2025 MCAS Sample Student Work and Scoring Guide

Grade 3 Mathematics
Question 4: Constructed-Response

Reporting Category: Measurement and Data
Standard: 3.MD.D.8 - Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
Item Description: Determine the area and perimeter of a rectangle with given dimensions and identify the dimensions of a different rectangle that has the same perimeter but a different area as the given rectangle.
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
3A	The student response demonstrates an exemplary understanding of the Measurement and Data concepts involved in solving real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. The student correctly finds the area and perimeter of a rectangle given the dimensions and identifies the dimensions of a different rectangle that has the same perimeter as the given rectangle but a different area.
3B	
2	The student response demonstrates a good understanding of the Measurement and Data concepts involved in solving real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. 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 2 points.
1	The student response demonstrates a minimal understanding of the Measurement and Data concepts involved in solving real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. While some aspects of the task are completed correctly, others are not. The mixed evidence provided by the student merits 1 point.
0	The student response contains insufficient evidence of an understanding of the Measurement and Data concepts involved in solving real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. 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., 3A and 3B).

Score Point 3A

This question has three parts.

Taylor drew this diagram of a rectangle. She labeled the length and the width of the rectangle in centimeters (cm).

4 cm

8 cm
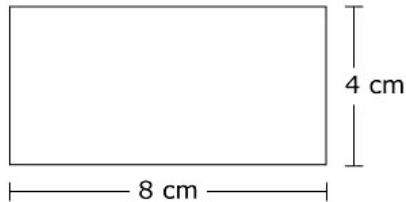
Part A

What is the area, in square centimeters, of Taylor's rectangle? Show or explain how you got your answer.

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

> The area is 32sq cm because
> $8 \times 4 = 32.$

Part B

What is the perimeter, in centimeters, of Taylor's rectangle? Show or explain how you got your answer.

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

> The perimeter of her rectangle is 24cm because if you add
> $4 + 8 + 4 + 8$ you get 24cm.

Part C

Jamie drew a rectangle that has the **same** perimeter as Taylor's rectangle but a **different** area.

What could be the length **and** the width, in centimeters, of Jamie's rectangle? Show or explain how you got your answers.
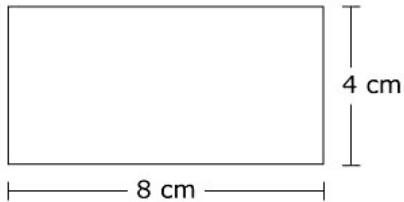
Enter your answers and your work or explanation in the space provided.

> The length could be 10cm and the width could be 2cm because
> $2 + 10 + 2 + 10 = 24$cm and that is the same perimeter as taylors rectangle and the area is 20cm because $2 \times 10 = 20.$

Score Point 3B

This question has three parts.

Taylor drew this diagram of a rectangle. She labeled the length and the width of the rectangle in centimeters (cm).

4 cm

8 cm

Part A

What is the area, in square centimeters, of Taylor's rectangle? Show or explain how you got your answer.

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

$$8\,\text{cm} \times 4\,\text{cm} = 32 \qquad 32 \text{ sq cm}$$

Part B

What is the perimeter, in centimeters, of Taylor's rectangle? Show or explain how you got your answer.

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

$$8 + 8 + 4 + 4 = 24 \qquad 24 \text{ cm}$$

Part C

Jamie drew a rectangle that has the **same** perimeter as Taylor's rectangle but a **different** area.

What could be the length **and** the width, in centimeters, of Jamie's rectangle? Show or explain how you got your answers.
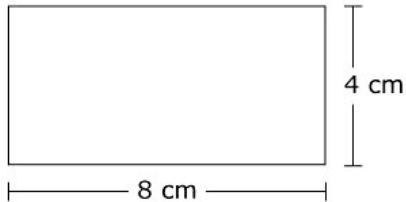
Enter your answers and your work or explanation in the space provided.

$$7 + 7 + 5 + 5 = 24 \quad 7 \times 5 = 35$$

Score Point 2

This question has three parts.

Taylor drew this diagram of a rectangle. She labeled the length and the width of the rectangle in centimeters (cm).

4 cm

8 cm

Part A

What is the area, in square centimeters, of Taylor's rectangle? Show or explain how you got your answer.

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

$$4\,\text{cm} \times 8\,\text{cm} = 32\ \text{sq.cm.}$$

Part B

What is the perimeter, in centimeters, of Taylor's rectangle? Show or explain how you got your answer.

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

$$8\,\text{cm} + 8\,\text{cm} = 16\,\text{cm}$$
$$4\,\text{cm} + 4\,\text{cm} = 8\,\text{cm}$$
$$16\,\text{cm} + 8\,\text{cm} = 24\mathit{sq}.\text{cm.}$$

Part C

Jamie drew a rectangle that has the **same** perimeter as Taylor's rectangle but a **different** area.

What could be the length **and** the width, in centimeters, of Jamie's rectangle? Show or explain how you got your answers.
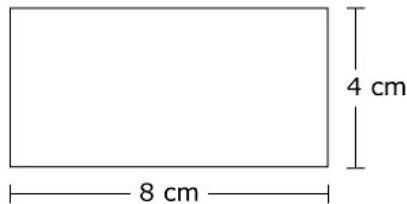
Enter your answers and your work or explanation in the space provided.

$$6\,\text{cm} \times 4\,\text{cm} = 24\mathit{sq}.\text{cm.}$$

Back to Scoring Guide

Score Point 1

This question has three parts.

Taylor drew this diagram of a rectangle. She labeled the length and the width of the rectangle in centimeters (cm).

4 cm

8 cm

Part A

What is the area, in square centimeters, of Taylor's rectangle? Show or explain how you got your answer.

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

How I got 29 is I skip counted by 8's.

Part B

What is the perimeter, in centimeters, of Taylor's rectangle? Show or explain how you got your answer.

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

How I got 24 is that I first add $4 + 4$ and got 8 then i added $8 + 8$ and got 16 so then I added $16 + 8$ and got $24.$

Part C

Jamie drew a rectangle that has the **same** perimeter as Taylor's rectangle but a **different** area.

What could be the length **and** the width, in centimeters, of Jamie's rectangle? Show or explain how you got your answers.
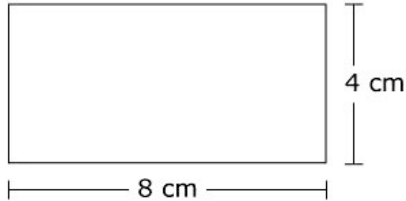
Enter your answers and your work or explanation in the space provided.

Jamies sides we 4 and 6.

[Back to Scoring Guide](#)

Score Point 0

This question has three parts.

Taylor drew this diagram of a rectangle. She labeled the length and the width of the rectangle in centimeters (cm).

Part A

What is the area, in square centimeters, of Taylor's rectangle? Show or explain how you got your answer.

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

$$8 \times 8 = 64$$
$$\text{and } 4 \times 4 = 16$$
$$64 + 16 = 80$$

Part B

What is the perimeter, in centimeters, of Taylor's rectangle? Show or explain how you got your answer.

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

$$4 \times 8 = 32$$

Part C

Jamie drew a rectangle that has the **same** perimeter as Taylor's rectangle but a **different** area.

What could be the length **and** the width, in centimeters, of Jamie's rectangle? Show or explain how you got your answers.

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

Jamie could have $2 \times 16 = 32$