

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

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 fraction $\frac{6}{3}$ is then shown. The next step shows the multiplication of the numerators and denominators, resulting in $\frac{(3 \times 4) + (2 \times 6)}{2 \times 3}$. The expression (3×4) is circled in red, and the text 'This is important!' is written above it. The expression (2×6) is crossed out with a red line. The denominator 2×3 is also crossed out with a green line, and a green arrow points to it from below. The text 'WRONG!' is written in red above the expression. The next step shows the simplified fraction $\frac{12 + 12}{6}$, which is boxed in blue. A blue arrow points from the box to the next step, which is $\frac{24}{6}$. The final step shows the result 4, which is circled in yellow, and a yellow arrow points to it from the right, labeled 'RESULT'.

This multiplication is not
 necessary Try to simplify.