# 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

<table>
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<tr>
<th>Score Points</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>3 Point</strong></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>This response</td>
</tr>
<tr>
<td></td>
<td>• indicates that the student has completed the task correctly, using mathematically sound procedures</td>
</tr>
<tr>
<td></td>
<td>• contains sufficient work to demonstrate a thorough understanding of the mathematical concepts and/or procedures</td>
</tr>
<tr>
<td></td>
<td>• may contain inconsequential errors that do not detract from the correct solution(s) and the demonstration of a thorough understanding</td>
</tr>
<tr>
<td><strong>2 Point</strong></td>
<td>A two-point response demonstrates a partial understanding of the mathematical concepts and/or procedures in the task.</td>
</tr>
<tr>
<td></td>
<td>This response</td>
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<tr>
<td></td>
<td>• appropriately addresses most, but not all aspects of the task using mathematically sound procedures</td>
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<tr>
<td></td>
<td>• may contain an incorrect solution but provides sound procedures, reasoning, and/or explanations</td>
</tr>
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<td></td>
<td>• may reflect some minor misunderstanding of the underlying mathematical concepts and/or procedures</td>
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<tr>
<td><strong>1 Point</strong></td>
<td>A one-point response demonstrates only a limited understanding of the mathematical concepts and/or procedures in the task.</td>
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<tr>
<td></td>
<td>This response</td>
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<tr>
<td></td>
<td>• may address some elements of the task correctly but reaches an inadequate solution and/or provides reasoning that is faulty or incomplete</td>
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<tr>
<td></td>
<td>• exhibits multiple flaws related to misunderstanding of important aspects of the task, misuse of mathematical procedures, or faulty mathematical reasoning</td>
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<tr>
<td></td>
<td>• reflects a lack of essential understanding of the underlying mathematical concepts</td>
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<tr>
<td></td>
<td>• may contain the correct solution(s) but required work is limited</td>
</tr>
<tr>
<td><strong>0 Point</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>

*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.
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
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 = 3

5 + 5 + 3 + 3 = 16

Or other valid process

---

*Answer: ________________ feet*
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.*

\[
\begin{align*}
3 \times 15 &= 45 \\
5 \times 3 &= 15 \\
5 + 3 &= 8 \\
5 + 3 &= 8 \\
\frac{2}{16} &= \frac{1}{8}
\end{align*}
\]

**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

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.*

\[ \begin{align*}
S &= a \\
S \times 3 &= 15 \\
S &= L \\
3 &= W \\
P &= 2 \times (L + W) \\
P &= 2 \times (S + 3) \\
P &= 2 \times 8 \\
P &= 16 \text{ ft}
\end{align*} \]

*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.
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.*

\[ \frac{3}{5} \]

\[ \frac{15}{60} \]

5

3

15 sq ft

3

5

10

+6

\[ \frac{16 + 6}{16 + 6} \]

\[ \frac{3}{3} + \frac{3}{3} + \frac{5}{10} \]

\[ \frac{16}{16} \]

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.
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

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.<

\[
\begin{array}{c}
\text{3} \\
\text{5} \\
\text{5 \text{feet}} \\
\text{5} \\
\text{5x5 = 15} \\
\text{15 ÷ 5 = 2} \\
\text{15 ÷ 5 = 3} \\
\text{3 x 5 = 15} \\
\end{array}
\]

(3 + 2)(5 + 5) 
6 + 10 = 16^2 \text{feet}

Answer

\[16^2 \text{ feet}\]

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.
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.

\[
\begin{align*}
5 \text{ feet} & \quad 15 \text{ feet} \\
15 & \quad 15 \\
+ 5 \quad + 15 & \quad + 15 \\
\frac{10}{40} & \quad \frac{30}{10} \\
40 \text{ feet} & \\
\end{align*}
\]

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.
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.**

\[ 15 \times 5 = 75 \text{ feet} \]

**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.
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.

\[
\frac{15 + 5}{2} = 20 \text{ square feet}
\]

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.
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**

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
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
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**

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

**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

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 greater 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.
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.
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.

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 determine 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

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 \, \text{\( \text{\textless} \)\) \, 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.
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.

\[ 2,014 \square 2,104 \]

**Answer**

I put 2,014 and 2,104 are [ ] 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.
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

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 $\frac{3}{6}$ which is also equivalent to $\frac{1}{2}$.

OR other equivalent explanation.
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 2 the second is 4 and when you put them both in simplest form you will get one half. Ex. $\frac{3+3}{6+2}$, $\frac{2+2}{4+2}$.

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

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.

\[ \frac{3}{6} \times \frac{2}{4} \]

Explain how you know your fraction strip is correct.

I know the fraction strip is correct because I cross multiplied \( 3 \times 4 = 12 \), and \( 2 \times 6 = 12 \), and 12 and 12 are the same numbers.

\[ \frac{12}{3} \times \frac{2}{4} \]

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

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.

1. I know the fraction strip is correct because in my mind I put the three pieces together and it was equivalent to \( \frac{1}{2} \).

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 are equivalent to \( \frac{1}{2} \).
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.
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.

\[ \frac{1}{2} \]

Explain how you know your fraction strip is correct.

How I know that my answer is correct is because \(6 \div 2 = 3\) so Mandy shaded in 3 and I had to shade in 2 strip because \(6 \div 3 = 2\). 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 \(6 \div 3 = 2\)). The response correctly addresses only some elements of the task.
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 cross multiply and I got 12 and 12

So I know it is equal

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.
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.
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.
Joli started with angle $ABC$ that measured $132^\circ$, 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 $55^\circ$. What is the measure of angle $ABD$?

*Answer* $\_\_\_\_\_\_\_\_\_^\circ$
EXEMPLARY RESPONSE

Joli started with angle $ABC$ that measured $132^\circ$, 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 $55^\circ$. What is the measure of angle $ABD$?

*Answer* $77^\circ$
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 73°

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.
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?

\[
\frac{138 - 55}{11}\]

Answer: 8°

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.
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.
Joli started with angle $ABC$ that measured $132^\circ$, 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 $55^\circ$. What is the measure of angle $ABD$?

Answer $80^\circ$.

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 $52^\circ$; however, the solution for angle $ABD$ of $80^\circ$ is incorrect. Any angle $DBC$ drawn within a tolerance of $5^\circ$ is considered acceptable for credit. The response correctly addresses only some elements of the task.
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.
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.
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: 62°

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.
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.
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 ___________

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.**

\[
\frac{3}{8} \times 10 = \frac{30}{8} = 3 \frac{6}{8} = 3 \frac{3}{4}
\]

OR other valid response

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

Between what two whole numbers does your answer lie?

**Answer** \( 3 \) and \( 4 \)
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.

\[
\frac{3}{8} \times 10 = \frac{30}{8} \div \frac{1}{2} = \frac{30}{8} \div \frac{2}{2} = \frac{3}{1}
\]

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.
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. $\frac{3}{8} \times 10 = \frac{30}{8} = \frac{10}{8} - \frac{3}{8} = \frac{7}{8}$

The total amount of sugar needed is $3\frac{7}{8}$ cups.

Answer: $3\frac{7}{8}$ 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 3

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.

\[
10 \times \frac{3}{8} = \frac{30}{8} = 3 \frac{6}{8} \text{ cups}
\]

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 \( 3 \frac{6}{8} \) 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.
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.

\[
\frac{3/8 \times 10}{30/8} = \frac{30/8}{30/8} = 1
\]

Answer $30/8$ 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; 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.
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 $\frac{30}{8}$ and is correctly placed between 3 and 4; however, it is incorrectly simplified to $3 \frac{3}{8}$ resulting in the incorrect solution of 4 cups. The response correctly addresses only some elements of the task.
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.

\[
\frac{3}{8} + \frac{3}{8} + \frac{3}{8} + \frac{3}{8} + \frac{3}{8} + \frac{3}{8} + \frac{3}{8} + \frac{3}{8} + \frac{3}{8} + \frac{3}{8} = \frac{30}{8} = 3 \frac{2}{8}
\]

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 $\frac{30}{8}$ and is correctly placed between 3 and 4; however, it is incorrectly simplified to $3 \frac{3}{8}$. The response correctly addresses only some elements of the task.
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 $\frac{4}{8}$ 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.
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.**

\[
\frac{10 \times 3}{8} = \frac{30}{8} = 3 \frac{3}{4}
\]

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

Between what two whole numbers does your answer lie?

Answer \(3\) and \(4\)

---

**Score Point 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.
Is the triangle below best described as right, acute, or obtuse?

Answer ______________

Explain how you know your answer is correct.

________________________________________

________________________________________

________________________________________
EXEMPLARY RESPONSE

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

Answer: acute

I know my answer is correct because the triangle is less than 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.
Is the triangle below best described as right, acute, or obtuse?

Answer: acute

I know how my answer is correct because there are no right or 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.
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.
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°.
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.
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.
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.

\[ \text{Answer} \]

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

\[ \text{Show your work.} \]

\[ \text{Answer} \quad \text{pages per day} \]
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.

\[
\text{Answer} \quad 400 = 120 + 4p \quad \text{OR} \quad 400 - 120 = 4p
\]

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

\[
\text{Answer} \quad 70 \quad \text{pages per day}
\]
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: $\frac{400 - 120}{4} = p$

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

Show your work.

\[
\begin{array}{c}
\underline{400} \\
- \underline{120} \\
\hline
\underline{280} \\
\end{array}
\]

\[
\begin{array}{c}
\underline{120} \\
\underline{70} \\
\underline{70} \\
\underline{70} \\
\hline
\underline{400} \\
\end{array}
\]

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.
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.

\[
\frac{400 - 120}{4} = p
\]

**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.**

\[
\begin{array}{c}
3n \\
480 \\
- 120 \\
360 \\
\end{array}
\]

\[
280 \div 4 = 70
\]

**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.
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.

\[
(p\times4)+120=800
\]

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

Show your work.

\[
\begin{align*}
80\times4 &= 320 \\
120 &= 120 \\
\frac{320}{2} &= 160 \\
\frac{160}{2} &= 80 \\
4 &= \frac{280}{120} \\
\frac{120}{400} &= \frac{3}{10} \\
\frac{3}{10} + 120 &= 80 \\
p &= 70 \text{ pages per day}
\end{align*}
\]

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.
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: \( 400 - 120 = 280 \)

\( 280 + 4p = p \)

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

Show your work.

\[
\begin{align*}
3 & \quad 400 \\
\quad & \quad 120 \\
\hline
\quad & \quad 280
\end{align*}
\]

\[70 + 70 + 70 + 70 = 280\]

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.
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.

\[
400 - 120 = 280
\]

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

\[
\frac{280}{10} = 28
\]

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.
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.

$\frac{120}{4} = \frac{400}{x}$

$4 \div 320 = \frac{70}{x}$

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.
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.

\[
\text{Answer: } \frac{400 - 120}{5} = p
\]

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

**Show your work.**

\[
\begin{array}{c}
210 \\
400 \\
-120 \\
280
\end{array}
\]

\[
\begin{array}{c}
5 \times 56 \\
5 \times 280 \\
280 \\
\text{Answer: } 56 \text{ pages per day}
\end{array}
\]

**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.
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.

\[
\text{Answer: } 400 - 120 = ___ \div 4 = ___
\]

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

\[
\begin{align*}
\text{Check} & \quad \frac{70}{-70} \\
\text{x4} & \quad 280 \quad \frac{280}{-280}
\end{align*}
\]

\[
\text{Answer: } \frac{70}{70}
\]

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

\[
\text{Answer: 70 pages per day}
\]

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 \((400 - 120 = ___ ; ___ \div 4 = ___ )\). The response correctly addresses some elements of the task, but reflects a lack of understanding of algebraic variables.
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.

\[ \text{Answer: } 95 \text{ pages} \]

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

\[ \text{Show your work.} \]

\[
\begin{array}{c}
400 - 120 \\
280 \\
\end{array}
\]

\[
\begin{array}{c}
-120 \\
380 \\
\end{array}
\]

\[
\begin{array}{c}
2 \\
95 \\
4 \\
\end{array}
\]

\[
\begin{array}{c}
380 \\
120 \\
500 \\
\end{array}
\]

\[ \text{Answer: } 95 \text{ pages per day} \]

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 \((95 \text{ pages})\). 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.
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.

\[
\begin{align*}
3p & = 480 \\
4b & = 280 \\
\frac{-120}{280} & \\
\end{align*}
\]

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.
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 $120 + \frac{120}{40} = 400$

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

Show your work.

\[
\begin{align*}
\frac{120}{40} + \frac{120}{40} + \frac{200}{40} + \frac{240}{40} + \frac{40}{40} & = 320 \\
\end{align*}
\]

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.
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

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.**

<table>
<thead>
<tr>
<th>Chocolate</th>
<th>Strawberry</th>
<th>Caramel</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \frac{7}{8} - \frac{3}{8} = \frac{4}{8} )</td>
<td>( \frac{3}{8} - \frac{1}{8} = \frac{2}{8} )</td>
<td>( \frac{4}{8} - \frac{2}{8} = \frac{2}{8} )</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remaining on Tuesday</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \frac{14}{8} - \frac{5}{8} = \frac{9}{8} = 1 )</td>
<td>( \frac{4}{8} + \frac{2}{8} + \frac{2}{8} = \frac{8}{8} = 1 )</td>
</tr>
</tbody>
</table>

OR other valid response

**Answer** \( \frac{1}{8} \) gallon(s)
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.

$\frac{3}{8}$ S.S.

$\frac{4}{8}$ C.S.

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

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

$\frac{2}{8} - \frac{2}{8} = \frac{2}{8}$ C.S.

$\frac{4}{8} + \frac{2}{8} + \frac{2}{8} = \frac{8}{8} = 1$ 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.
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 \( \frac{5}{8} \) 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.

\[
\begin{align*}
\frac{7}{8} + \frac{2}{8} &= \frac{10}{8} \\
\frac{3}{8} + \frac{1}{8} &= \frac{4}{8} \\
\frac{11}{8} - \frac{6}{8} &= \frac{5}{8} \\
\frac{10}{8} + \frac{6}{8} &= \frac{16}{8} \\
\frac{8}{8} &= 1 \text{ gallon}
\end{align*}
\]

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.
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.**

\[
\begin{align*}
CS - \frac{7}{8} - \frac{3}{8} &= \frac{4}{8} \\
SS - \frac{3}{8} - \frac{1}{8} &= \frac{2}{8} \\
CS - \frac{4}{8} - \frac{1}{8} &= \frac{2}{8}
\end{align*}
\]

**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.
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, \( \frac{1}{6} \) 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.**

\[
\begin{align*}
\frac{7}{8} - \frac{3}{8} & = \frac{5}{8} \\
\frac{5}{8} + \frac{2}{8} & = \frac{7}{8} \\
\frac{7}{8} + \frac{2}{8} & = \frac{9}{8}
\end{align*}
\]

**Answer** \( \frac{9}{8} \) 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 (\( \frac{7}{8} - \frac{3}{8} = \frac{5}{8} \)), resulting in an incorrect final answer. The response correctly addresses most, but not all aspects of the task.
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.

- \( \frac{7}{5} \) 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.

\[
\begin{align*}
\frac{7}{5} - \frac{3}{8} &= \frac{56 - 15}{40} = \frac{41}{40} = 1 \frac{1}{4} \\
\frac{4}{8} - \frac{2}{8} &= \frac{2}{8} = \frac{1}{4} \\
\frac{1}{8} - \frac{1}{8} &= 0 \\
\frac{1}{4} + \frac{1}{4} + \frac{1}{4} &= \frac{3}{4} \\
\end{align*}
\]

Answer \( \frac{3}{4} \) 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.
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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.

\[
\begin{align*}
\text{Mon} &= \frac{17}{8} \\
\frac{7}{8} + \frac{4}{8} - \frac{1}{8} &= \frac{10}{8} + \frac{1}{8} = \frac{11}{8} \\
\frac{13}{8} + \frac{4}{8} &= \frac{17}{8}
\end{align*}
\]

Answer \( \frac{17}{8} \) 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.
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.*

\[
\frac{3}{8} + \frac{2}{8} + \frac{1}{8} = \frac{6}{8} \]

*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.
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, $\frac{1}{3}$ 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.**

\[
\begin{align*}
\text{Chocolate} & : \frac{7}{8} - \frac{3}{8} = \frac{4}{8} \\
\text{Strawberry} & : \frac{3}{8} - \frac{1}{8} = \frac{2}{8} \\
\text{Caramel} & : \frac{4}{8} - \frac{3}{8} = \frac{1}{8}
\end{align*}
\]

**Answer**

\(\frac{1}{8}\) 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.
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.

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

On Tuesday, the shop used $\frac{2}{8}$ 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.**

\[
\frac{7}{3} + \frac{3}{8} + \frac{1}{8} = \frac{14}{8}
\]

**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.
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.**

\[
\frac{7}{8} \times \frac{3}{8} = \frac{21}{64} \]
\[
\frac{21}{64} \times \frac{4}{8} = \frac{84}{8} \]

**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.
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.

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.
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 $ ________________*
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.

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

\[\boxed{2205}\]

Answer $\underline{\ \ }$
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.

\[
\begin{align*}
45 & \times 25 \\
\, & \, \\
\, & \, \\
\, & \, \\
\frac{200}{11} & \text{ Students}
\end{align*}
\]

\[
\begin{align*}
45 & \times 12 \\
100 & \, \\
\, & \, \\
\, & \, \\
\frac{120}{11} & \text{ adults}
\end{align*}
\]

The total cost for students and adults is $2,205.

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.
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.

\[
\text{Step 1:}\quad \text{Step 2:} \quad \text{Step 3:} \quad \text{Step 4:} \\
\begin{align*}
90 + 45 &= 135 \\
\times 2 &= 270 \\
\div 2 &= 135 \\
\end{align*}
\]

\[
\begin{align*}
900 + 180 &= 1080 \\
\times 2.5 &= 2700 \\
\end{align*}
\]

Answer: $2,025

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.
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.

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

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.

\[
\begin{align*}
45 & \times 25 = 1125 \text{ } \\
90 & \times 12 = 1080 \\
\hline
2265 & \\
\hline
\end{align*}
\]

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.
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.

\[
\begin{align*}
45 \times 25 &= 1110 \\
90 \times 12 &= 1080 \\
1110 &+ 1080 = 2190
\end{align*}
\]

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.
There will be 45 adults going to a museum. There will be twice as many students as adults. Adult tickets cost $23 each. Student tickets cost $12 each. What is the total cost for the students and adults?

Show your work.

\[
\begin{align*}
45 	imes 25 &= 105 \\
45 	imes 12 &= 540 \\
900 + 540 &= 1440 \\
1080 + 105 &= 1185
\end{align*}
\]

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.
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  x  25  
80  +  100  
200  +  60  
360  +  25  
385
```

```
40  x  2  
80  +  60  
140
```

```
50  x  400  
20000  
10000
```

```
90  x  10  
900
```

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 × 25 = 405) and the student tickets (90 × 12 = 1000) result in an incorrect final solution. The response exhibits multiple flaws in reasoning.
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.

\[
\begin{align*}
45 \times 2 & = 90 \\
12 \times 90 & = 1082 \\
900 + 100 & = 1000 \\
5900 + 1082 & = 10882 \\
\end{align*}
\]

Answer: 1082

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.
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.

\[
\begin{align*}
\text{45 adults} & \times 25 \quad \text{total cost} \\
\text{90} & \quad \text{Cost for adults} \\
\text{40 students} & \times 12 \\
\text{The total money in all is} & \quad \text{480} \\
\text{1125} & \quad \text{Answer is} \quad \$1,125
\end{align*}
\]

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.
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.

\[
\begin{align*}
45 \times 2 &= 90 \\
90 \times 12 &= 1080 \\
1080 + 90 &= 1170 \\
\end{align*}
\]

Answer $1170$

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.
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.

\[
\begin{align*}
45 \times 25 &= 1125 \\
37 \times 12 &= 444 \\
1350 + 444 &= 1794 \\
\end{align*}
\]

Answer: $1794

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.
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

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: $75 \times 2 = 150$ minutes

Total: $45 + 75 + 150 = 270$ minutes

OR other valid response

**Answer** $\underline{270}$ minutes
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.*

\[
\begin{align*}
\text{Deena} & : 45 \text{ min} \\
\text{Clara} & : 45 \text{ min} + 30 \text{ min} = 75 \text{ min} \\
\text{Adam} & : 75 \text{ min} \times 2 = 150 \text{ min} \\
\end{align*}
\]

Add the minutes:

\[
\begin{align*}
150 + 75 + 45 & = 270 \\
\end{align*}
\]

Adam, Clara and Deena spent 270 minutes painting in all.

*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.
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.**

\[
\begin{align*}
\text{Deena} & \quad \text{Clara} & \quad \text{Adam} \\
45 & \quad 75 & \quad 150 \\
\frac{+30}{75} & \quad \frac{+75}{150} & \quad \text{In all} \\
\frac{75}{150} & \quad \frac{45}{270} & \\
\text{Answer} & \quad 270 \text{ minutes} \\
\end{align*}
\]

**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

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.

\[
\begin{array}{c}
\text{Answer} \quad 270 \\ \\
\end{array}
\]

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.
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.**

\[
\begin{align*}
\frac{45}{60} + \frac{1}{2} + \frac{75}{60} & = \frac{150}{60} \\
& = 2.5 \\
& = 22.5
\end{align*}
\]

**Answer** 22.5 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.
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.*

\[
\begin{align*}
150 &+ 75 \\
45 &+ 30 \\
\frac{260}{75} &\times 2 \\
\hline
260 &
\end{align*}
\]

*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.
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.

\[
\begin{align*}
1 \times 45 & \quad 45 \\
\times 2 & \quad +30 \\
\hline
A = 90 & \quad C = 75 \\
\hline
D = 45 \\
B = 75 \\
\hline
145 \\
210
\end{align*}
\]

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 \times 2 instead of 75 \times 2. The individual times are then added correctly to determine a total. Although the final solution is incorrect, the response uses mathematically sound procedures.
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.

\[
\begin{align*}
45 + 30 &= 90 \\
30 \times 2 &= 60 \\
45 + 60 + 90 &= 195
\end{align*}
\]

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 \(30 \times 2\) 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.
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.

\[
\begin{array}{c}
35 \\
\times 2 \\
\hline
60 \\
\end{array}
\quad
\begin{array}{c}
80 \\
+ 30 \\
\hline
110 \\
\end{array}
\quad
\begin{array}{c}
+ 45 \\
\hline
135 \\
\end{array}
\]

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.
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.

\[ \frac{45}{75} + 30 \times \frac{2}{85} \]

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.
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.*

\[
30 + 50 + 45 =
\]

\[
\begin{array}{c}
50 \\
+ 45 \\
+ 30 \\
\hline
125
\end{array}
\]

*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.
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.

\[
\begin{align*}
30 \\
+95 \\
\hline
77
\end{align*}
\]

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.