

Name: _____

Date: _____

Joshua's teacher asked him to add the fractions $\frac{1}{4}$, $\frac{1}{6}$, and $\frac{5}{12}$, but his teacher told him his answer was incorrect. He knows that in order to add fractions with unlike denominators, he has to find a common denominator and then add the numerators only. His work is shown below:

$$\begin{array}{r} \frac{1}{4} + \frac{1}{6} + \frac{5}{12} \\ \hline 1 + 1 + 5 \\ \hline 12 \\ \hline 7 \\ \hline 12 \end{array}$$

PART A

Explain the mistake that Joshua made.



Enter your answer in the space provided.

PART B

Find the correct value of $\frac{1}{4} + \frac{1}{6} + \frac{5}{12}$. Show your work or explain your answer.



Enter your answer and explanation in the space provided.

ANSWER KEY

Rubric Part A	
Score	Description
1	<p>Student response includes the following components:</p> <ul style="list-style-type: none"> • Reasoning component = 1 point <ul style="list-style-type: none"> ○ Student correctly explains Joshua’s mistake. <p>Sample Student Response: “Joshua did not correctly use equivalent fractions when converting all fractions into like fractions. He only changed the denominator of each fraction to 12, but did not change the numerators correctly. $\frac{1}{4}$ would become $\frac{3}{12}$, and $\frac{1}{6}$ would become $\frac{2}{12}$.”</p>
0	Student response is incorrect or irrelevant.
Rubric Part B	
Score	Description
2	<p>Student response includes the following components:</p> <ul style="list-style-type: none"> • Computation component = 1 point <ul style="list-style-type: none"> ○ Correct answer, $\frac{10}{12}$ or other equivalent fraction. • Reasoning component = 1 point <ul style="list-style-type: none"> ○ Student correctly shows work and/or explains answer. <p>Sample Student Response: “The correct answer is $\frac{10}{12}$ because $\frac{1}{4} + \frac{1}{6} + \frac{5}{12}$ would be changed into $\frac{3}{12} + \frac{2}{12} + \frac{5}{12} = \frac{10}{12}$.”</p> <p>OR other valid explanation.</p>
1	Student response includes 1 of the above elements.
0	Student response is incorrect or irrelevant.
Glow	Grow