2025 MCAS Sample Student Work and Scoring Guide

Grade 6 Mathematics
Question 6: Constructed-Response

Reporting Category: Expressions and Equations
Standard: 6.EE.B.6 - Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
Item Description: Create and evaluate expressions based on a real-world situation.
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 Expressions and Equations concepts involved in using variables to represent numbers in real-world contexts, and writing and reasoning about expressions to solve problems. The student provides expressions that model given situations, and uses those expressions to solve one-variable equations.
4B	
3	The student response demonstrates a good understanding of the Expressions and Equations concepts involved in using variables to represent numbers in real-world contexts, and writing and reasoning about expressions to solve problems. 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 Expressions and Equations concepts involved in using variables to represent numbers in real-world contexts, and writing and reasoning about expressions to solve problems. 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 Expressions and Equations concepts involved in using variables to represent numbers in real-world contexts, and writing and reasoning about expressions to solve problems. As a result, the response merits 1 point.
0	The student response contains insufficient evidence of the Expressions and Equations concepts involved in using variables to represent numbers in real-world contexts, and writing and reasoning about expressions to solve problems.

*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 bakery sells boxes of cupcakes. Each box of cupcakes costs $\$5.00$.

Part A

What is the total cost, in dollars, of 8 boxes of cupcakes? Show or explain how you got your answer.

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

$8 \times 5 = \$40$

Part B

Write an expression that represents the total cost, in dollars, of c boxes of cupcakes.

Enter your expression in the space provided.

$5c$

Part C

A coupon for the bakery offers $\$2.50$ off any purchase of cupcakes. The coupon may be used only once.

Write an expression that represents the total cost, in dollars, of c boxes of cupcakes if the coupon is used.

Enter your expression in the space provided.

$5c - 2.50$

Part D

A teacher plans to spend $\$47.50$ purchasing cupcakes for her class.

If she uses the coupon for $\$2.50$ off her purchase at the bakery, what is the total number of boxes of cupcakes that she can purchase? Show or explain how you got your answer.

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

$\$47.50 + \$2.50 = \$50$

$\$50 \div 5 = 10$ boxes

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Score Point 4B

This question has four parts.

A bakery sells boxes of cupcakes. Each box of cupcakes costs $\$5.00$.

Part A

What is the total cost, in dollars, of 8 boxes of cupcakes? Show or explain how you got your answer.

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

The total cost of 8 boxes of cupcakes is $40.

$\$5.00 \cdot 8 = \$40.00$

Part B

Write an expression that represents the total cost, in dollars, of c boxes of cupcakes.

Enter your expression in the space provided.

$c \cdot \$5.00$

Part C

A coupon for the bakery offers $\$2.50$ off any purchase of cupcakes. The coupon may be used only once.

Write an expression that represents the total cost, in dollars, of c boxes of cupcakes if the coupon is used.

Enter your expression in the space provided.

$\$5.00c - \$2.50$

Part D

A teacher plans to spend $\$47.50$ purchasing cupcakes for her class.

If she uses the coupon for $\$2.50$ off her purchase at the bakery, what is the total number of boxes of cupcakes that she can purchase? Show or explain how you got your answer.

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

The teacher can purchase a total of 10 boxes of cupcakes. I know this because 10 boxes of cupcakes would cost $50.00. If the teacher uses her coupon for $2.50 off of her purchase, the total comes out to $47.50. So, the techer can buy a total of 10 boxes of cupcakes.

$10 \cdot \$5.00 = \$50.00$

$\$50.00 - \$2.50 = \$47.50$

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Score Point 3

This question has four parts.

A bakery sells boxes of cupcakes. Each box of cupcakes costs $\$5.00$.

Part A

What is the total cost, in dollars, of 8 boxes of cupcakes? Show or explain how you got your answer.

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

$8 \times 5 = 40$ dollars or $40

8 boxes x $5.00

Part B

Write an expression that represents the total cost, in dollars, of c boxes of cupcakes.

Enter your expression in the space provided.

$c \times 5$

Part C

A coupon for the bakery offers $\$2.50$ off any purchase of cupcakes. The coupon may be used only once.

Write an expression that represents the total cost, in dollars, of c boxes of cupcakes if the coupon is used.

Enter your expression in the space provided.

$c \times 5 - 2.50$

Part D

A teacher plans to spend $\$47.50$ purchasing cupcakes for her class.

If she uses the coupon for $\$2.50$ off her purchase at the bakery, what is the total number of boxes of cupcakes that she can purchase? Show or explain how you got your answer.

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

$47.50 - 2.50 = 45$

$45 \div 9 = 5$

The teacher can buy a total of 9 boxes of cupcakes.

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Score Point 2

This question has four parts.

A bakery sells boxes of cupcakes. Each box of cupcakes costs $\$5.00$.

Part A

What is the total cost, in dollars, of 8 boxes of cupcakes? Show or explain how you got your answer.

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

$5 \times 8 = 40$

$40.00

Part B

Write an expression that represents the total cost, in dollars, of c boxes of cupcakes.

Enter your expression in the space provided.

$5 \times 8 = \$40.00$

Part C

A coupon for the bakery offers $\$2.50$ off any purchase of cupcakes. The coupon may be used only once.

Write an expression that represents the total cost, in dollars, of c boxes of cupcakes if the coupon is used.

Enter your expression in the space provided.

$40 - 2.5 = \$37.5$

Part D

A teacher plans to spend $\$47.50$ purchasing cupcakes for her class.

If she uses the coupon for $\$2.50$ off her purchase at the bakery, what is the total number of boxes of cupcakes that she can purchase? Show or explain how you got your answer.

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

$47.5 + 2.5 = \$50.0$

$50 \div 5 = 10$

She can buy 10 boxes

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Score Point 1

This question has four parts.

A bakery sells boxes of cupcakes. Each box of cupcakes costs $\$5.00$.

Part A

What is the total cost, in dollars, of 8 boxes of cupcakes? Show or explain how you got your answer.

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

$8 \times 5 = 40$

$40.00

Part B

Write an expression that represents the total cost, in dollars, of c boxes of cupcakes.

Enter your expression in the space provided.

$8 \times 5 = c$

Part C

A coupon for the bakery offers $\$2.50$ off any purchase of cupcakes. The coupon may be used only once.

Write an expression that represents the total cost, in dollars, of c boxes of cupcakes if the coupon is used.

Enter your expression in the space provided.

$(8 \times 5) \div 2.50$

Part D

A teacher plans to spend $\$47.50$ purchasing cupcakes for her class.

If she uses the coupon for $\$2.50$ off her purchase at the bakery, what is the total number of boxes of cupcakes that she can purchase? Show or explain how you got your answer.

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

The teacher can get 9 boxes of cupckaes.

Each box is $5.00. I did $47.50 \div 5 = 9.50$. She can't get half a box so she can get 9. She wil only spend $43.50

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Score Point 0

This question has four parts.

A bakery sells boxes of cupcakes. Each box of cupcakes costs $\$5.00$.

Part A

What is the total cost, in dollars, of 8 boxes of cupcakes? Show or explain how you got your answer.

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

$8 + 5 = 13$ dollars

Part B

Write an expression that represents the total cost, in dollars, of c boxes of cupcakes.

Enter your expression in the space provided.

$c + 5 = x$

Part C

A coupon for the bakery offers $\$2.50$ off any purchase of cupcakes. The coupon may be used only once.

Write an expression that represents the total cost, in dollars, of c boxes of cupcakes if the coupon is used.

Enter your expression in the space provided.

$c - 2.50 = x$

Part D

A teacher plans to spend $\$47.50$ purchasing cupcakes for her class.

If she uses the coupon for $\$2.50$ off her purchase at the bakery, what is the total number of boxes of cupcakes that she can purchase? Show or explain how you got your answer.

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

$47.50 - 2.50 = 45.00 = 40$ boxes of cupcakes

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