

Grade 3 Mathematics Sample ER Item Claim 2

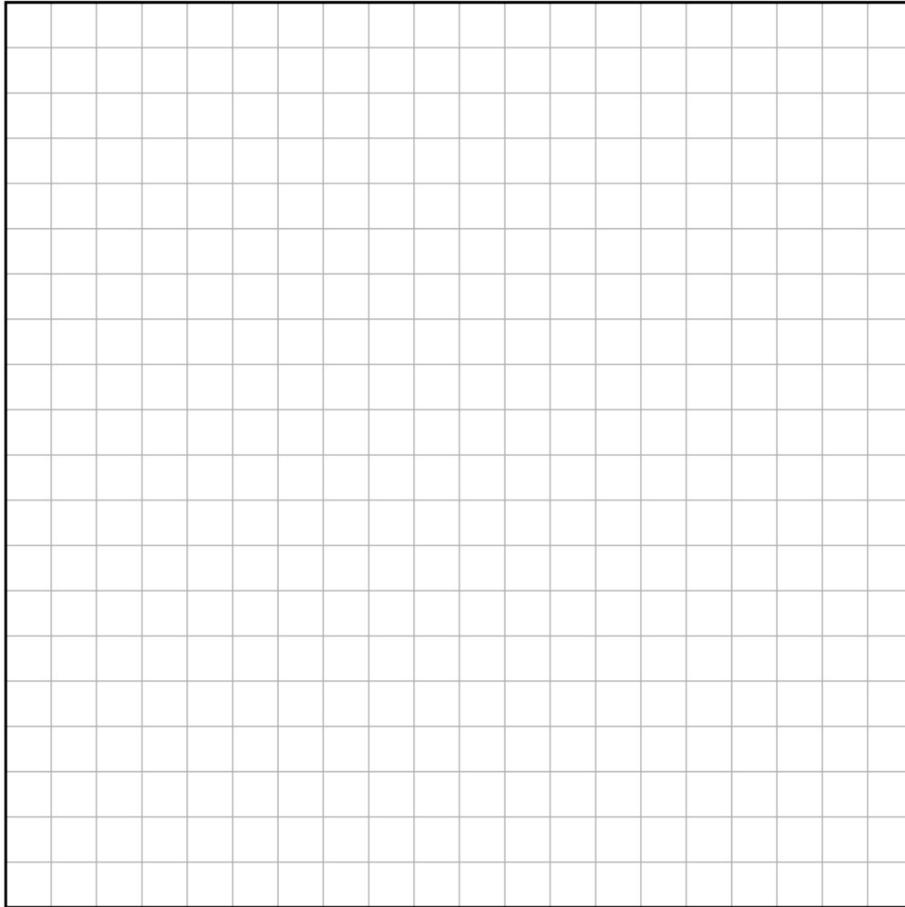


MAT.03.ER.2.000MD.C.022 Claim 2

Sample Item ID:	MAT.03.ER.2.000MD.C.022
Grade:	03
Primary Claim:	<b>Claim 2: Problem Solving</b> Students can solve a range of well-posed problems in pure and applied mathematics, making productive use of knowledge and problem-solving strategies.
Secondary Claim(s):	Claim 3: Communicating Reasoning Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others.  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):	Operations and Algebra
Assessment Target(s):	2C: Interpret results in the context of a situation.  2D: Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flowcharts, or formulas).  3A: Test propositions or conjectures with specific examples.  3F: Base arguments on concrete referents such as objects, drawings, diagrams, and actions.  2A: Apply mathematics to solve well-posed problems arising in everyday life, society, and the workplace.  1J: Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.  1D: Solve problems involving the four operations, and identify and explain patterns in arithmetic.
Standard(s):	3.MD.7, 3.OA.8
Mathematical Practice(s):	1, 2, 4, 6
DOK:	3
Item Type:	ER
Score Points:	4
Difficulty:	M
Key:	See Sample Top-Score Response.
Stimulus/Source:	
Target-Specific Attributes (e.g., Accessibility Issues):	
Notes:	Part of PT set

Jasper used the expression  $5 \times (10 + 3)$  to find the area of a rectangular closet floor, in square feet.

On the grid, draw a rectangle that Jasper could have measured.



What is the area of the closet floor? \_\_\_\_\_ square feet

Jasper has 200 square feet of tile. He will use some of the tile to cover the closet floor. He will only use whole tiles.

How many square feet of tile will Jasper have left after covering the closet floor with tile?

\_\_\_\_\_ square feet

Jasper wants to use some of the remaining tile to cover the floor of a kitchen. The kitchen is 12 feet long and 12 feet wide.

Does Jasper have enough tiles to cover the kitchen floor? Circle your answer.

Yes                  No

Show how you got your answer. You may use drawings, mathematical expressions/equations, and words.

*Sample Top-Score Response:*

Draws a 5x13 rectangle

65

135

11

No

He only has 135 square feet of tile.  $12 \times 12 = 144$ , this is more than 135.

*Scoring Rubric:*

Responses to this item will receive 0–4 points, based on the following:

**4 points:** The student shows thorough understanding of solving word problems involving the concepts of area by doing the following:

- Draws a 5x13 rectangle
- Writes 65
- Writes 135
- Writes 11
- Circles "No" (or if not responding here, states no in the work that follows)
- Shows work that leads to the answer that Jasper does not have enough tile (or that he needs more)

## Grade 3 Mathematics Sample ER Item Claim 2

**3 points:** The student shows understanding of solving word problems involving the concepts of area by doing 4 or 5 of the following **OR** makes one calculation error with supporting follow-through.

- Draws a 5x13 rectangle
- Writes 65
- Writes 135
- Writes 11
- Circles "No"
- Shows work that could lead to the answer that Jasper does not have enough tile (or that he needs more)

**2 points:** The student shows partial understanding of solving word problems involving the concepts of area by doing 3 of the following **OR** makes two calculation errors with follow-through.

- Draws a 5x13 rectangle
- Writes 65
- Writes 135
- Writes 11
- Circles "No"
- Shows work that could lead to the answer that Jasper does not have enough tile (or that he needs more)

**1 point:** The student shows limited understanding of solving word problems involving the concepts of area by doing 2 of the following **OR** makes more than two calculation errors but shows a strategy that could lead to a correct answer.

- Draws a 5x13 rectangle
- Writes 65
- Writes 135
- Writes 11
- Circles "No"
- Shows work that could lead to the answer that Jasper does not have enough tile (or that he needs more)

**0 points:** The student shows inconsistent or little or no understanding of solving word problems involving the concepts of area.