2025 MCAS Sample Student Work and Scoring Guide

Grade 4 Mathematics
Question 3: Constructed-Response

Reporting Category: Number and Operations-Fractions
Standard: 4.NF.B.3 - Understand a fraction a/b with a > 1 as a sum of fractions 1/b.
Item Description: Solve word problems by identifying an equation that shows the sum of two fractions, justifying if a given equation is correct or not, adding and subtracting fractions, and subtracting mixed numbers.
Calculator: Not allowed

This item can be found in the released item sets on the MCAS Resource Center.

Scoring Guide
Select a score point in the table below to view the sample student response.

Score*	Description
4A	The student response demonstrates an exemplary understanding of the Number and Operations-Fractions concepts involved in understanding a fraction a/b with a > 1 as a sum of fractions 1/b. The student correctly identifies the sum of two fractions, subtracts a fraction from a whole, analyzes an equation that represents the sum of two fractions and finds the difference of two mixed numbers, all based on a context.
4B	
3	The student response demonstrates a good understanding of the Number and Operations-Fractions concepts involved in understanding a fraction a/b with a > 1 as a sum of fractions 1/b. Although there is significant evidence that the student was able to recognize and apply the concepts involved, some aspect of the response is flawed. As a result, the response merits 3 points.
2	The student response demonstrates a fair understanding of the Number and Operations-Fractions concepts involved in understanding a fraction a/b with a > 1 as a sum of fractions 1/b. While some aspects of the task are completed correctly, others are not. The mixed evidence provided by the student merits 2 points.
1	The student response demonstrates a minimal understanding of the Number and Operations-Fractions concepts involved in understanding a fraction a/b with a > 1 as a sum of fractions 1/b.
0	The student response contains insufficient evidence of an understanding of the Number and Operations-Fractions concepts involved in understanding a fraction a/b with a > 1 as a sum of fractions 1/b. As a result, the response does not merit any points.

*Letters are used to distinguish between sample student responses that earned the same score (e.g., 4A and 4B).

Score Point 4A

This question has four parts.

A cafe owner recorded how many desserts were sold on Saturday.

- $\frac{5}{8}$ of the desserts sold were pies.

- $\frac{1}{8}$ of the desserts sold were cakes.

- The remaining desserts sold were cookies.

Part A

Which equation can be used to find the **total** fraction of desserts sold that were either pies or cakes?

- A. $\frac{5}{8} + \frac{1}{8} = \frac{48}{16}$

- B. $\frac{5}{8} + \frac{1}{8} = \frac{6}{16}$

- C. $\frac{5}{8} + \frac{1}{8} = \frac{22}{8}$

- ● D. $\frac{5}{8} + \frac{1}{8} = \frac{6}{8}$

Part B

Of **all** the desserts sold on Saturday, what fraction were **cookies**? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

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

$\frac{8}{8} - \frac{6}{8} = \frac{2}{8}$

Two eighths of the desserts were cookies.

Part C

Of all the desserts sold on Saturday, $\frac{4}{10}$ of the desserts were sold in the first two hours.

A worker at the cafe created this equation to represent the fraction of all the desserts sold in the first two hours.

$$\frac{3}{4} + \frac{1}{6} = \frac{4}{10}$$

Is the worker's equation correct? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

No.

If I did the problem it would be like this

$\frac{3}{4} \times \frac{6}{6} = \frac{18}{24}$

$\frac{1}{6} \times \frac{4}{4} = \frac{4}{24}$

$\frac{18}{24} + \frac{4}{24} = \frac{22}{24}$

As you can see that answer is not $\frac{4}{10}$ at all.

Part D

At the beginning of the day on Saturday, the cafe had $6\frac{1}{8}$ pies to sell. At the end of the day, the cafe had $2\frac{3}{8}$ pies remaining.

What is the total amount of pie the cafe sold on Saturday? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

$6\frac{1}{8}$

$2\frac{3}{8}$

First we have to cuvert one of the whole numbers into 8 making $5\frac{9}{8}$. Now we can start the problem.

$\frac{9}{8} - \frac{3}{8} = \frac{6}{8}$

that's the first part.

$5 - 2 = 3$

Now we have our answer.

The cafe sold $3\frac{6}{8}$ pies.

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Score Point 4B

This question has four parts.

A cafe owner recorded how many desserts were sold on Saturday.

- $\frac{5}{8}$ of the desserts sold were pies.

- $\frac{1}{8}$ of the desserts sold were cakes.

- The remaining desserts sold were cookies.

Part A

Which equation can be used to find the **total** fraction of desserts sold that were either pies or cakes?

○   A. $\frac{5}{8} + \frac{1}{8} = \frac{48}{16}$

○   B. $\frac{5}{8} + \frac{1}{8} = \frac{6}{16}$

○   C. $\frac{5}{8} + \frac{1}{8} = \frac{22}{8}$

◉   D. $\frac{5}{8} + \frac{1}{8} = \frac{6}{8}$

Part B

Of **all** the desserts sold on Saturday, what fraction were **cookies**? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

$\frac{2}{8}$ of the desserts were cookies. I know that because together, the cakes, and pies are $\frac{6}{8}$ of the dessert sold on saturday, and if you do $\frac{8}{8} - \frac{6}{8}$, you get $\frac{2}{8}$.

Part C

Of all the desserts sold on Saturday, $\frac{4}{10}$ of the desserts were sold in the first two hours.

A worker at the cafe created this equation to represent the fraction of all the desserts sold in the first two hours.

$$\frac{3}{4} + \frac{1}{6} = \frac{4}{10}$$

Is the worker's equation correct? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

No, the worker's equation isn't correct, and I know that because you can't get $\frac{4}{10}$ with adding something bigger than it.

Part D

At the beginning of the day on Saturday, the cafe had $6\frac{1}{8}$ pies to sell. At the end of the day, the cafe had $2\frac{3}{8}$ pies remaining.

What is the total amount of pie the cafe sold on Saturday? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

The cafe sold 3 $\frac{6}{8}$ pies. And I know that because 6 $\frac{1}{8}$ − 2 $\frac{3}{8}$ = 3 $\frac{6}{8}$.

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Score Point 3

This question has four parts.

A cafe owner recorded how many desserts were sold on Saturday.

- $\frac{5}{8}$ of the desserts sold were pies.

- $\frac{1}{8}$ of the desserts sold were cakes.

- The remaining desserts sold were cookies.

Part A

Which equation can be used to find the **total** fraction of desserts sold that were either pies or cakes?

- ○ A. $\frac{5}{8} + \frac{1}{8} = \frac{48}{16}$

- ○ B. $\frac{5}{8} + \frac{1}{8} = \frac{6}{16}$

- ○ C. $\frac{5}{8} + \frac{1}{8} = \frac{22}{8}$

- ◉ D. $\frac{5}{8} + \frac{1}{8} = \frac{6}{8}$

Part B

Of **all** the desserts sold on Saturday, what fraction were **cookies**? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

> Out of all the desserts sold on Saturday, the fraction of the cookies would be $\frac{2}{8}$, because there is six eights already, so you would need two more to make eight.

Part C

Of all the desserts sold on Saturday, $\frac{4}{10}$ of the desserts were sold in the first two hours.

A worker at the cafe created this equation to represent the fraction of all the desserts sold in the first two hours.

$$\frac{3}{4} + \frac{1}{6} = \frac{4}{10}$$

Is the worker's equation correct? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

> No because you can't add different denominators, or denominators at all.

Part D

At the beginning of the day on Saturday, the cafe had $6\frac{1}{8}$ pies to sell. At the end of the day, the cafe had $2\frac{3}{8}$ pies remaining.

What is the total amount of pie the cafe sold on Saturday? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

> 4 $\frac{5}{8}$ pies

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Score Point 2

This question has four parts.

A cafe owner recorded how many desserts were sold on Saturday.

- $\frac{5}{8}$ of the desserts sold were pies.

- $\frac{1}{8}$ of the desserts sold were cakes.

- The remaining desserts sold were cookies.

Part A

Which equation can be used to find the **total** fraction of desserts sold that were either pies or cakes?

○ A. $\frac{5}{8} + \frac{1}{8} = \frac{48}{16}$

○ B. $\frac{5}{8} + \frac{1}{8} = \frac{6}{16}$

○ C. $\frac{5}{8} + \frac{1}{8} = \frac{22}{8}$

◉ D. $\frac{5}{8} + \frac{1}{8} = \frac{6}{8}$

Part B

Of **all** the desserts sold on Saturday, what fraction were **cookies**? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

$\frac{2}{8}$ were cookies I got the information by adding the pies and cake together and using the remaining $\frac{2}{8}$ for the cookies.

Part C

Of all the desserts sold on Saturday, $\frac{4}{10}$ of the desserts were sold in the first two hours.

A worker at the cafe created this equation to represent the fraction of all the desserts sold in the first two hours.

$$\frac{3}{4} + \frac{1}{6} = \frac{4}{10}$$

Is the worker's equation correct? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

The worker's equation is correct because if u add $\frac{3}{4} + \frac{1}{6} = \frac{4}{10.}$

Part D

At the beginning of the day on Saturday, the cafe had $6\frac{1}{8}$ pies to sell. At the end of the day, the cafe had $2\frac{3}{8}$ pies remaining.

What is the total amount of pie the cafe sold on Saturday? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

$\frac{6}{6} - \frac{2}{2} = \frac{4}{4}$

$\frac{4}{4} - \frac{5}{8} = 2\frac{3}{8}$

$4\frac{5}{8}$ pieces of pie were sold on Saturday.

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Score Point 1

This question has four parts.

A cafe owner recorded how many desserts were sold on Saturday.

- $\frac{5}{8}$ of the desserts sold were pies.

- $\frac{1}{8}$ of the desserts sold were cakes.

- The remaining desserts sold were cookies.

Part A

Which equation can be used to find the **total** fraction of desserts sold that were either pies or cakes?

- ○ A. $\frac{5}{8} + \frac{1}{8} = \frac{48}{16}$

- ◉ B. $\frac{5}{8} + \frac{1}{8} = \frac{6}{16}$

- ○ C. $\frac{5}{8} + \frac{1}{8} = \frac{22}{8}$

- ○ D. $\frac{5}{8} + \frac{1}{8} = \frac{6}{8}$

Part B

Of **all** the desserts sold on Saturday, what fraction were **cookies**? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

$\frac{4}{8}$

Part C

Of all the desserts sold on Saturday, $\frac{4}{10}$ of the desserts were sold in the first two hours.

A worker at the cafe created this equation to represent the fraction of all the desserts sold in the first two hours.

$$\frac{3}{4} + \frac{1}{6} = \frac{4}{10}$$

Is the worker's equation correct? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

no becaues you cant add the denomnater

Part D

At the beginning of the day on Saturday, the cafe had $6\frac{1}{8}$ pies to sell. At the end of the day, the cafe had $2\frac{3}{8}$ pies remaining.

What is the total amount of pie the cafe sold on Saturday? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

the cafe sold $4\frac{2}{8}$

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Score Point 0

This question has four parts.

A cafe owner recorded how many desserts were sold on Saturday.

- $\frac{5}{8}$ of the desserts sold were pies.

- $\frac{1}{8}$ of the desserts sold were cakes.

- The remaining desserts sold were cookies.

Part A

Which equation can be used to find the **total** fraction of desserts sold that were either pies or cakes?

○ A. $\frac{5}{8} + \frac{1}{8} = \frac{48}{16}$

◉ B. $\frac{5}{8} + \frac{1}{8} = \frac{6}{16}$

○ C. $\frac{5}{8} + \frac{1}{8} = \frac{22}{8}$

○ D. $\frac{5}{8} + \frac{1}{8} = \frac{6}{8}$

Part B

Of **all** the desserts sold on Saturday, what fraction were **cookies**? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

> i think the cookies are $\frac{6}{8}$ because $5 + 1 = 6$ and $8 + 0 = 8$

Part C

Of all the desserts sold on Saturday, $\frac{4}{10}$ of the desserts were sold in the first two hours.

A worker at the cafe created this equation to represent the fraction of all the desserts sold in the first two hours.

$$\frac{3}{4} + \frac{1}{6} = \frac{4}{10}$$

Is the worker's equation correct? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

> I am pretty sure that person is correct because $4 + 6 = 10$
>
> and $3 + 1 = 4$ $\frac{4}{10}$

Part D

At the beginning of the day on Saturday, the cafe had $6\frac{1}{8}$ pies to sell. At the end of the day, the cafe had $2\frac{3}{8}$ pies remaining.

What is the total amount of pie the cafe sold on Saturday? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

> $4\frac{2}{8}$

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