Adding fractions

To add fractions ...

1. with the same denominators (like fractions).
   - add the numerators
   - the denominators stays the same
   - simplify (reduce) the answer

   **EXAMPLE:** \( \frac{3}{10} + \frac{2}{10} = \frac{5}{10} = \frac{1}{2} \)

2. with different denominators (unlike fractions).
   - convert the fractions so they have a common denominator
   - add the numerators
   - the denominators stay the same
   - simplify (reduce) the answer

   **EXAMPLE:** \( \frac{1}{4} + \frac{3}{10} = \frac{10}{40} + \frac{12}{40} = \frac{22}{40} = \frac{11}{20} \)

To simplify or reduce a fraction.
That is, reduce the numerator and denominator in a fraction to the smallest numbers possible.

- divide the numerator and denominator by their highest common factor (HCF or GCF)

\[
\begin{align*}
15 \div 5 &= 3 \\
20 \div 5 &= 4 \\
16 \div 8 &= 2 \\
40 \div 8 &= 5 \\
25 \div 25 &= 1 \\
100 \div 25 &= 4
\end{align*}
\]