

2026 MCAS Sample Student Work and Scoring Guide

Grade 7 Mathematics

Question 3: Constructed-Response

Reporting Category: Expressions and Equations

Standard: [7.EE.B.4](#) - Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

Item Description: Write and solve equations and inequalities in a real-world problem.

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 4B	The student response demonstrates an exemplary understanding of the Expressions and Equations concepts involved in using variables to represent quantities in a real-world or mathematical problem, and of constructing simple equations and inequalities to solve problems by reasoning about the quantities.
3	The student response demonstrates a good understanding of the Expressions and Equations concepts involved in using variables to represent quantities in a real-world or mathematical problem, and of constructing simple equations and inequalities to solve problems by reasoning about the quantities. 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 quantities in a real-world or mathematical problem, and of constructing simple equations and inequalities to solve problems by reasoning about the quantities. 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 quantities in a real-world or mathematical problem, and of constructing simple equations and inequalities to solve problems by reasoning about the quantities.
0	The student response contains insufficient evidence of an understanding of the Expressions and Equations concepts involved in using variables to represent quantities in a real-world or mathematical problem, and of constructing simple equations and inequalities to solve problems by reasoning about the quantities. 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.

An online company prints and ships photos.

- The company charges \$0.10 per photo to print each order of photos.
- The company charges a flat rate of \$4.95 to ship each order.

Part A

What is the total amount of money, in dollars, the company charges to print and ship an order of 50 photos? Show or explain how you got your answer.

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

The company charges \$9.95 to ship and print 50 photos.

This is because $\$0.10 \times 50 = \5 and $\$5 + \$4.95 = \$9.95$

Part B

Write an equation that can be used to find c , the total amount of money, in dollars, the company charges to print and ship an order of p photos.

Enter your equation in the space provided.

$$c = p \cdot 0.10 + 4.95$$

Part C

The company charged a total of \$13.35 to print and ship an order of photos. What was the number of photos in the order? Show or explain how you got your answer.

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

There were photos orderd.

$$13.35 - 4.95 = 8.40$$

$$8.40 \div 0.10 = 84$$

Part D

A customer will order some photos from the online company. The customer wants to spend less than \$17.45.

Write **and** solve an inequality that can be used to find p , the possible numbers of photos the customer can order from the online company **and** spend less than a total of \$17.45. Show or explain how you got your answer.

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

The customer can use the inequality $17.45 > 4.95 + 0.10p$ this can be solved to show that the maximum amount of photos they can order is 124.

$$17.45 - 4.95 = 12.50$$

$12.50 \div 0.10 = 125$ but we want less than \$17.45 spent so 124 is the maximum leving you with 10 cents.

Score Point 4B

This question has four parts.

An online company prints and ships photos.

- The company charges \$0.10 per photo to print each order of photos.
- The company charges a flat rate of \$4.95 to ship each order.

Part A

What is the total amount of money, in dollars, the company charges to print and ship an order of 50 photos? Show or explain how you got your answer.

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

$$0.1 \cdot 50 = 5 \quad 5 + 4.95 = 9.95$$

Part B

Write an equation that can be used to find c , the total amount of money, in dollars, the company charges to print and ship an order of p photos.

Enter your equation in the space provided.

$$p0.1 + 4.95 = c$$

Part C

The company charged a total of \$13.35 to print and ship an order of photos. What was the number of photos in the order? Show or explain how you got your answer.

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

$$13.35 - 4.95 = 8.4$$

$$8.4 \div 0.1 = 84$$

Part D

A customer will order some photos from the online company. The customer wants to spend less than \$17.45.

Write **and** solve an inequality that can be used to find p , the possible numbers of photos the customer can order from the online company **and** spend less than a total of \$17.45. Show or explain how you got your answer.

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

$$p0.1 + 4.95 < 17.45$$

$$4.95 - 4.95 = 0 \quad 17.45 - 4.95 = 12.5$$

$$p0.1 < 12.5$$

$$p0.1 \div 0.1 = p$$

$$12.5 \div 0.1 = 125$$

$$p < 125$$

Score Point 3

This question has four parts.

An online company prints and ships photos.

- The company charges \$0.10 per photo to print each order of photos.
- The company charges a flat rate of \$4.95 to ship each order.

Part A

What is the total amount of money, in dollars, the company charges to print and ship an order of 50 photos? Show or explain how you got your answer.

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

The total amount would be \$9.95 because we have to multiply $\$0.10 \times 50 = 5$ and then we add the \$4.95 to find the total which is \$9.95

Part B

Write an equation that can be used to find c , the total amount of money, in dollars, the company charges to print and ship an order of p photos.

Enter your equation in the space provided.

$$\$0.10p + 4.95 = c$$

Part C

The company charged a total of \$13.35 to print and ship an order of photos. What was the number of photos in the order? Show or explain how you got your answer.

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

84 photos because we subtract \$4.95 from \$13.35 = 8.40 and then we do $\$8.40 \div \$0.10 = 84$

Part D

A customer will order some photos from the online company. The customer wants to spend less than \$17.45.

Write **and** solve an inequality that can be used to find p , the possible numbers of photos the customer can order from the online company **and** spend less than a total of \$17.45. Show or explain how you got your answer.

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

$$17.45 \div 0.10 = p$$

Score Point 2

This question has four parts.

An online company prints and ships photos.

- The company charges \$0.10 per photo to print each order of photos.
- The company charges a flat rate of \$4.95 to ship each order.

Part A

What is the total amount of money, in dollars, the company charges to print and ship an order of 50 photos? Show or explain how you got your answer.

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

10 cents for 1 photo

10 photos = 1 dollar

50 photos = 5 dollars

5 + 4.95 for shipping

means you pay 9.95 for 50 photos and shipping

Part B

Write an equation that can be used to find c , the total amount of money, in dollars, the company charges to print and ship an order of p photos.

Enter your equation in the space provided.

$c = \text{total amount of money}$

$p = \text{how many photos}$

$r = 10 \text{ cents per photo}$

$p \times r = c$

Part C

The company charged a total of \$13.35 to print and ship an order of photos. What was the number of photos in the order? Show or explain how you got your answer.

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

$13.35 - 4.95 \text{ for shipping} = 8.40$

8.40 divided by 10 cents = 84 photos

Part D

A customer will order some photos from the online company. The customer wants to spend less than \$17.45.

Write **and** solve an inequality that can be used to find p , the possible numbers of photos the customer can order from the online company **and** spend less than a total of \$17.45. Show or explain how you got your answer.

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

$c = \text{total money}$

$s = \text{shipping}$

$p = \text{price (ten cents)}$

$o = \text{number of photos}$

$c - s \div p = o$

Score Point 1

This question has four parts.

An online company prints and ships photos.

- The company charges \$0.10 per photo to print each order of photos.
- The company charges a flat rate of \$4.95 to ship each order.

Part A

What is the total amount of money, in dollars, the company charges to print and ship an order of 50 photos? Show or explain how you got your answer.

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

The total amount of money the company charges to print and ship an order of 50 photos is \$9.95. I got this answer because I multiplied 0.10 by 50 then added the \$4.95 for shipping.

Part B

Write an equation that can be used to find c , the total amount of money, in dollars, the company charges to print and ship an order of p photos.

Enter your equation in the space provided.

$$0.10 + 4.95 + p = c$$

Part C

The company charged a total of \$13.35 to print and ship an order of photos. What was the number of photos in the order? Show or explain how you got your answer.

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

The numbe of photos in the order were 45. I got this answer because I added up 0.10 and then added the 4.95.

Part D

A customer will order some photos from the online company. The customer wants to spend less than \$17.45.

Write **and** solve an inequality that can be used to find p , the possible numbers of photos the customer can order from the online company **and** spend less than a total of \$17.45. Show or explain how you got your answer.

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

$$\text{I got } p = 65$$

Score Point 0

This question has four parts.

An online company prints and ships photos.

- The company charges \$0.10 per photo to print each order of photos.
- The company charges a flat rate of \$4.95 to ship each order.

Part A

What is the total amount of money, in dollars, the company charges to print and ship an order of 50 photos? Show or explain how you got your answer.

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

$$50 \times 0.10 = 5.00$$

$$50 \times 4.95 = 247.5$$

$$247.5 + 5.00 = 252.50$$

It costs \$252.5 in total.

Part B

Write an equation that can be used to find c , the total amount of money, in dollars, the company charges to print and ship an order of p photos.

Enter your equation in the space provided.

$$c = p(0.10 + 4.95)$$

Part C

The company charged a total of \$13.35 to print and ship an order of photos. What was the number of photos in the order? Show or explain how you got your answer.

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

$$4.95 + 0.10 = 5.05$$

$$13.35 \div 5.05 = 3 \text{ (rounded)}$$

The order had 3 photos.

Part D

A customer will order some photos from the online company. The customer wants to spend less than \$17.45.

Write **and** solve an inequality that can be used to find p , the possible numbers of photos the customer can order from the online company **and** spend less than a total of \$17.45. Show or explain how you got your answer.

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

$$17.45 \leq p \times 5.05$$

$$5.05 \times 3 = 15.15$$

The customer can order 3 photos.