

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

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 is  $\frac{(3 \times 4) + (2 \times 6)}{2 \times 3}$ . The numerator is circled in red, and the denominator is crossed out in green. A red arrow points to the circled numerator, labeled 'This is important!'. A red arrow points to the crossed-out denominator, labeled 'WRONG!'. A green arrow points to the crossed-out denominator, labeled 'This multiplication is not necessary Try to simplify.' The final result is 4, which is circled in yellow and labeled 'RESULT'.

This multiplication is not  
 necessary Try to simplify.