

$$\frac{4}{2} \overset{\text{1}}{\nearrow} \frac{6}{3} = \frac{\overset{\text{This is important!}}{\textcircled{(3 \times 4)}} + \cancel{(2 \times 6)}}{\underset{\uparrow}{\cancel{2 \times 3}}} = \boxed{\frac{12 + 12}{6}} = \frac{24}{6} = \textcircled{4} \leftarrow \text{RESULT}$$

The diagram illustrates a common mistake in simplifying fractions. It shows the fraction  $\frac{4}{2} \times \frac{6}{3}$  being incorrectly simplified by multiplying the numerators and denominators separately, leading to  $\frac{(3 \times 4) + (2 \times 6)}{2 \times 3}$ . The text "WRONG!" is written in red above the expression. A red arrow points to the "1" in the original fraction, and a red circle highlights the  $(3 \times 4)$  term. A green arrow points to the  $2 \times 3$  term, with the text "This multiplication is not necessary Try to simplify." written below it. A blue box highlights the incorrect result  $\frac{12 + 12}{6}$ , and a blue arrow points from the box to the final result  $\frac{24}{6}$ . The final result  $4$  is circled in yellow, and a yellow arrow points to it with the label "RESULT".

This multiplication is not  
 necessary Try to simplify.