

NWEA Assessment Item Illustrating 6.G.A.4

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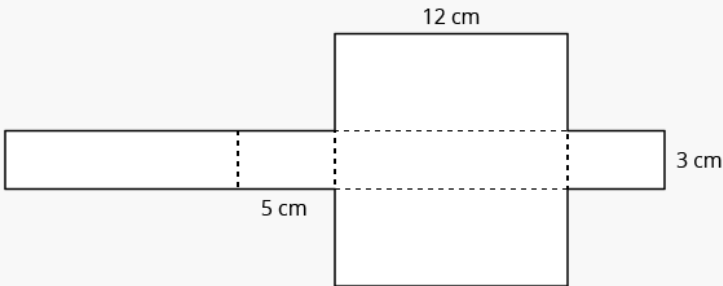
Domain: Geometry

6.G.A: Solve real-world and mathematical problems involving area, surface area, and volume.

Calculator Availability: Yes

Use the information to answer the question.

The net of a rectangular prism is shown.



What is the surface area of the rectangular prism? Enter the answer in the box.

 cm²

Alignment: 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.

Area and volume provide a context for creating and using expressions and equations to solve problems. Decomposing a polygon into rectangles, triangles, or other shapes makes use of the additive property. Students need to determine how to use the net and the area of the base without labels to determine the surface area of the figure.

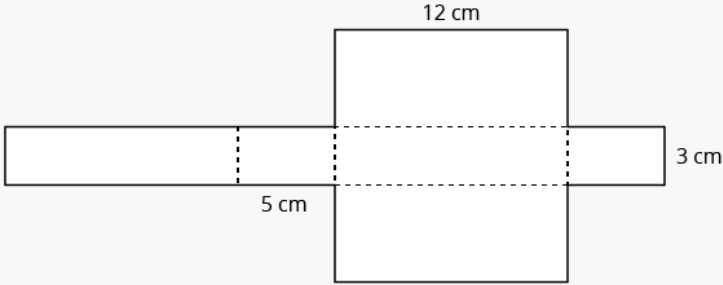
Coherence: In grade 3, students began developing the concept of area as tiling and learned that the measurement of rectangular regions is a multiplicative relationship of the number of square units in a row and the number of rows.^{3.MD.C} In grade 4, students found the area of rectangles using a formula.^{4.MD.A.3} In grade 6, students tie together the work of decomposing figures and using additive properties to solve problems involving areas of polygons and surface area of prisms using nets. This work extends to grade 7, when students will solve real-world and mathematical problems involving area, volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.^{7.G.B.6}

Rigor: This item attends to conceptual understanding. Students must understand the concept of a net as a two-dimensional representation of a three-dimensional figure and reason out the length of the sides and how to use the net to find the surface area of the rectangular prism.

Answer Key:

Use the information to answer the question.

The net of a rectangular prism is shown.



What is the surface area of the rectangular prism? Enter the answer in the box.

cm²

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