Calculating with Fractions Addition
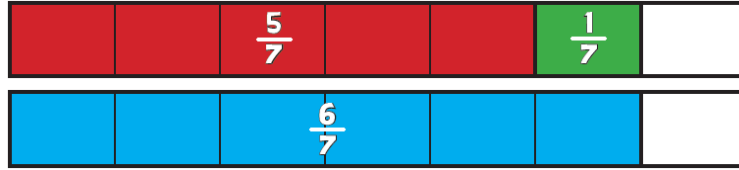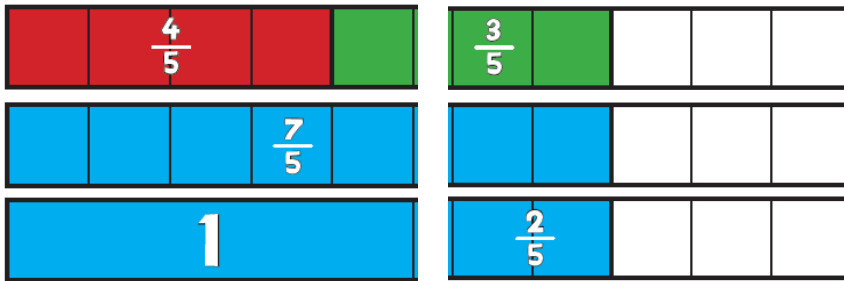
Examples where the denominators are the same

$$\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$$

| | | $\frac{5}{7}$ | | | $\frac{1}{7}$ | |

| | | $\frac{6}{7}$ | | | | |

$$\frac{4}{5} + \frac{3}{5} = \frac{7}{5} = 1\frac{2}{5}$$

| | $\frac{4}{5}$ | | |

| | $\frac{3}{5}$ | | | | |

| | | $\frac{7}{5}$ | | |

| | | | | | |

| | 1 | | |

| | $\frac{2}{5}$ | | | |

Example where the denominators are not the same: before adding the fractions, the denominator(s) must be changed so that they are the same.

$$\frac{1}{4} + \frac{5}{8} = \frac{2}{8} + \frac{5}{8} = \frac{7}{8}$$

Step 1 : the denominators are not the same, so find the lowest common denominator, which is **8** in this example.

Step 2 : use our equivalent fraction knowledge to change the fraction(s) so that they have the same denominator. In this example, $\frac{1}{4}$ becomes $\frac{2}{8}$.

Step 3: do the addition.

Examples where the denominators are not the same: before adding the fractions, the denominator(s) must be changed so that they are the same.

$$\frac{1}{4} + \frac{2}{3} = \frac{3}{12} + \frac{8}{12} = \frac{11}{12}$$

Step 1 : the denominators are not the same, so find the lowest common denominator, which is **12** in this example.

Step 2 : use our equivalent fraction knowledge to change the fractions so that they have the same denominator. In this example, $\frac{1}{4}$ becomes $\frac{3}{12}$ and $\frac{2}{3}$ becomes $\frac{8}{12}$.

Step 3: do the addition.

$$1\frac{1}{2} + \frac{1}{3} = 1\frac{3}{6} + \frac{2}{6} = 1\frac{5}{6}$$

Step 1 : the denominators are not the same, so find the lowest common denominator, which is **6** in this example.

Step 2 : use our equivalent fraction knowledge to change the fractions so that they have the same denominator. In this example, $\frac{1}{2}$ becomes $\frac{3}{6}$ and $\frac{1}{3}$ becomes $\frac{2}{6}$.

Step 3: do the addition.

Examples where the denominators are not the same: before adding the fractions, the denominator(s) must be changed so that they are the same.

$$1\tfrac{1}{2} + \tfrac{2}{3} =$$

Step 1 : convert $1\tfrac{1}{2}$ to be an improper fraction… $\tfrac{3}{2}$.

$$\tfrac{3}{2} + \tfrac{2}{3} =$$

Step 2 : the denominators are not the same, so find the lowest common denominator, which is **6** in this example.

$$\tfrac{9}{6} + \tfrac{4}{6} = \tfrac{13}{6} = 2\tfrac{1}{6}$$

Step 3: use our equivalent fraction knowledge to change the fractions so that they have the same denominator. In this example, $\tfrac{3}{2}$ becomes $\tfrac{9}{6}$ and $\tfrac{2}{3}$ becomes $\tfrac{4}{6}$.

Step 4: do the addition. Convert the improper fraction to a mixed number.