

Choosing a Common Denominator

Mikala shared this solution to a fraction calculation.

$$\begin{aligned}2\frac{1}{2} + \frac{2}{3} - \frac{1}{4} - \frac{1}{6} &= 2\frac{1}{2} \times \frac{72}{72} + \frac{2}{3} \times \frac{48}{48} - \frac{1}{4} \times \frac{36}{36} - \frac{1}{6} \times \frac{24}{24} \\ &= 2\frac{72}{144} + \frac{96}{144} - \frac{36}{144} - \frac{24}{144} \\ &= 2\frac{72}{144} + \frac{36}{144} \\ &= 2\frac{108}{144}\end{aligned}$$

1. Is Mikala's solution correct? If it is, explain how you know. If not, explain where Mikala made a mistake.

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2. Kaari solved the same question and got an answer of $2\frac{3}{4}$.

Explain how you know that Kaari's and Mikala's answers are the same.

3. Suggest a smaller common denominator that Mikala could have used in their solution. What strategy could Mikala use to determine this smaller value?