

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

The diagram illustrates a common mistake in simplifying the fraction $\frac{4}{2} \times \frac{6}{3}$. The initial step shows the fraction $\frac{4}{2}$ with a red arrow pointing to the numerator 4, labeled '1'. The next step shows the fraction $\frac{6}{3}$ with a red arrow pointing to the denominator 3, labeled '1'. The resulting fraction $\frac{(3 \times 4) + (2 \times 6)}{2 \times 3}$ is shown, with the numerator $(3 \times 4) + (2 \times 6)$ circled in red and labeled 'This is important!'. The denominator 2×3 is crossed out with a green line, and a green arrow points to it with the text 'This multiplication is not necessary Try to simplify.' The final result is $\frac{24}{6} = 4$, with the 4 circled in yellow and labeled 'RESULT'.

This multiplication is not
 necessary Try to simplify.