

2026 MCAS Sample Student Work and Scoring Guide

Grade 6 Mathematics

Question 7: Constructed-Response

Reporting Category: Geometry

Standard: [6.G.A.4](#) - Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

Item Description: Identify a three-dimensional figure from its net and find the surface area of that figure in the context of 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.

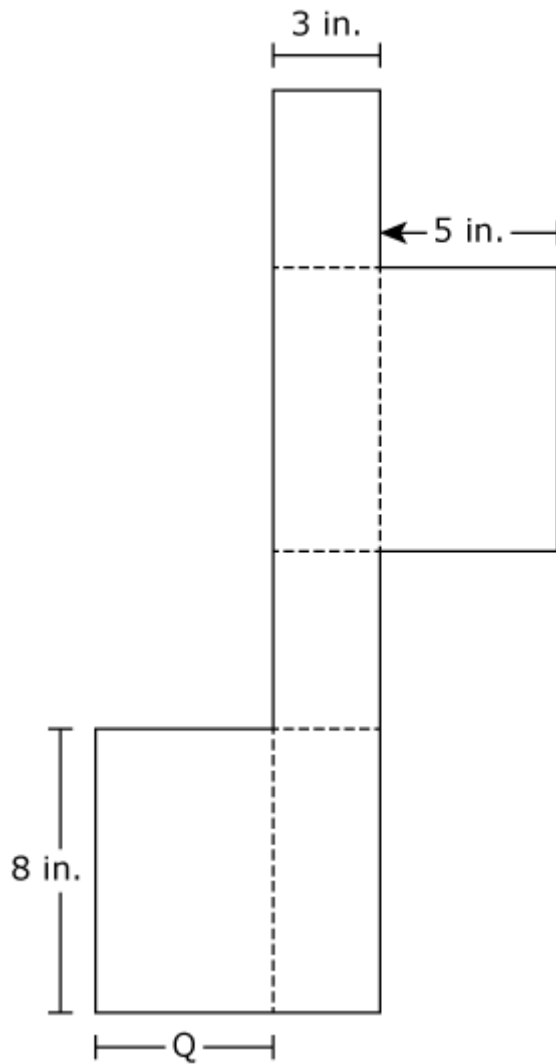
Score*	Description
4A 4B	The student response demonstrates an exemplary understanding of the Geometry concepts involved in representing three-dimensional figures using nets made up of rectangles, and using the nets to find the surface areas of these figures. The student correctly determines the length of a side in a net, and then finds the surface area in order to solve a real-world problem.
3	The student response demonstrates a good understanding of the Geometry concepts involved in representing three-dimensional figures using nets made up of rectangles, and using the nets to find the surface areas of these figures. 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 Geometry concepts involved in representing three-dimensional figures using nets made up of rectangles, and using the nets to find the surface areas of these figures. 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 Geometry concepts involved in representing three-dimensional figures using nets made up of rectangles, and using the nets to find the surface areas of these figures.
0	The student response contains insufficient evidence of an understanding of the Geometry concepts involved in representing three-dimensional figures using nets made up of rectangles, and using the nets to find the surface areas of these figures. 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).

Question Introduction

This question has four parts.

A carpenter is making a box. Each side of the box is in the shape of a rectangle.



Score Point 4A

Part A

What is the mathematical name of the three-dimensional figure that the net represents?

- ☐ A cube
- ☐ B square pyramid
- ☐ C triangular prism
- ☒ D right rectangular prism

Part B

Based on the diagram, what is the length, in inches, of side Q?

Enter your answer in the space provided.

side Q is 5 inches long

Part C

What is the total surface area, in square inches, of the box? Show or explain how you got your answer.

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

The surface area is 158 inches. I know this because $40 + 40 + 15 + 24 + 24 + 15 = 158$.

Part D

The carpenter will cover the entire outer surface of the box with tiles, without gaps or overlaps. The cost of the tiles is \$0.05 per square inch.

What is the **total** cost, in dollars, of the tiles needed to cover the entire outer surface of the box? Show or explain how you got your answer.

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

the total cost in dollars will be \$7.90. I know this because $158 \times 0.05 = 7.90$.

Score Point 4B

Part A

What is the mathematical name of the three-dimensional figure that the net represents?

- ☐ A cube
- ☐ B square pyramid
- ☐ C triangular prism

☒ D right rectangular prism

Part B

Based on the diagram, what is the length, in inches, of side Q?

Enter your answer in the space provided.

The answer is 5 inches because it is mirroring the box that juts out to the right, because when you fold it up it is the opposite side. The length (or Q) of the block jutting out to the right is 5 inches. That is how I got my answer.

Part C

What is the total surface area, in square inches, of the box? Show or explain how you got your answer.

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

The answer is 158 square inches, and I will explain why. The biggest box's area is 40 and there are two of them so that is 80. The second biggest box's area is 24 and there are two of them so that is 48. Finally, the smallest box's area is 15, and there are also two of them so that is 30. When you add them all up you get 158 square inches.

Part D

The carpenter will cover the entire outer surface of the box with tiles, without gaps or overlaps. The cost of the tiles is \$0.05 per square inch.

What is the **total** cost, in dollars, of the tiles needed to cover the entire outer surface of the box? Show or explain how you got your answer.

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

$158 \times .05 = 7.90$, I did this because each square inch costs \$0.05 and you have to cover 158 square inches.

Score Point 3

Part A

What is the mathematical name of the three-dimensional figure that the net represents?

- ☐ A cube
- ☐ B square pyramid
- ☐ C triangular prism
- ☒ D right rectangular prism

Part B

Based on the diagram, what is the length, in inches, of side Q?

Enter your answer in the space provided.

5

Part C

What is the total surface area, in square inches, of the box? Show or explain how you got your answer.

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

158 because $40+15+15+40+24+24=158$

Part D

The carpenter will cover the entire outer surface of the box with tiles, without gaps or overlaps. The cost of the tiles is \$0.05 per square inch.

What is the **total** cost, in dollars, of the tiles needed to cover the entire outer surface of the box? Show or explain how you got your answer.

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

39.50 because 158 divided by 2 is 79 and then 79 divided by 2 is 39.50

Score Point 2

Part A

What is the mathematical name of the three-dimensional figure that the net represents?

- ☐ (A) cube
- ☐ (B) square pyramid
- ☐ (C) triangular prism
- ☒ (D) right rectangular prism

Part B

Based on the diagram, what is the length, in inches, of side Q?

Enter your answer in the space provided.

The inches of side Q is 5in.

Part C

What is the total surface area, in square inches, of the box? Show or explain how you got your answer.

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

The total surface area of the box is 78in, and I got my answer by adding all the surface area together.

Part D

The carpenter will cover the entire outer surface of the box with tiles, without gaps or overlaps. The cost of the tiles is \$0.05 per square inch.

What is the **total** cost, in dollars, of the tiles needed to cover the entire outer surface of the box? Show or explain how you got your answer.

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

The total cost of the tiles is \$39.00, and I got my answer by dividing 78 by 2.

Score Point 1

Part A

What is the mathematical name of the three-dimensional figure that the net represents?

- ☐ A cube
- ☐ B square pyramid
- ☒ C triangular prism
- ☐ D right rectangular prism

Part B

Based on the diagram, what is the length, in inches, of side Q?

Enter your answer in the space provided.

side Q is 5 in. because up on the top of the modle it says 5 in and it looks the same as side Q.

Part C

What is the total surface area, in square inches, of the box? Show or explain how you got your answer.

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

63 in.

Part D

The carpenter will cover the entire outer surface of the box with tiles, without gaps or overlaps. The cost of the tiles is \$0.05 per square inch.

What is the **total** cost, in dollars, of the tiles needed to cover the entire outer surface of the box? Show or explain how you got your answer.

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

\$1.20

Score Point 0

Part A

What is the mathematical name of the three-dimensional figure that the net represents?

- ☐ A cube
- ☒ B square pyramid
- ☐ C triangular prism
- ☐ D right rectangular prism

Part B

Based on the diagram, what is the length, in inches, of side Q?

Enter your answer in the space provided.

8 inches

Part C

What is the total surface area, in square inches, of the box? Show or explain how you got your answer.

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

25, I counted all the numbers together.

Part D

The carpenter will cover the entire outer surface of the box with tiles, without gaps or overlaps. The cost of the tiles is \$0.05 per square inch.

What is the **total** cost, in dollars, of the tiles needed to cover the entire outer surface of the box? Show or explain how you got your answer.

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

5.05 dollars, I figured it would be 5s because of the 5 shown in the diagram, there is more lines that size so I counted them, put them together and got my answer.