

MAT.08.ER.3.000NS.A.136 Claim 3

Sample Item ID:	MAT.08.ER.3.000NS.A.136
Grade:	08
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 carry out mathematical procedures with precision and fluency.
Primary Content Domain:	The Number System
Secondary Content Domain(s):	
Assessment Target(s):	3 A: Test propositions or conjectures with specific examples. 1 A: Know that there are numbers that are not rational, and approximate them by rational numbers.
Standard(s):	8.NS.1
Mathematical Practice(s):	1, 5, 7, 8
DOK:	2
Item Type:	ER
Score Points:	2
Difficulty:	M
Key:	See Sample Top-Score Response.
Stimulus/Source:	
Claim-Specific Attributes (e.g., accessibility issues):	Calculators may be used for this item.
Notes:	The purpose of this item is to test whether a student understands rational and irrational numbers.

A student made this conjecture and found two examples to support the conjecture.

If a rational number is not an integer, then the square root of the rational number is irrational. For example, $\sqrt{3.6}$ is irrational and $\sqrt{\frac{1}{2}}$ is irrational.

Provide two examples of non-integer rational numbers that show that the conjecture is **false**.

Example 1:

Example 2:

Sample Top-score Response:

Example 1: 2.25 Example 2: $\frac{1}{4}$

This item will require handscoring and verification of each response, independently.

Responses to this item will receive 1 point for each correct example.