

## MAT.03.ER.3.000MD.E.606 Claim 3

Sample Item ID:	MAT.03.ER.3.000MD.E.606
Grade:	03
Primary Claim:	<b>Claim 3: Communicating Reasoning</b> Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others.
Secondary Claim(s):	Claim 1: Concepts and Procedures Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.
Primary Content Domain:	Measurement and Data
Secondary Content Domain(s):	
Assessment Target(s):	3 E: Distinguish correct logic or reasoning from that which is flawed and—if there is a flaw in the argument—explain what it is.  1 I: Recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
Standard(s):	3.MD.5, 3.MD.6, 3.MD.8
Mathematical Practice(s):	1, 2, 3, 4, 6, 7
DOK:	2
Item Type:	ER
Score Points:	2
Difficulty:	M
Key:	See Sample Top-Score Response.
Stimulus/Source:	
Target-Specific Attributes (e.g., Accessibility Issues):	
Notes:	Part of PT set

Look at Figure Q and Figure R below.

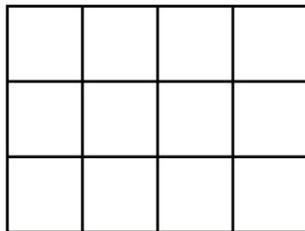


Figure Q

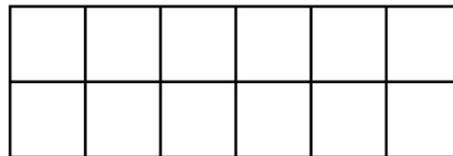


Figure R

 = 1 square centimeter

Mia said Figure Q and Figure R have equal areas and equal perimeters. She supported her thinking by saying that any two figures made of an equal number of unit squares always have equal areas and equal perimeters.

Is Mia correct? In the space below, use pictures, numbers, and words to explain why or why not.

*Sample Top-Score Response:*

No

Only the areas of the two figures are equal. Both figures have an area of 12 square units. The perimeters of the figures are not equal. Figure Q has a perimeter of 14 centimeters, but Figure R has a perimeter of 16 centimeters. Any two figures with an equal number of unit squares have to have equal areas but not equal perimeters.

*Scoring Rubric:*

*Responses to this item will receive 0–2 points, based on the following:*

**2 points:** The student demonstrates thorough understanding of distinguishing and explaining reasoning from that which is flawed and exhibits rectangles with the same areas and different perimeters by recognizing that Mia’s reasoning is incorrect and identifying the correct perimeters of both figures and providing a complete explanation.

**1 point:** The student demonstrates partial understanding of distinguishing and explaining reasoning from that which is flawed and exhibits rectangles with the same areas and different perimeters by recognizing that Mia’s reasoning is incorrect, but provides a partial explanation about the perimeters and areas of both figures. OR The student answers Yes and thinks Mia is correct, but provides a complete explanation with the incorrect answer.

**0 points:** The student shows little or no understanding of distinguishing and explaining correct reasoning from that which is flawed. The student does not recognize that rectangles can have equal areas, but different perimeters.