

NWEA Assessment Item Illustrating 3.MD.D.8

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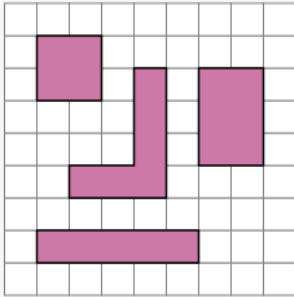
Domain: Measurement and Data

3.MD.D: Geometric Measurement: Recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

Calculator Availability: No

Use the information to complete the task.

Two of the figures shown have the same area.



□ = 1 square unit

Identify the two figures that have the same area. Then, move numbers to the boxes to show the perimeter of each of the two figures.

units

units

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Alignment: 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.

In grade 3, it is important for students to develop a strong understanding of the concepts of area^{3.MD.C} and perimeter and then to explore the relationship between the two measures. In this item, students need to understand that perimeter is a linear measure, and area is not linear, and that shapes can have the same area but different perimeters

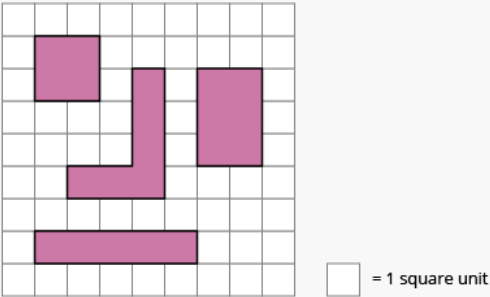
Coherence: Perimeter and area concepts are an extension of the linear measurement work that students started in grade 2^{2.MD.A.1} when they learned to measure using standard units and tools, such as rulers. This item connects to grade-level problem solving skills by using the four operations that students work with in the grade 3 Operations and Algebraic Thinking domain.^{3.OA.D.8} Learning area measurement in grade 3 provides a foundation for the work that students will do in grade 5 when they learn about volume.^{5.MD.C}

Rigor: This item attends to procedural skill and conceptual understanding. If students use multiplication to determine the area of figures, then they will be doing a grade-level procedure. However, if students simply count the squares for each figure, they will be working below grade level in terms of procedure. Because students are connecting their understanding of the concepts of area and perimeter (and possibly performing a grade-level procedure), this item is at a slightly higher level of complexity in terms of conceptual understanding.

Answer Key:

Use the information to complete the task.

Two of the figures shown have the same area.



Identify the two figures that have the same area. Then, move numbers to the boxes to show the perimeter of each of the two figures.

14 units

10 units

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

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