

Grade 6 Mathematics Sample ER Item Claim 3



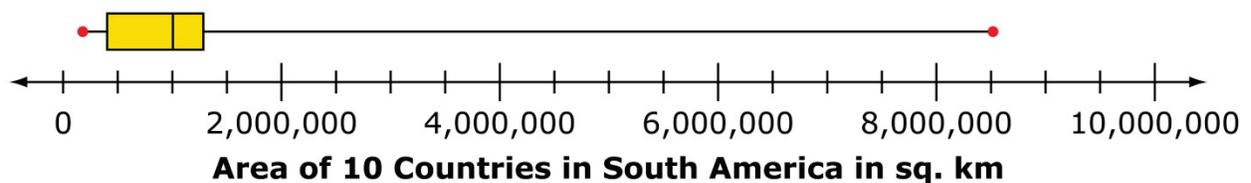
MAT.06.ER.3.000SP.F.195 Claim 3

Sample Item ID:	MAT.06.ER.3.000SP.F.195
Grade:	06
Primary Claim:	Claim 3: Communicating Reasoning 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 interpret and carry out mathematical procedures with precision and fluency. Claim 2: Problem Solving Students can solve a range of complex well-posed problems in pure and applied mathematics, making productive use of knowledge and problem solving strategies.
Primary Content Domain:	Statistics and Probability
Secondary Content Domain(s):	
Assessment Target(s):	3 F: Base arguments on concrete referents such as objects, drawings, diagrams, and actions. 3 B: Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures. 1 J: Summarize and describe distributions. 2 C: Interpret results in the context of a situation.
Standard(s):	6.SP.5
Mathematical Practice(s):	1, 3, 6, 7
DOK:	3
Item Type:	ER
Score Points:	2
Difficulty:	M
Key:	See Sample Top-Score Response.
Stimulus/Source:	
Target-Specific Attributes (e.g., accessibility issues):	
Notes:	

The areas, in square kilometers, of 10 countries in South America are shown in the table.

Country	Area, in Square Kilometers
Uruguay	176,215
Ecuador	256,369
Paraguay	406,752
Chile	756,102
Venezuela	912,050
Bolivia	1,098,581
Colombia	1,141,748
Peru	1,285,216
Argentina	2,780,400
Brazil	8,514,877

The data is also summarized in the box plot.



Which measure of center, the mean or the median, is best to use when describing this data? Thoroughly explain your reasoning for choosing one measure over the other measure.

Sample Top-Score Response:

The mean is not the best measure of center to use because the area of Brazil is much larger than the other areas. Only two areas are larger than the mean area. The best measure of center to use is the median because most of the areas are clustered together, as can be seen in the box plot, so the median reflects what the typical area is.

Scoring Rubric:

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

2 points: The student demonstrates thorough understanding of the best measure of center to use to describe a given set of data. The student provides a good explanation of why the mean is not the best AND why the median is the best.

1 point: The student demonstrates partial understanding of the best measure of center to use to describe a given set of data. The student provides either a good explanation of why the mean is not the best OR a good explanation of why the median is the best.

0 points: The student shows inconsistent or no understanding of the best measure of center to use to describe a given set of data. The student provides neither a good explanation of why the mean is not the best nor a good explanation of why the median is the best.