 adults going to a museum. There will be twice as many students as adults. Adult tickets cost $25 each. Student tickets cost $12 each.

What is the total cost for the students and adults?

Show your work.



Answer $ 180

Score Point 0 (out of 3 points)

Although the work correctly calculates the number of students attending and attempts to calculate the total cost of student tickets, a calculation error ($90 \times 12 = 180$) results in an incorrect solution and no attempt is made to solve for and include the cost of adult tickets. Holistically, this response is not sufficient to demonstrate even a limited understanding of the task.

GUIDE PAPER 11

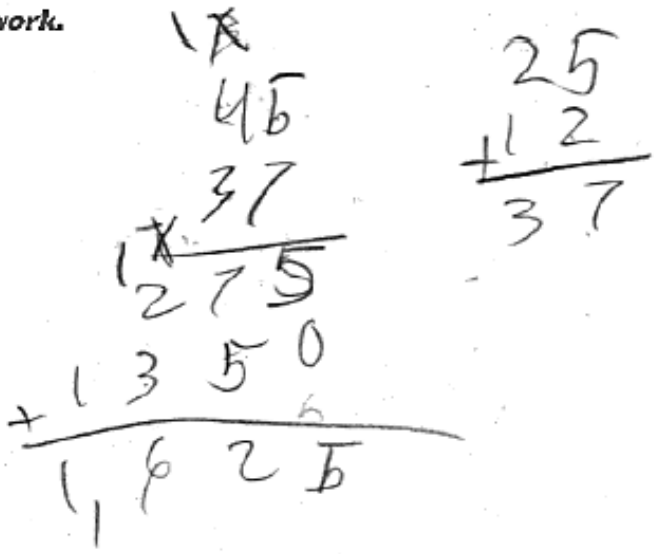
Additional

54

There will be 45 adults going to a museum. There will be twice as many students as adults. Adult tickets cost $25 each. Student tickets cost $12 each.

What is the total cost for the students and adults?

Show your work.



Answer $1,625

Score Point 0 (out of 3 points)

This response is irrelevant and not sufficient to demonstrate even a limited understanding of the task. The two costs per ticket are inappropriately added together and then incorrectly multiplied by only the number of adults attending.

55 Adam, Clara, and Deena painted a tree house.

- Adam spent 2 times as many minutes painting as Clara.
- Clara spent 30 more minutes painting than Deena.
- Deena spent 45 minutes painting.

What is the total number of minutes that Adam, Clara, and Deena spent painting the tree house?

Show your work.

Answer _____ minutes

EXEMPLARY RESPONSE

55

Adam, Clara, and Deena painted a tree house.

- Adam spent 2 times as many minutes painting as Clara.
- Clara spent 30 more minutes painting than Deena.
- Deena spent 45 minutes painting.

What is the total number of minutes that Adam, Clara, and Deena spent painting the tree house?

Show your work.

Deena: 45 minutes

Clara: 45 + 30 = 75 minutes

Adam: 75 × 2 = 150 minutes

Total: 45 + 75 + 150 = 270 minutes

OR other valid response

Answer 270 minutes

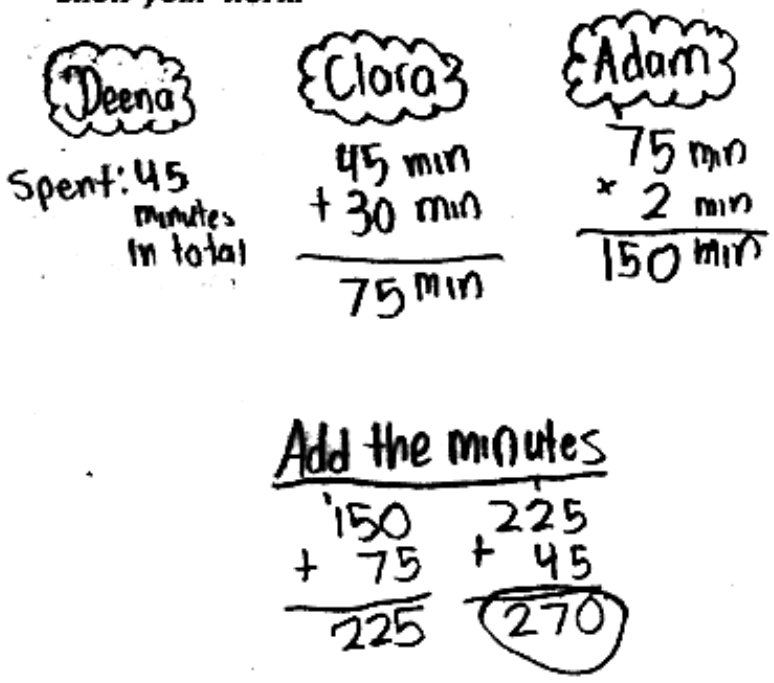
55

Adam, Clara, and Deena painted a tree house.

- Adam spent 2 times as many minutes painting as Clara.
- Clara spent 30 more minutes painting than Deena.
- Deena spent 45 minutes painting.

What is the total number of minutes that Adam, Clara, and Deena spent painting the tree house?

Show your work.



Answer 270 minutes

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The work correctly solves the individual times spent painting by each person and correctly adds them to determine the combined total.

GUIDE PAPER 2

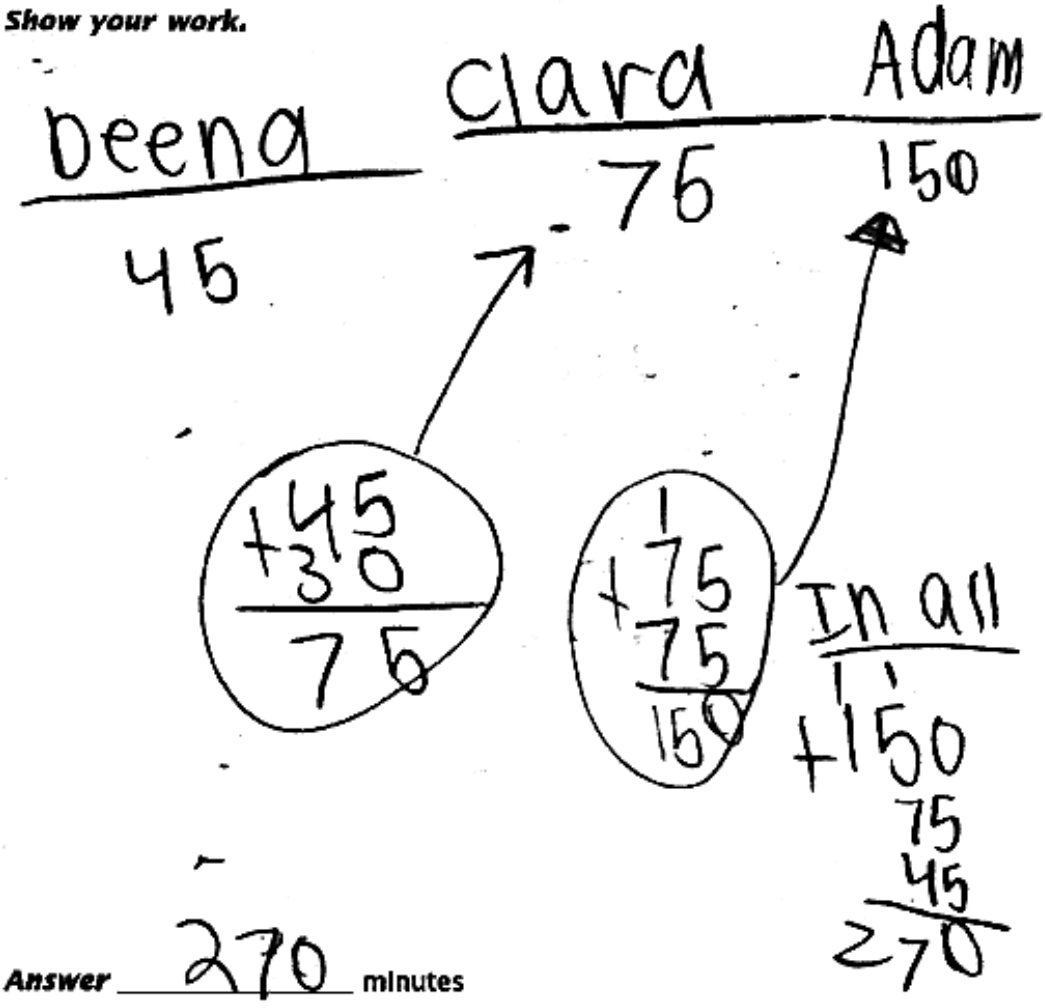
55

Adam, Clara, and Deena painted a tree house.

- Adam spent 2 times as many minutes painting as Clara.
- Clara spent 30 more minutes painting than Deena.
- Deena spent 45 minutes painting.

What is the total number of minutes that Adam, Clara, and Deena spent painting the tree house?

Show your work.



Answer 270 minutes

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The work correctly solves the individual times spent painting by each person and correctly adds them to determine the combined total.

GUIDE PAPER 3

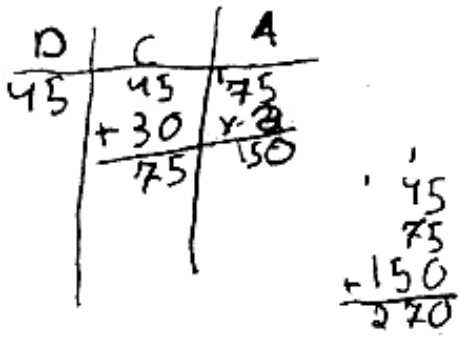
55

Adam, Clara, and Deena painted a tree house.

- Adam spent 2 times as many minutes painting as Clara.
- Clara spent 30 more minutes painting than Deena.
- Deena spent 45 minutes painting.

What is the total number of minutes that Adam, Clara, and Deena spent painting the tree house?

Show your work.



Answer 270 minutes

Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The work correctly solves the individual times spent painting by each person and correctly adds them to determine the combined total.

GUIDE PAPER 4

55

Adam, Clara, and Deena painted a tree house.

- Adam spent 2 times as many minutes painting as Clara.
- Clara spent 30 more minutes painting than Deena.
- Deena spent 45 minutes painting.

What is the total number of minutes that Adam, Clara, and Deena spent painting the tree house?

Show your work.

45
+30
75

1
75
×2
150
+75
225

Answer 225 minutes

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The work correctly solves the individual times spent painting by each person; however, when adding them together to determine the total only the times for Adam and Clara are included while Deena's 45 minutes are missing. The response addresses most, but not all aspects of the task using mathematically sound procedures.

GUIDE PAPER 5

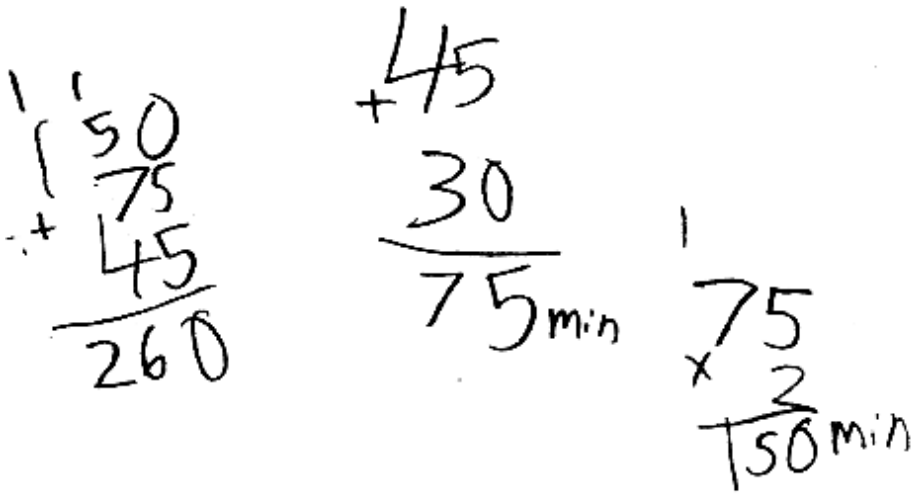
55

Adam, Clara, and Deena painted a tree house.

- Adam spent 2 times as many minutes painting as Clara.
- Clara spent 30 more minutes painting than Deena.
- Deena spent 45 minutes painting.

What is the total number of minutes that Adam, Clara, and Deena spent painting the tree house?

Show your work.



Answer 260 **minutes**

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The work correctly solves the individual times spent painting by each person; however, when adding them together to determine the total a calculation error ($150 + 75 + 45 = 260$) results in an incorrect final solution. Although the solution is incorrect, the response uses mathematically sound procedures.

GUIDE PAPER 6

55

Adam, Clara, and Deena painted a tree house.

- Adam spent 2 times as many minutes painting as Clara.
- Clara spent 30 more minutes painting than Deena.
- Deena spent 45 minutes painting.

What is the total number of minutes that Adam, Clara, and Deena spent painting the tree house?

Show your work.

1
45
× 2
A=90

45
+30
C=75

D=45

90
75
+45
210

Answer 210 minutes

Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. While the time spent painting by Clara is correctly identified, the time spent by Adam is incorrectly found by multiplying 45×2 instead of 75×2. The individual times are then added correctly to determine a total. Although the final solution is incorrect, the response uses mathematically sound procedures.

GUIDE PAPER 7

55

Adam, Clara, and Deena painted a tree house.

- Adam spent 2 times as many minutes painting as Clara.
- Clara spent 30 more minutes painting than Deena.
- Deena spent 45 minutes painting.

What is the total number of minutes that Adam, Clara, and Deena spent painting the tree house?

Show your work.

45 + 30 = 90
30 × 2 = 60
45 + 60 + 90 = 195

Answer 195 minutes

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. A calculation error ($45 + 30 = 90$) results in an incorrect time spent painting by Clara, and the time spent by Adam is incorrectly found by multiplying 30×2 instead of using the previous result of Clara's time. The individual times are then added correctly to determine a total. The response exhibits multiple flaws related to misunderstanding of important aspects the task.

GUIDE PAPER 8

Additional

55

Adam, Clara, and Deena painted a tree house.

- Adam spent 2 times as many minutes painting as Clara.
- Clara spent 30 more minutes painting than Deena.
- Deena spent 45 minutes painting.

What is the total number of minutes that Adam, Clara, and Deena spent painting the tree house?

Show your work.

30
×2
60

60
+30
90
+45
135

Answer 135 minutes

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The time spent painting by Clara is misinterpreted as being 30 minutes instead of 30 *more than* Deena's time spent; however, this time is appropriately multiplied by 2 to determine Adam's time spent and the individual times correctly added together to determine a total. The response addresses some elements of the task correctly but provides reasoning that is faulty.

GUIDE PAPER 9

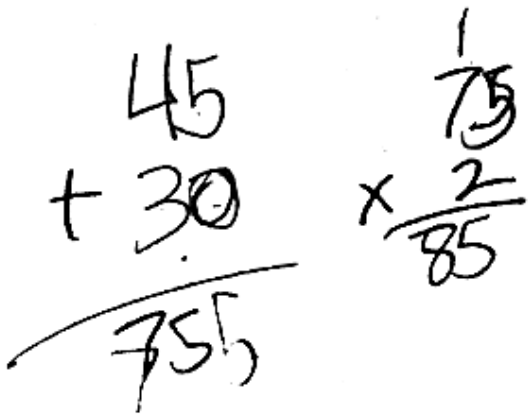
55

Adam, Clara, and Deena painted a tree house.

- Adam spent 2 times as many minutes painting as Clara.
- Clara spent 30 more minutes painting than Deena.
- Deena spent 45 minutes painting.

What is the total number of minutes that Adam, Clara, and Deena spent painting the tree house?

Show your work.



Answer 85 minutes

Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. A correct value is found for Clara's time spent painting and an attempt is made to multiply by 2 to determine Adam's time spent; however, a calculation error results in an incorrect product ($75 \times 2 = 85$). Additionally, no attempt is made to add the individual times to determine a total. The response reflects a lack of essential understanding of the underlying mathematical concepts.

GUIDE PAPER 10

55

Adam, Clara, and Deena painted a tree house.

- Adam spent 2 times as many minutes painting as Clara.
- Clara spent 30 more minutes painting than Deena.
- Deena spent 45 minutes painting.

What is the total number of minutes that Adam, Clara, and Deena spent painting the tree house?

Show your work.

30+50+45=

50
+45
+30

125

Answer 125 minutes

Score Point 0 (out of 3 points)

Holistically, this response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although the addition is carried out correctly, no support is given for the appearance of the number 50 and addition alone is not sufficient to address the relationship between the three individual times.

55

Adam, Clara, and Deena painted a tree house.

- Adam spent 2 times as many minutes painting as Clara.
- Clara spent 30 more minutes painting than Deena.
- Deena spent 45 minutes painting.

What is the total number of minutes that Adam, Clara, and Deena spent painting the tree house?

Show your work.

30
+45
2
77

I added 45, 30, and 2 to get 77.

Answer 77 minutes

Score Point 0 (out of 3 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although the addition is carried out correctly, it misinterprets 2 and 30 as direct amounts of minutes and fails to recognize the additive and multiplicative relationship between the three individual times.