

MAT.07.ER.3.000EE.D.156

Sample Item ID:	MAT.07.ER.3.000EE.D.156
Grade:	07
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.
Primary Content Domain:	Expressions and Equations
Secondary Content Domain(s):	The Number System
Assessment Target(s):	3 A: Test propositions or conjectures with specific examples. 1 D: Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
Standard(s):	7.EE.3, 7.EE.1, 7.NS.2
Mathematical Practice(s):	1, 3, 5
DOK:	3
Item Type:	ER
Score Points:	3
Difficulty:	M
Key:	See Sample Top-Score Response.
Stimulus/Source:	
Target-Specific Attributes (e.g., accessibility issues):	
Notes:	Part of PT set; some of the task can be AI scored.

Renee, Susan, and Martha will share the cost to rent a vacation house for a week.

- Renee will pay 40% of the cost.
- Susan will pay 0.35 of the cost.
- Martha will pay the remainder of the cost.

Part A

Martha thinks that she will pay $\frac{1}{3}$ of the cost. Is Martha correct? Use mathematics to justify your answer.

Part B

The cost to rent a vacation house for a week is \$850. How much will Renee, Susan, and Martha each pay to rent this house for a week?

Renee will pay \$

Susan will pay \$

Martha will pay \$

*Sample Top-Score Response:***Part A**

Martha is incorrect. She will pay $\frac{1}{4}$ of the cost.

$$1 - (40\% + 0.35)$$

$$1 - (0.40 + 0.35)$$

$$1 - 0.75$$

$$0.25 = \frac{25}{100} = \frac{1}{4}$$

Part B

Renee - \$340

Susan - \$297.50

Martha - \$212.50

Scoring Rubric:

Responses to this item will receive 0–3 points, based on the following:

- 3 points:** The student shows a thorough understanding of how solving a real-world problem can lead to flawed reasoning. The student shows a thorough understanding of solving a real-world problem involving numeric expressions with rational numbers. This is shown by the student indicating that Martha is incorrect with justification and correctly calculates the amount each person pays.
- 2 points:** The student shows good understanding of solving a real-world problem involving numeric expressions with rational numbers. The student recognizes that Martha will not pay $\frac{1}{3}$ of the cost, but makes a minor error in showing the calculations to support the response to Part A. This error is then consistently applied in responding to Part B.
- 1 point:** The student shows limited understanding of solving a real-world problem involving numeric expressions with rational numbers. The student can correctly calculate Renee's and/or Susan's portion of the trip, but other parts of the response are incorrect.
- 0 points:** The student shows inconsistent or no understanding of how solving a real-world problem can lead to flawed reasoning or how to solve a real-world problem involving numeric expressions with rational numbers. Simply claiming that Martha's portion of the trip rental is not equal to $\frac{1}{3}$ is not sufficient to earn any points.